

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

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Abstract

Why don't all survivors of violence become angry at perpetrators? When survivors are not angry at perpetrators, what emotions do they express? To answer these questions while protecting respondent privacy, I use topic modeling to analyze transcripts of original, in-depth interviews with relatives of homicide victims in Chicago, IL. I find substantial diversity in the emotions that surviving relatives express, and the way they attribute blame. I argue that these differences can be explained by variation in the clarity of information survivors have about identity and motive of the perpetrator, and variation in perception of circumstances that mitigate perpetrator responsibility. To compare across contexts, I suggest that the difficulty of attaining clarity depends on the relevance and strength of shared political narratives that predetermine causal attributions about violence. Interview evidence shows that the widely-assumed human tendency to respond to violations/injuries with anger and vengefulness depends heavily on context.

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1 Introduction

Ms. K's son and Ms. L's brother were murdered in Chicago in the same week of 2016. Both young men were gang-affiliated but were killed over non-gang-related personal feuds. Ms. L's brother was set up by "so-called friends." Ms. K thinks her son was killed over competition for attention of a woman. Ms. L harbors extreme animosity toward the men who killed her brother, and she wants revenge. One person she holds responsible was later murdered; Ms. L relishes that his body 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." The people she thinks of most often are not the perpetrators, but rather the detectives who haven't "done their job" and who "disrespected" her by 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?

Theories that link violence to anger and retribution (Lerner and Keltner, 2000, 2001, among many) underpin a growing literature on the causes and consequences of political violence. Anger explains individual mobilization into organized armed groups (Costalli and Ruggeri, 2015; Balcells, 2017), support for inter-group violence (Claassen, 2013; Zeitzoff, 2014), and approval of vigilantism (Javeline, 2014; García-Ponce et al., 2017). As more evidence linking emotions to behavior in violent contexts accumulates, though, less effort has been put toward directly observing the formation of emotions in a realistic-yet-controlled setting.

I conduct and analyze a set of 32 original, in-depth interviews with surviving family members of homicide victims in Chicago, Illinois to investigate the formation of emotional experiences after violence. In an interview pool of people who experienced similar trauma in the same city during a 36-month window, I find evidence of substantial diversity in both the emotional experiences they report, and in the way they attribute blame . Such diversity in emotional experience and blame attribution defies the predictions of theories of anger formation that originate as far back as Homer’s account of Achilles and Hector (Homer, 1997), and are still used in political science literature today. The evidence I present is inconsistent with the assumptions of most contemporary work that links victimization to anger and to revenge-seeking behavior.

In analyzing nearly 200,000 words of interview transcript, I develop a new application of structural topic modeling (STM). Using STM (Roberts et al., 2013), a popular extension of the Latent Dirichlet Allocation (LDA) text analysis model (Blei et al., 2003), to analyze and present author-conducted interviews is a new way to transparently and reproducibly demonstrate qualitative findings in circumstances where sharing raw material would be reckless and unethical. Systematically “flattening” qualitative data from 90-180 minute interviews into more-interpretable results is a difficult but ultimately necessary task for many qualitative researchers, because respondents often participate on the condition that they will be adequately protected from harm and the exposure of private information. Respondents in this study participated on the condition that neither transcripts nor audio would be released, and that any partial reproductions in text would be too short or too vague to make the respondent identifiable. STM is a new way to fulfill this promise, while at the same time

presenting transparent and reproducible inference from the data.

Patterns identified using topic models support the qualitative interpretation of the interviews. The model indicates that knowing particular information about the circumstances of a relative's murder—namely the identity of the perpetrator, the motive, and absence of blame-mitigating circumstances—is associated with increased expression of anger targeted at the perpetrator.

I develop a new theoretical framework grounded in psychology research on emotions to explain patterns in the interview evidence. I argue that *cognitive clarity* about three sets of information—perpetrator's identity, perpetrator's motive, blame-mitigating circumstances—are collectively important predicates for feeling anger as opposed to some other negative emotion, and for identifying the perpetrator as the target of that anger. When individuals lack the cognitive clarity necessary to feel anger at the perpetrator but still experience the negative core affective state anyone would expect in the wake of violent trauma (Russell, 2003; Barrett, 2006b), I argue they are likely to direct negative emotions toward another target of opportunity.

A new account of how particular information shapes the experience of emotion after trauma casts existing studies of anger in political violence in new light. Achieving sufficient clarity about the identity and motive of the perpetrator, for instance, might be harder or easier according to structural features of political conflict that happen to be held constant across recent studies, but are in fact highly variable across different violent contexts. Violent trauma in a conventional war like World War II (Costalli and Ruggeri, 2015) or

the Spanish Civil War (Balcells, 2010, 2017) automatically furnishes survivors with a near-definitive understanding of the perpetrator’s identity and motive. Situations of criminal violence (Bateson, 2012, 2013), multi-party, non-conventional civil wars (Pearlman, 2016), or even repressive state violence (Davenport, 2005; Young, 2016; Blaydes, 2018) are potentially more likely to make cognitive clarity an individual labor, and make attribution a matter of individual interpretation. The cognitive clarity framework implies that the link between violence, anger, and cycles of retribution depends, at the conflict level, on the degree to which victims and survivors share an information environment. When each survivor is left to reason separately about motive, identity, and circumstance, the relationship between anger and retribution changes.

2 Emotions in Political Violence

Negative emotions—especially anger—are increasingly common explanations for behavior in violent contexts, because emotional mechanisms are an attractive way to account for choices that are irrational from an economic utility-maximizing perspective (Olson, 1971). Anger, experienced in response to some injury or injustice, explains behaviors like seeking retribution (Leith and Baumeister, 1996; Lerner et al., 2003; Fischer and Roseman, 2007), participating 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 et al. (2017) explain this tendency from an evolutionary perspective: anger and the drive to punish transgressors serve a long-term rational function as a deterrent, even if the act of retaliation is irrational in the short-term.

Recent political science scholarship on anger and retaliation, however, has generated contradictory results. Some studies identify a straightforward relationship between injustice, anger (or indignation), and participation in retributive violence (Claassen, 2013; Costalli and Ruggeri, 2015), others identify preference and behavior-shaping effects of anger that persist much longer (Balcells, 2010, 2017) than the “hot cognitive” behavioral effects identified in laboratory psychology experiments. Still others find surprisingly weak links between levels of anger and moral outrage and preferences for punishment in survey vignettes (García-Ponce et al., 2017) and observational studies (Javeline, 2014).

Most of these studies use broad closed-ended questions (“How many times have you felt angry in the last week?”) to measure a narrow emotional quantity of interest: anger in response to some politically-relevant injury. Others use indirect proxies or simply assume that exposure to violence will cause anger. The current approach has downsides which are only ameliorable with richer and more direct measurement of the experience of emotion. First, counting anger experiences does not differentiate between anger as a response to violence—the signal that researchers care about—and anger as a feature or trait of personality (Vagg and Spielberger, 1979; Parrott et al., 2005). This poses a serious inferential problem because high trait anger is associated in both laboratory and neuroimaging studies with increased attention to angering stimuli (Wilkowski et al., 2007; Alia-Klein et al., 2018). In other words, trait anger could be associated with self-reported victimization in surveys because constitutionally angry individuals are more likely to report victimization, not necessarily because victimized individuals are more likely to be angry. Second, even in cases where a respondent’s anger is truly a response to violent stimulus, closed-ended mea-

surements often fail to gather important information about the target of and justification for anger. Both target and justification are important for predicting the political consequences of feeling angry. When assignment of blame is measured directly, existing studies find that victimized individuals often blame someone other than the perpetrator (García-Ponce et al., 2017).

I address these measurement issues by analyzing open- and closed-ended responses from interviews with surviving relatives of homicide victims. This combination measures the emotional experience of violence with richer and more direct tools than those commonly used. These new measures suggest the causal link between victimization and anger is more contingent than often assumed.

3 Violence and Trauma in Chicago

I conduct in-depth interviews with close relatives of 32 homicide victims who were killed within the city limits of Chicago, Illinois between 2015 and 2017.¹ All interviews were conducted in January 2018 and range from 90-180 minutes in length.

Chicago has become internationally known in the 2010s for its high homicide rate (Kreps, 2015; Pannell, 2016; Kapustin et al., 2017).² In the three years-worth of homicide victims from which surviving family members were sampled for interviews, over 1,500 people were killed in the city. This death toll, already high for a city in an industrialized country, is a somewhat conservative measure of the the level of violence in Chicago because a far higher

¹Almost all interview respondents were parents, parental figures (like aunts/uncles or grandparents), or siblings of the homicide victim.

²Though Chicago had a higher murder count than any other American city in 2016, its murder rate was lower than the rate in three smaller cities: Detroit, Memphis, and Baltimore (Grawert and Cullen, 2017).

proportion of gunshot victims in Chicago survive compared to other American cities (Asher, 2017).

Homicide risk in Chicago is concentrated within a small proportion of the city's residents, who are connected through social networks and living in neighborhoods on the South and West sides of the city (Papachristos and Wildeman, 2014; Papachristos et al., 2015). Violence is likewise geographically concentrated: over half of homicide victims in the city are killed in the same neighborhood in which they reside (Bhatti et al., 2017).

Patterns of violence and victimization in Chicago are different from contexts traditionally studied by political scientists (see, though, recent work by Mukhopadhyay (2014); Calderón et al. (2015); Lessing (2017); Miller (2019)) because much of the violence in Chicago has no obvious political motivation. Not all fatal violence in Chicago is related to gang politics. Chicago police (CPD) designate a slim majority of homicide victims and roughly 2/3 of suspected shooters as “gang-related” in official data (Kapustin et al., 2017), but even these designations have recently been criticized as overly broad and unreliable by the city's inspector general (Sweeney and Buckley, 2019). In one year covered in the interview sample the rate of gang-affiliated homicides fell 6% and the rate of non-gang affiliated homicides rose 25% (Kapustin et al., 2017; Ludwig, 2018).

4 Data and Measurement

I use complete transcripts plus answers to closed-ended questions from in-depth interviews to study individuals' emotional experiences after violence. All interviews were conducted in or around Chicago in January 2018 with surviving family members of homi-

cide victims killed 2015-2017. Respondents answered questions about: the context and circumstances of the homicide, their experiences with police and prosecutors, their emotional experience, and how their behavior and the behavior of people around them changed after the homicide. All interviews contained a battery of standard biographic and demographic questions, a module of questions about respondents' attitudes toward government and the police, and three short clinical instruments commonly used to measure state and trait emotions (Watson et al., 1988; Vagg and Spielberger, 1979). Each interview was audio recorded and transcribed by hand. The combined length of the transcripts is over 190,000 words—some 10,000 words longer than the longest volume of the Lord of the Rings trilogy.

Interview respondents were recruited in partnership with Chicago Survivors, a 501(c)(3) organization that provides case management and social work services to families of homicide victims in Chicago. Chicago Survivors has perhaps unparalleled breadth of access to families of people killed in Chicago. Close to 100% of victims' families are contacted at least once by Chicago Survivors staff (often at the crime scene, morgue, or hospital within 48 hours of the homicide). Roughly 80% of contacted families accept Chicago Survivors' free services and are assigned to a case worker, called a Family Support Specialist (FSS), who works with the family for six months. Over the course of six months, the FSS develops close relationships with the survivors through visits to their homes, referrals to outside services, and help navigating interactions with the government—especially seeking victim's compensation from the state of Illinois.³ Collaborating with family support specialists was critical for a study in such a sensitive population: FSSs made introductions, helped explain the pa-

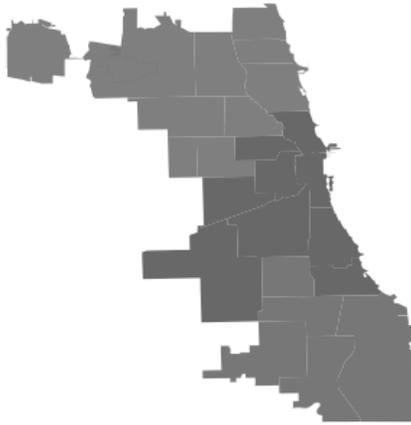
³In the parlance of the organization, surviving family members are referred to as “survivors,” never “victims.”

rameters of participation to potential respondents, and vouched for the author’s commitment to protecting respondents’ privacy.

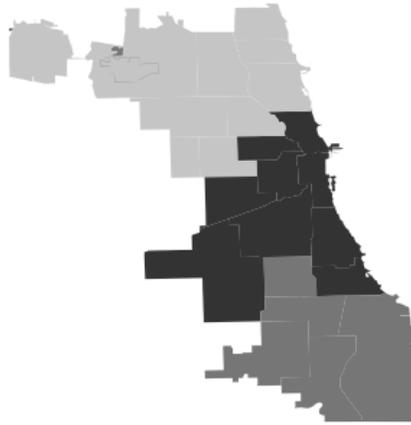
Respondents were sampled from a curated list of Chicago Survivors-served families that had already completed their six months of services prior to the interview (as interviews were conducted in January 2018, this means no one whose family member was killed after July 2017 was interviewed). To the extent possible, respondents were sampled to match population characteristics of victimized families in Chicago. Chicago Survivors staff compiled a long-list of potential respondents based on their judgment as care providers about a) which individuals could participate safely, b) which individuals could offer informed consent and “understand what [the researcher] was trying to do,” and c) which individuals they thought a priori would be willing to participate (Chicago Survivors Staff, 2017). In the final list from which respondents were sampled, geographic distribution of respondents (across the North, Central, and South detective areas) roughly matched administrative data on homicide locations, with the North area somewhat underrepresented (See Figure 1). Area North is likely underrepresented due to a language barrier. The curated list *excluded* families in which no family member was comfortable conducting a long interview in English; homicide victims in area North are somewhat more likely to be from families that predominantly speak another language at home (often Spanish). The proportion of “cleared” or solved cases in the sample list (24.5%) matched the population rate for the time period very well (26.41%).

The final list of respondents was generated using a stratified random sample from the list of candidates provided by Chicago Survivors. Families whose cases were “cleared” by the CPD and referred to the Cook County State’s Attorney for prosecution were over-sampled

All Homicides 2015-2017



All Individuals in Sample



All Respondents Interviewed

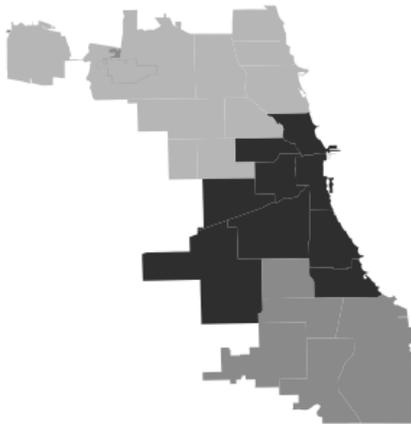


Figure 1: Geographic distribution by CPD Detective Area of homicides in Chicago, paired with geographic distribution of interviews by CPD detective area. Compared to administrative data, the interviews moderately oversample relatives of victims killed in area Central and moderately undersample relatives of victims killed in area North. Given the high degree of segregation in settlement patterns in Chicago, this imbalance can be roughly interpreted as moderately oversampling Black homicide victims, and moderately undersampling Latinx homicide victims.

in order to test other, ultimately unsuccessful hypotheses described in a pre-analysis plan available at [the author's] website. For each selected family, I received contact information for the “primary contact” in Chicago Survivors’ files. These primary contacts skewed slightly older—often parents of the homicide victim—and included more women than men. In most cases, the ultimate interview respondent was the “primary contact,” but some primary contacts referred me to other relatives. All families on the final list had already completed six months of services from Chicago Survivors at the time of first contact.

Women are over-represented among respondents, and there is some debate in the psychology literature over whether underlying tendencies toward anger (and other emotions) differ between women and men (Thomas, 1993; Deffenbacher et al., 2003; Cox et al., 2003). Recent research suggests that if significant differences exist, the key differences are in modes of expression: conditional on experiencing anger, women are more likely to talk about feeling angry whereas men are more likely to privilege aggressive behavior (Coleman et al., 2007, 2009). The sample, in other words, skews toward a population that might be more likely to discuss feeling anger conditional on feeling anger but might be less likely to “act angry.”

The counter-intuitive pattern that appears in interview data cuts against this gender bias: I find the absence of anger (measured through discussion) where existing frameworks predict anger should exist. To further address this possible bias, the interview instrument included questions about the attitudes and behaviors of individuals that the respondent included on a family roster. This measurement technique is imperfect—certainly so for measurement of emotional experience—but has been used in a variety of sensitive contexts to gather information about individuals who cannot be interviewed for some reason (Thomas

et al., 2001; Sastry et al., 2006; Fair, 2007).

5 Results

5.1 Correlates of Anger in Closed-Ended Responses

The patterns of emotional experience reported in interviews do not reflect common expectations about anger in response to violence. In an index measure of self-reported anger (averaging the degree to which respondents self-report feeling angry, upset, hostile, and irritable from the PANAS battery from Watson et al. (1988)) respondents reported an average score of 3.39 out of 5, corresponding to an indication that the respondent feels “moderately” angry, upset, hostile, and irritable when asked to think specifically about their relative’s homicide.⁴ This simple measurement, roughly equivalent to measures of anger used in existing studies, shows surprisingly low levels of self-reported anger, but still undersells the extent of emotional diversity across respondents. Among the subset of respondents who self-report their level of 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 murder of a relative (most often, the murder of a son) roughly one in four respondents in the full sample report feeling extremely angry, but identify someone other than the perpetrator as the object of their anger.

Data from closed-ended questions fail to support existing theories about anger in other ways as well. One common model, for example, predicts that anger is caused by injury

⁴Respondents within one standard deviation of this mean range from feeling “a little” angry to “quite a bit” angry. Average scores for “angry” alone are slightly higher but the difference in means between the index and the “angry” scores is not statistically significant.

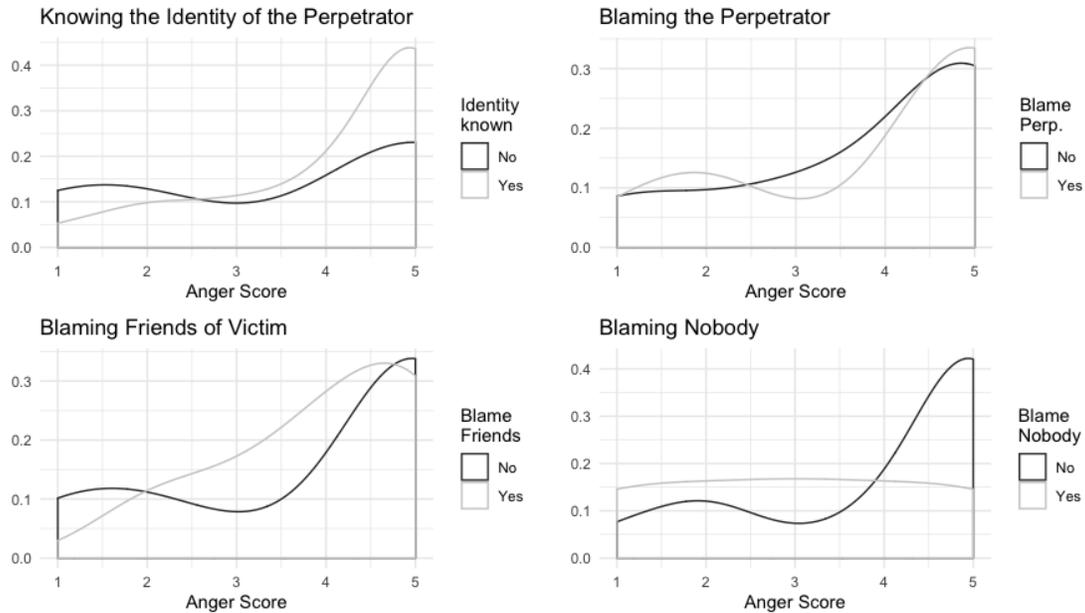


Figure 2: Density plots of respondent self-reported anger subset by other closed-ended questions: knowing the identity of the perpetrator and various assignments of blame. The similarity of the anger distributions among respondents who do and do not blame perpetrators, friends, and the victim themselves suggest that simple measures of anger mask important variation in the targets of anger. This variation matters for the study of anger in political violence because anger at someone other than the perpetrator is an illogical predictor of desire for retribution against the perpetrator. One factor that does appear moderately correlated with anger even in this small sample is knowing the identity of the perpetrator. While this might seem like a trivial concern in some contexts, about 35% of respondents had no notion of who the perpetrator was. This is likely an even more common condition in the general population of survivors in Chicago as respondents whose cases went to prosecution (obviously requiring knowing the perpetrator’s identity) were oversampled.

or injustice and diminished when punishment of perpetrators occurs (Goldberg et al., 1999, for example). If interviews supported this model then we would expect a strong negative association between self-reported levels of anger and the perpetrator being caught. Instead, there is no relationship between an index of self-reported anger items and whether or not the perpetrator was caught. Using a simpler measure of anger—how “angry” the respondents report feeling when thinking about their relative’s homicide as opposed to the average of angry, upset, hostile, and irritable—the sign of the bivariate association between “anger” and “perpetrator caught” is actually positive but insignificant. Evidence does show, though, a relationship between knowing the identity of the perpetrator and anger. Whether or not survivors of violence know the identity of the perpetrator is rarely measured in political violence studies focused on anger.

5.2 Topic Models for Qualitative Research: A New Application

Bivariate relationships shown above suggest that emotions expressed in the interviews are inconsistent with existing theories about victimization and anger. Closed-ended responses alone, however, do not fully capture the rich information about emotional responses expressed in each interview. I use structural topic modeling (STM) to present patterns in the nearly 200,000 words of transcribed answers to open-ended questions.

5.2.1 Why use Topic Models?

Topic modeling is typically used on larger, public corpora of shorter documents, but STM is a useful tool in this new application to a smaller private corpus for two reasons.

The STM is an honest way to present evidence of patterns in any corpus of documents, even corpora that are small enough to be analyzed qualitatively. Where typical applications of topic models focus on the discovery of patterns in text that the researcher has not read (often for reasons of size), I employ topic models as a presentation tool to show patterns in a corpus that is small enough for a researcher to read (and in this case has been transcribed by hand from audio). Topic models fit to smaller corpora can “aid the memory” of the researcher by correcting for qualitative interpretation that may inadvertently weight some interviews higher than others when drawing inference; STM assigns equal weight to all documents in fitting the model.

Second, STM gives a low-dimensional yet complete view of a corpus which, in this study cannot be shared in full. Survivors interviewed in this study participated with frankly surprising candor on the condition that audio and transcripts would not be shared at any point, and that any partial reproductions or quotations would be too short or too vague to make the respondent identifiable. This agreement creates a tension, common in research on political violence, between respondent privacy and academic transparency. Using topic models to show trends in sensitive data is an effort to ease this tension and make transparent, reproducible inference from sensitive qualitative data. A topic model-based workflow maintains differential privacy while still being reproducible because it begins with a pre-processing step that strips word order from documents. This renders them “bags of words” represented in a Document-Term Matrix (DTM). So long as important identifiers (proper nouns and location identifiers, mainly) are stripped from documents before conversion to a DTM, it should not be possible to reconstruct interview transcripts or re-create personally

identifiable information from a publicly-shared DTM.⁵ Other workflows for transparent, reproducible qualitative inference do not allow the researcher to protect sensitive data to the same degree.

5.2.2 How Topic Models Work

The STM is an improvement on correlated topic models that allows for the incorporation of document-level metadata into the model fit (Roberts et al., 2013, 2014). Like all topic models, the STM models words in a document as a function of some unobserved latent variable, in this case the “topic” the words are describing. It assumes that 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” the appearance of that word (Blei et al., 2003). Once the model converges, each document can be summarized with a vector (which sums to 1) of topic proportions. The document-level proportion of different topics can then be compared to other document-level metadata, allowing the researcher to identify associations between covariates of theoretical interest and the prevalence of a particular topic.

STM is a useful way to summarize a corpus of documents (the 32 interviews have been broken into 2,300 paragraphs to generate a better fit, relation between documents that come from the same interview has been preserved in fitting the model). The list of topics that an STM generates is, first of all, a powerful tool for identifying patterns in text. Natural

⁵In all likelihood, standard pre-processing would drop proper nouns and place identifiers automatically when removing “sparse terms” that appear in very few documents. However, since the entire purpose of this procedure is the protection of sensitive information, it is more conservative to use a dictionary method, named entity recognition model, or brute force to sanitize the documents of terms that could lead to re-identification of interview subjects.

language is a high dimensional representation of information: a transcribed interview, for example, encodes meaning by stringing together a large number of unique words, some of which appear once, a few of which appear dozens of times. Any corpus of text contains thousands of “terms” or unique words, each of which constitutes a separate dimension along which documents can be compared. The STM facilitates dimension reduction by identifying groups of terms that frequently co-occur, and treating their co-occurrence as evidence that a certain group of words is invoked to communicate one underlying idea. If an STM organizes 5,000 unique terms into 10 clusters or topics, for example, it reduces the dimensions along which the documents are compared from 5,000 to 10.

If an STM fit returns substantively meaningful topics, those topics can be interpreted as patterns of speech that describe latent “ideas” across documents—the latent idea of memorial, for example, is not directly measured through speech but it can be understood as the common cause behind words like “funeral,” “homegoing,” “remember,” or “flowers.”⁶ One important feature of topic modeling is that interpretation is very involved. For example, it is up to the researcher, 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 corpus of individual paragraphs from the interview transcripts (Roberts et al., 2018). Topic prevalence is modeled as a function of individual respondents even though each respondent’s transcript is broken into an average of 70 doc-

⁶Because topic models do not rely on grammar or semantic structure, they incorporate vernacular grammar and slang easily. In this application, the model associates Chicago Survivors-specific terminology like “homegoing” (funeral) and “angel-day” (death anniversary) with other terms describing funerals.

uments. The topics upon which the model converges (as well as my own descriptions what the topics mean) 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 topic proportions of each topic. A small subset of these documents are available in an online appendix. Though researchers cannot prompt topic models to uncover topics of theoretical interest, the model presented below produces a number of clusters relevant to this study’s research question. In the remainder of this section, I predominantly focus on the topic (5) that groups discussions of “anger” at the perpetrator, and I discuss how the anger topic relates (or does not relate) to both other topics, and to respondent answers to closed-ended questions.

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 topics from the STM in two ways: by examining inter-topic correlations and by measuring associations between topic proportions and responses to various

closed-ended questions. First, correlation between proportions of different topics in a single document shows the associations that respondents make between concepts insofar as they talk about those concepts together within their response to a single question. Figure 3 shows the inter-topic correlation for topics correlated with the “Perpetrator Anger/Blame” topic with a correlation coefficient greater than 0.1 or less than -0.1.

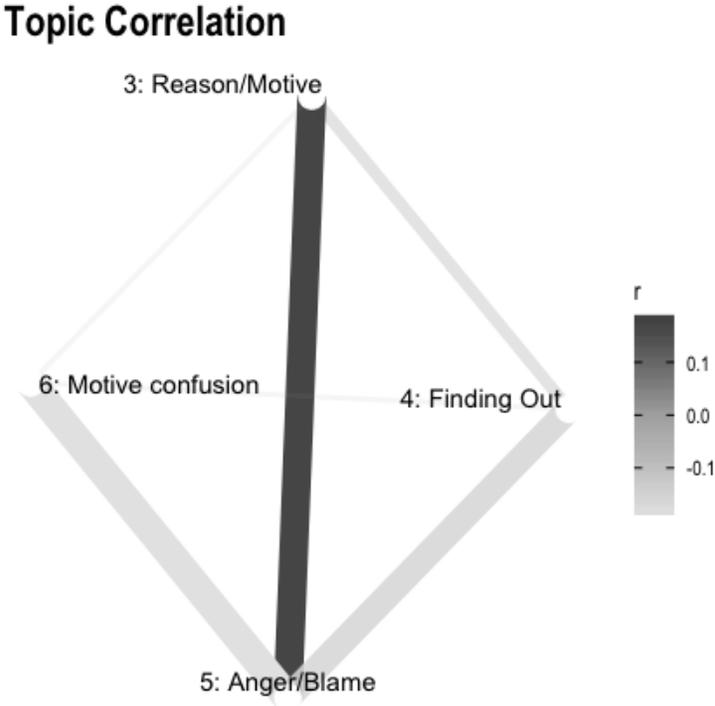


Figure 3: Topic correlation for the 10-topic structural topic model. Dark edges connect topics whose proportions in documents are positively correlated. Light edges connect topics whose proportions are negatively correlated. Topics whose proportions are not correlated, positively or negatively, with Topic 5 above a threshold of $|r| > 0.1$ are not shown in the figure.

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

Discussion of anger co-occurs with respondents recounting their understanding of the “reason” behind the homicide, usually the perpetrators’ specific motive, both within individual interviews and across respondents. The opposite holds when comparing respondents’ discussion to motive confusion to discussion of anger. When respondents expressed puzzlement about the motive of a perpetrator (qualitative illustration shows this can happen even when perpetrator’s identity is known) they were less likely to also talk about retribution or anger. Talking about knowledge of the perpetrator’s motive is correlated with talking about anger and a desire for justice, *and* talking about *not* knowing the perpetrator’s motive is negatively correlated with talking about anger and a desire for justice. This suggests that when respondents have a specific type of information—knowledge of motive—they ruminate more on anger.

Other topics that ought to be emotionally evocative, like a respondent’s description of how they found out their relative was killed, are actually negatively associated with discussing anger and blame. This is consistent with two different explanations, one mechanical and one more meaningful. First, the structure of the interview asked respondents about the circumstances of the homicide and about their emotional response in different sections. Negative correlation simply reflect this data-collection quirk. However, the same quirk might be expected induce negative correlations between anger and other topics as well, since dis-

cussion of emotion was well separated in the interview process from questions that asked respondents why they thought the homicide had happened. This negative correlation does not appear, which suggests that the mechanical explanation is incomplete. Negative inter-topic correlation between 4 and 5 (Immediate aftermath/anger) may instead suggest that anger is not the dominant negative emotion expressed in the immediate aftermath of the homicide (at least not for all respondents), and that some additional moderating factor is associated with levels of anger at the perpetrator.

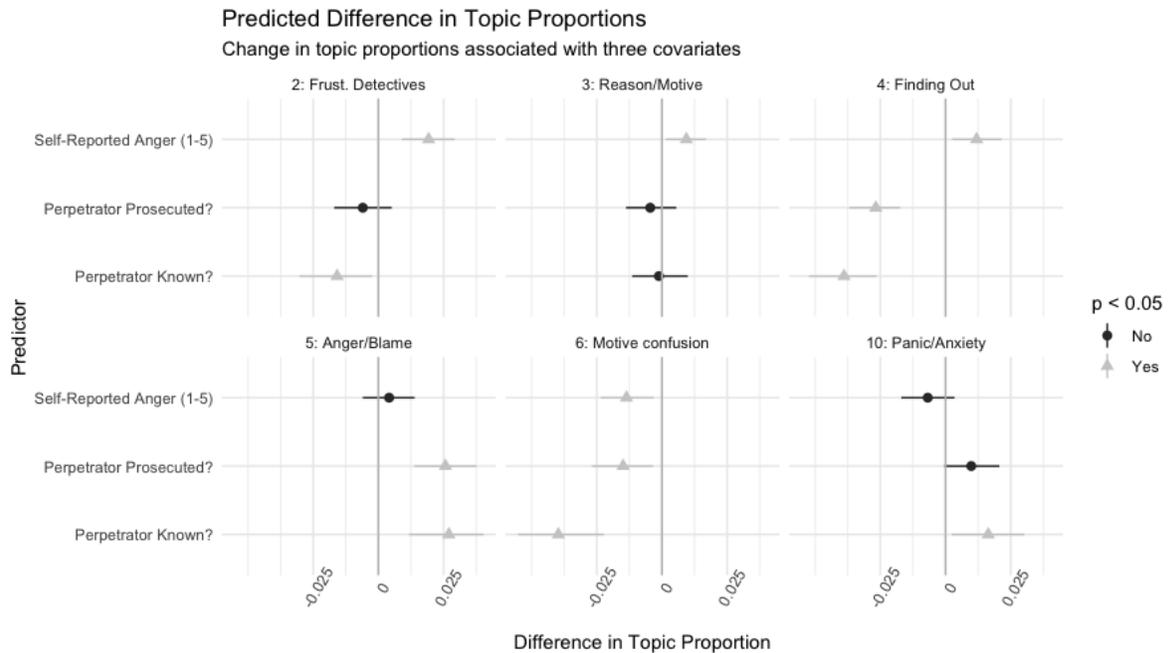


Figure 4: Change in predicted proportions of topics 2-6 and 10 associated with three predictors. Plotted differences are the expected difference in topic proportion associated with either the difference between covariate values of 0 and 1 for indicator variables, or with the difference between the 25th percentile and 75th percentile values of the covariate if the predictor is continuous. Predicted differences are calculated separately, as bivariate associations, for each predictor.

Beyond inter-topic correlations (which are measured at the paragraph level), Figure 4 shows bivariate associations between respondent characteristics and overall proportions of various topics by respondent. These measures of association show more evidence of the same patterns suggested by the inter-topic correlation. All associations in Figure 4 are estimated using the STM package with the most conservative possible uncertainty estimation, which incorporates uncertainty from the topic model fit into the estimated standard errors in the figure (Roberts et al., 2018).

First, Figure 4 shows the association between self-reported anger levels and proportions of various topics. Self-reported anger is positively associated with the overall amount of text a respondent spends discussing the process of finding out about the homicide, their understanding of reason/motive, and their frustration at detectives. Self-reported anger is not significantly associated with the amount of text they spend discussing anger at the perpetrator, blame, and desire for justice. This suggests there are real limits to what can be learned by asking survey questions about anger without asking more specifically about the targets and justifications related to anger. Qualitative examination of individual interviews shows that some angry respondents are not angry at the perpetrator, but rather at police or prosecutors.

Second, though a respondents' overall anger level is a poor predictor of the topic prevalence for anger, blame, and desire for justice, knowing the identity of the perpetrator is a good predictor for discussion of anger and blame directed toward the perpetrator. Respondents who know the identity of the perpetrator are likely to talk slightly less about the immediate aftermath of the homicide, talk less about confusion about the motive, express

less frustration at detectives, and talk significantly more about both anger/blame and panic or anxiety. This is also consistent with the idea that anger at the perpetrator is associated with having access to relevant information, in this case identity.

Third, respondents in the subset of cases where the perpetrator was prosecuted show largely the same tendencies as the superset of respondents who knew the perpetrators identity. Where perpetrators were prosecuted (regardless of the outcome of the case) respondents talked less about the immediate aftermath of the homicide and more about anger, blame, and justice. A plot in the appendix also shows that prosecution status is associated with a lower topic proportion for Topic 8, “what ifs” or blaming of the victim. This suggests that anger at the perpetrator has more to do with information, than with outcomes of a justice process.

Some other associations are also worth brief mention. First, some topic proportions are significantly correlated with the gender of the respondent (See appendix). Male respondents are less likely to talk about frustration at detectives, and less likely to talk about the immediate aftermath of the murder. They are more likely to talk about motive and reason, and more likely to talk about anger, blame, and justice. This certainly seems like it poses a problem for comparability across gender, especially when it comes to anger-proneness. Looking at the transcripts of the four male respondents to interpret this finding, though, only two of the four are angry at the perpetrator. The other two are angry at a friend of the deceased, and at the justice system, respectively. Understanding how gender does or does not influence the process of anger formation would demand a far larger pool of male respondents. Second, there is a strong negative association between church attendance

and discussion of anger/blame at the perpetrator. The relationship between religious belief, religious practice, and preferences about justice seems to be important and is potentially worth further exploration in another study.

6 Understanding Variation in Emotional Response

Interview evidence shows that a group of people who have experienced similar trauma have surprisingly diverse emotional responses to that trauma. Some are angry while others are not. Some angry people blame targets other than the perpetrator of the trauma. Evidence also suggests that having particular pieces of information like the perpetrator's identity and the perpetrator's motive is associated with levels of anger at the perpetrator, and, curiously, that failing to satisfy these informational conditions is actually associated with anger at other targets.

In this section, I introduce a new framework to explain this variation. I argue that the patterns of information and emotion experience that appear in interviews are consistent with the notion, supported by literature in psychology, that cognitive clarity about three separate issues—the perpetrator's identity, the perpetrator's motive, and the absence of blame-mitigating circumstances—are important in determining whether victimized individuals become angry at perpetrators. After introducing the cognitive clarity framework, I then return to the interviews to provide qualitative illustration of how the framework matches with respondent experience.

6.1 Cognitive Clarity Framework

A relative’s murder is a clearly negative experience, but, as evidence from interviews shows, it is not always an experience that produces anger at the perpetrator. Comparisons between respondent scores on the Positive-Negative Affect Scale and the scale’s non-clinical reference population benchmark (Watson et al., 1988) show that the average respondent unsurprisingly reports much more negative feeling and much less positive feeling than the population benchmark in the immediate aftermath of their relative’s homicide (See Appendix for T-tests). Only one of 32 respondents reported lower-than-population-average negative affect in the wake of the homicide. Of the 31 respondents with above-average negative affect, though, only 14 of 31 attributed their negative emotions to the perpetrator at all.

The theoretical puzzle, therefore, is to explain why a group of respondents who virtually all experience negative or unpleasant feelings after similar traumatic events—what Russell and Barrett (1999) call “negative core affect” —ultimately experience different emotions directed at different targets. I focus on the role that information and context plays in assigning meaning to feelings: “categorizing” core affect into emotional experiences (Barrett, 2006b). In doing so, I refer both to the Feldman-Barrett concept of “categorizing core affect” and also to specific empirical findings about the behavioral correlates of feeling angry that come from research programs that use a “natural-kind” view of emotion.⁷

⁷Disagreement between these approaches is over whether emotional experiences like anger, fear, and sadness are naturally separate phenomena produced by discrete processes (Lerner and Keltner, 2000), or are the product of a single integrated process that produces core affect that is then interpreted as distinct emotions (Russell, 2003; Barrett, 2006b). Crucially for this paper, the disagreement is explicitly *not* about whether empirical findings that link feeling angry to risk assessment, attitudes, etc. are “real” (Barrett, 2006a).

I argue that certain types of information are important for forming *directed* emotions; i.e. anger at a specific target, fear of a specific threat, etc. Specifically for anger at the perpetrator of violent trauma, I argue that *cognitive clarity*, or a clear, conscious understanding of three separate issues—the identity of the perpetrator, the perpetrator’s motive, and the absence of mitigating circumstances around the injury—is a critical moderator in whether survivors become angry at perpetrators.

Identity, motive, and circumstances may seem like foregone conclusions in many violent situations, but the relevant information was not automatically available to all of the respondents interviewed in this project. Beyond the scope of the interviews, I hypothesize that the ease of acquiring information about the causes and circumstances of violent trauma varies by context. I suggest that in circumstances where cohesive political narratives do not pre-designate attributions of blame, researchers should be aware that stark individual differences in emotional experience might exist between people who experience 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 difficult to fulfill two conditions for experiencing a negative feeling as anger: the ability to attribute negative affect to some object, and the ability to envision restorative action or punishment against that object.

Emotional experiences are generally bound to the people, objects, or processes that we believe caused their underlying feeling or affect: we are typically sad *about* things, angry

at things, afraid *of* things. Emotion experiences also provide templates for behavior, stimulating us to treat the objects of emotion in ways that are supposed to benefit us (Frijda, 1986). Anger is classically thought to be the emotional response to an injury that is caused by a specific harmful action—an “unfair treatment” or “injustice” (Frijda, 1994; Bies and Tripp, 2002; Fischer and Roseman, 2007; Hutcherson and Gross, 2011). The behavioral template anger provides is focused on restoring balance and redeeming injury: anger stimulates people to formulate plans to restore fairness (Lerner and Tiedens, 2006), and to feel anticipatory exhilaration at the possibility of punishing a transgressor (Tripp and Bies, 1997). Neuro-imaging studies find that the possibility of punishing *the correct object* is integral to the anticipatory component of anger: Reward centers in the left frontal cortex of people experiencing anger show increased activity *if and only if* people believe there is some possibility of punishing the specific object of their anger (Harmon-Jones and Sigelman, 2001; Harmon-Jones, 2003).

Interview evidence is consistent with this condition: respondents find it difficult to attribute negative feelings to an unknown cause and difficult to envision restorative punishment or vengeance against an unknown person or group.⁸ Even if the individual identity is not known, at least categorizing the perpetrator as a member of a specific and salient group (i.e. a particular gang as opposed to “gangs” in general) seems important for envisioning punishment, and thus for experiencing anger at the perpetrator. Take for example, two respondents who did not know the identities of their respective son’s killers, and had only heard nebulous rumor about who might have been involved. Neither expressed anger

⁸Psychology literature does not suggest that getting the attribution wrong is an impediment to envisioning punishment (Clore and Gasper, 2000).

at the perpetrator, and both explained their feelings by saying they “did not know who to blame” for what had happened (Respondent 75, Chicago, IL, January 2018; Respondent 90, Chicago, IL, January 2018).

6.1.2 Motive

Knowing the perpetrator’s motive is a second important predicate of feeling anger at a particular target. Clear knowledge of motive is an important condition for people to perceive their situation as controllable and comprehensible. In laboratory experiments, feeling anger in response to an injury depends on believing one has understood what happened and why it happened (Lerner and Keltner, 2000, 2001). Anger also depends on contextualizing a situation as being a product of someone else’s agency rather than an act of God or chance, and as resulting from act they have the agency to respond against (Halperin, 2008).

I argue that not knowing the motive of a perpetrator makes conceptual representations of certainty and control logically tenuous, and thus makes it less likely that a respondent would experience negative affect as anger at the perpetrator. What does it mean in practice to not understand motive, to feel helpless, and to feel uncertain? Interviews suggest this condition is theoretically separate from—albeit correlated with—knowing the perpetrator’s identity. Respondents who could not answer the question of motive were certainly not more “at peace,” but their negative emotions were different from the emotions of respondents who had a clear sense of motive.

Respondents who lack information or clarity about the perpetrator’s motive seem to be frustrated mainly at the cosmic unfairness of their situation or at their own helplessness.

One respondent, whose son was murdered on his commute home from an overnight shift by people he had never met before described her level of anger as high (5/5) but said she was angry “at the situation” and the randomness of what happened. When asked what she thought 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 in terms that reflect an attempt to increase her general feeling of certainty and control over her life. She described “pulling the reins in” on her surviving children’s behavior to try and protect them from what she perceived as random violence in the city (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. Because experiencing anger is associated with perceiving “unfairness” or transgression, perpetrator-directed anger ought to be less likely, all else equal, among people who think there are circumstances mitigating the perpetrator’s responsibility for the tragedy they have experienced.

Again returning to examples from interviews, one respondent whose son was stabbed to death after winning a fist fight against a person who had robbed him months before was not angry at the robber/perpetrator despite clear knowledge of his identity, and clear knowledge that the motive was him taking revenge for a beating. Instead, she blames a childhood friend of her son’s for “orchestrating” the robbery and thus precipitating the circumstances that led to her son dying. In her mind, the murder was a natural consequence of the earlier,

more serious injustice of 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 conclude that the environment mitigates the perpetrator’s responsibility 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 was more to blame than the shooter for his brother’s death. 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 said he wasn’t sure if he had or could forgive the perpetrator. Blaming the environment logically followed from his belief that the perpetrator had little control over what he did: “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, a smaller group of respondents believed the victim’s own behavior mitigated the perpetrator’s responsibility. One respondent felt angry about her nephew’s death, but she was angry at him not the shooter, because she felt he had died due to his own recklessness (Respondent 33, Chicago, IL, January 2018). Even after murder, a paradigmatic un-just event, not all respondents felt wronged by the perpetrator specifically

In most cases, respondents who failed to satisfy even one of the three conditions described above—knowledge of perpetrator’s identity, knowledge of perpetrator’s motive, absence of blame-mitigating circumstances—manifested some other emotion than anger *at the perpetrator of the homicide*. As noted above, though, respondents who lacked one or

more key pieces of information were not more likely to be at peace, or happy about the situation. Rather, they used the diminished set of information they had to contextualize their negative feeling (core affect) differently, often by attributing it to a different target.

6.1.4 Diffusion

A number of examples above describe respondents who are missing one of the informational components of cognitive clarity but describe their own emotional experience as “anger” at some non-perpetrator target. This tendency is theoretically consistent with the core-affect-plus-context model of emotional experience, and it represents an interesting pattern in the attitudes of survivors of non-state violence (none of the homicides covered in the interviews were police-involved) toward the state.

When respondents are missing a key piece of information and are not angry at the perpetrator, the way they make attributions and experience emotion is still not random. Blame attribution by respondents who are angry at some other person or object still generally follows the logic of cognitive clarity laid out above. People angry at the victim’s friends, for instance, are able to verbalize 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 depends on a person’s contextual knowledge of the causes of that feeling.

The process of attribution and targeting toward a non-perpetrator target, which I call *diffusion* of anger, results more often than not 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 (sometimes honest, sometimes malicious) on the job. When information does not support anger at the perpetrator, agents and institutions of state seem to be the people with the “last clear chance” to prevent or avenge the injustice of homicide. This in itself is a puzzle. In answers to closed-ended survey questions, most respondents reported that they did not trust police to do the right thing or to treat them fairly. Some of the same respondents, though, expressed lofty expectations when it came to the *ability* of the police to find perpetrators and to process, prosecute, and punish them quickly. Against these expectations, the Chicago Police and the Cook County States’ Attorney regularly under-delivered.⁹

6.1.5 The Missing Narratives: Inequality and Race

Though many respondents express anger at state agents and institutions like the police, the City, and the State, interview evidence would not support the conclusion that respondents are invoking a widely-shared political narrative about racism and inequality to explain their experience. If diffusion of anger were evidence of a dominant shared narrative rather than an outcome of idiosyncratic personal experience and reasoning, there would be two observable implications that do not hold in the interview evidence. First, blaming 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. Second, if broad societal narratives were the overwhelming driver of respondents’ attributions and emotional

⁹A high-ranking police officer who I chatted with in line at a coffee shop one day lamented the “CSI effect:” families of victims don’t believe detectives when they say that surveillance cameras were too far away to see faces or license plates. Many respondents, though, had far more serious complaints about police behavior.

experience, we would expect respondents to explain their experience in social context, to use terms that invoked a shared narrative of racism or inequality, or to contextualize their experience as part of a more general pattern about the way state institutions treat people of color in Chicago. This happened in only a very small number of cases.¹⁰ Even then, respondents focused primarily on specific instances where police let them down or treated them poorly, as in the example from the introduction forcing a grieving mother to provide an alibi for her whereabouts at the time her son was shot (Respondent 75, Chicago, IL, January 2018). Given that respondents focused so much on the particularities of their own experience, it makes little sense to attribute diffusion to a shared narrative that focuses on racism and inequality in Chicago, even though such a shared narrative would be highly consistent with macro-level evidence about patterns of violence and inequality in Chicago.

6.2 Qualitative Vignettes

In this section, I briefly summarize the experience, reasoning, and emotional reactions of nine interview respondents in order to illustrate the cognitive clarity framework and provide evidence for the correspondence between the cognitive clarity framework and the patterns identified with the STM. The first seven respondents were chosen to illustrate how emotion experience differs depending on the level of cognitive clarity: two cases illustrate the cognitive and emotional processes of respondents with full cognitive clarity, five cases

¹⁰Jackson (2019) shows in data from Chicago that perception of the threat of inter-group violence (mostly racist treatment by the state) varies by gender. She finds, however, that men are more likely to downplay the threat of racism and that women are more likely to express fear and anxiety. The identity of the interviewer may be important in eliciting these dynamics, but the effect could plausibly be positive or negative. On one hand, were this study to be replicated with a Black or Latinx person conducting interviews (only one interview respondent self-identified as white), respondents may feel more comfortable discussing racism and inequality. On the other hand, rendering the interviews a “Black space” or “Latinx space” might decrease the salience of identity in the conversation.

illustrate how those processes work differently given partial or no cognitive clarity. The final two cases do not fit the framework—the respondents have what should count as full cognitive clarity but are not angry at the perpetrator. Full narratives for each case are available in an appendix.

6.2.1 Full Cognitive Clarity

How does the process of cognition and emotional response work for respondents who have full cognitive clarity about the circumstances of their relative’s death? In two cases where respondents have full information, they explain their anger at the perpetrator with specific reference to their knowledge of the identity and the motive. Both Mr. A (whose son T was shot and killed by a cousin) and Ms. B (whose son was shot by someone he had beaten in a fight months earlier) leverage the information they have to identify the murder as a) a transgression, b) the product of individual choice, and c) something that could’ve been avoided. Both Mr. A and Ms. B score high on self-reported anger and identify the perpetrator as the primary target of that anger.

These two cases, compared to those where respondents have less cognitive clarity, are characterized by the degree to which respondents ruminate specifically on their knowledge of identity, motive, and nature of injury. Ms. B, for example says that thinking about how connected she is to the person who killed her son makes her angry. She put off learning his real name as long as possible (she knew him by a nickname), and says that speaking his real name in court made her want to “walk over there and kick him in his face with my boot.” The particulars of motive also factor into her explanation of why she is angry: 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). For Mr. A, the particulars of cognitive clarity also inform emotional response. He is angry at T's cousin, in part because killing a blood relative over a beef is a second transgression on top of killing in general. Mr. A knows his son's gang involvement might have led to someone wanting to kill him, but because he knows the killer was T's cousin, and because he knows the motive, he is sure that T's death was a transgression against the norms of family (Respondent 95, Chicago, IL, January 2018).

These cases show that the informational components of cognitive clarity (knowledge of a particular perpetrator, motive, and injury) are more than permissive conditions for anger. The specifics of perpetrator and motive help both Mr. A and Ms. B form a coherent narrative of the situation in which the death of their relative was a violation or injury, carried out by a person who could have made a different choice. Respondents are aware of the connection between particular knowledge and their emotional state of anger. In the case of Ms. B, she identifies knowing the motive as the specific thing that makes her feel angry. Respondents who have cognitive clarity seem to actively use its constituent parts to describe and justify their emotional experience.

6.2.2 Partial or No Cognitive Clarity

How does missing information—partial or no cognitive clarity—change the way that people process and respond to a homicide? Five cases in which respondents lack at least one of the three elements of cognitive clarity (either knowledge of the perpetrator's identity, the motive, or that the death was an "injury") show how cognition and emotional response

work differently under these circumstances.

Two respondents, Ms. C and Ms. G, both lack cognitive clarity about the identity of the killer and have “worked backward” from what they know about the victim’s lives (Ms. C’s nephew, and Ms. G’s son) to make a guess about the motive. Though their reasoning about the motive is different (and thus the target of their diffused anger differs as well), there are similarities in how they use what they know to make sense of the murder and to direct their emotions. In both interviews, the unknown perpetrators were discussed as quasi-structural factors, not actors with agency. Violence was treated, therefore, as some sort of background condition in the environment, but one that could have been avoided. Both women blame people who they see as having agency—for Ms. C this is the victim (her nephew) who might have refrained from antagonizing a rival crew (Respondent 33, Chicago, IL, January 2018), for Ms. G this is the victim’s friends, who she thinks could have prevented her son’s death (Respondent 10, Chicago, IL, January 2018). The unknown perpetrators figure very little into either description of why the homicide happened, or who is to blame for it.¹¹ These cases show how a lack of cognitive clarity about the perpetrator’s identity changes cognitive and emotional processes: not knowing the perpetrator makes it hard to reason about their culpability and agency the way that Ms. B and Mr. A do, so Ms. C and Ms. G look to what other known individuals could have done to avoid the situation.

One respondent, Ms. D, knows the identity of the young man who killed her son, but she does not think that the motive or reason she has been told makes sense: The killer

¹¹ Ms. G does focus on the perpetrators for committing a secondary wrong—what Fujii (2013) calls “extra lethal” violence. Ms. G says she understands that sometimes people “catch a bullet,” but not why a killer would “unload” a whole magazine into someone that the whole neighborhood agrees wasn’t the intended target.

says he shot her son in order to rob him, but she does not believe him. She lacks cognitive clarity about the motive because it does not match with her knowledge about the perpetrator (attended private school) or the sequence of events (he shot Ms. D's son before trying to take the money). Ms. D has her own competing theory about the motive for her son's murder, which she calls a "horrific" mistake. She believes the real cause was the killer's mental illness. Based on this alternative motive she is angry at the government both for not helping people like her son's killer get help, and for making it too easy for people like her son's killer to get guns. Ms. D's emotional response—anger diffused onto a new target—is a product of her confusion about the killer's motive. For lack of a believable story about why the killer did what he did, she makes sense of her situation by stipulating without evidence that he must not be in control of his actions. She blames the people who she thinks could have prevented his actions (Respondent 22, Chicago, IL, January 2018).

Ms. C, Ms. G and Ms. D all have partial cognitive clarity about the homicide they spoke about; they have clarity about either the perpetrator or motive and, to some degree, they use what information they do have to try and fill in blanks. Two more respondents, Ms. E and Ms. F, do not have cognitive clarity about either the perpetrator or the motive. Both Ms. E and Ms. F assume their brother and son (respectively) were not the intended targets, and both claim that with they don't know who to blame for the killing. Ms. F, for example, explains that not knowing the who or the why means she can't be angry at the perpetrator saying "Anger needs a target, so I'm not angry."

Both Ms. E and Ms. F intimate that there are too many unknowns for them to focus on blame. Both express extreme anger, though, at subsequent wrongs committed by

detectives and funeral directors. Both Ms. E and Ms. F actually had much more to say (and were much more animated) about these subsequent injuries than the circumstances of the homicide and their understanding of why it happened. In these cases, diffusion seems like a guard against the futility of wondering who the killer was and why they did it. For Ms. E and Ms. F, there simply isn't enough to work with when trying 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). Anger, then, is directed at things that are more tangible and known, like the wrong color casket, missing flowers, or a detective who never calls. Both Ms. E and Ms. F say they were frustrated at feeling impotent, not only because 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

A final two cases (Ms. H and Ms. J) where respondents have full cognitive clarity are worth investigating because it seems like variables other than cognitive clarity mediate the level and target of the respondents' anger. Both Ms. H's grandson and Ms. J's daughter were killed, the respondents believe, because they were put at risk by cousins (unlike with Mr. A above, the cousins were not the perpetrators in these cases). Even though the motive, the perpetrator, and the sense of transgression are clear to both Ms. J and Ms. H, both are angry at the cousins who behaved recklessly or dangerously at least as much as at the perpetrator. It seems like this is because both respondents believe that the threat of violence is a background condition of the environment and that individuals who live in that

environment can do more or less to put themselves at risk.

These seem to be cases where the respondent perceives the nature of the injury in a way that most respondents do not. The homicide is of course an injury but the fact that the cousins put the victims at greater risk is a separate, and similarly grievous transgression.¹² It might make sense to think of this second injury as the cousins taking actions that attracted danger, thereby over-riding the victim's agency to keep themselves safe (Respondents 74 and 96, Chicago, IL, January 2018). Even though the ultimate target of the anger is puzzling, then, these cases illustrate the same thing as the cases of Mr. A and Ms. B: the content of the information they have about injury, perpetrator, and motive are not just permissive conditions for anger, they are integral to the way that emotional response is formed and where it is ultimately directed.

7 Narratives of Violence: Generalizability of the Cognitive Clarity Framework

What, if anything, do patterns identified in interviews with homicide-affected families in Chicago say about emotional responses to violence more broadly? The context of this study is in some ways—namely the presence of a strong state, moderately functional public service provision, and the a-political character of much of the violence—quite different from contexts in which political violence is often studied. These differences could explain the variability in emotional responses that makes data from Chicago stand out against other recent studies of violence, anger, and retribution. Other settings, though, also differ in having

¹²I 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 provisional 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.

stronger, more cohesive shared narratives that explain violence. Stronger shared narratives might obviate information seeking, because they pre-designate the motive and identity of the perpetrator even before a particular act of violence occurs, making cognitive clarity much easier to achieve for survivors.

Chicago, unlike two-sided conventional or unconventional wars, or situations of highly institutionalized criminal violence does not have a shared narrative that pre-designates answers to key questions about motive and perpetrator.¹³ Relatives of homicide victims in Chicago are sometimes truly at a loss to explain who/what might be responsible for their trauma, and often at a loss for anger as a result. Evidence from Chicago still ought to be of broader interest, not only because it demonstrates the breadth of possible emotional responses to trauma, but also because it is a case where some sort of latent narrative to explain violence exists and is true in many measures, but is still insufficient to provide cognitive clarity and thus does not resonate with survivors of violence very strongly.

Political scientists have long noted, in studying violence, that macro-political interpretations and individual interpretations of a conflict, a cause, or even a single event do not necessarily match (Scott, 1979). The evidence and theory presented here support a new, but deeply related idea: The general and parochial interpretations of violence depend strongly on access to information, which can vary across individual events in a broader context. Interpretations at the general and parochial levels may even support opposing conclusions about why violence has happened, who is to blame, and what is likely to happen next.

¹³Chicago violence may have had such a shared narrative in the past. Through the 1980s, violence in the city was mostly perpetrated by a small number of powerful gang coalitions with clear motives. Control slowly fractured in the 1990s and 2000s as a result of successful leadership targeting by local and federal authorities.

This study suggests not only that emotional responses to violence are more variable and less correlated macro-narratives of violent conflict than often assumed, but also that a new theoretical framework focused on information and cognitive clarity explains a good portion of that variation. More simply, the causal linkage between victimization, anger, and retribution is less simple and less automatic than political scientists have recently assumed. The benefits of adopting a more nuanced understanding of emotional responses to violence, with measurement and analysis facilitated by modern computational tools applied to qualitative data, could be significant for understanding post-violence behavior, revenge seeking, and attitudes toward 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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A Online Appendix A: Supplemental Plots

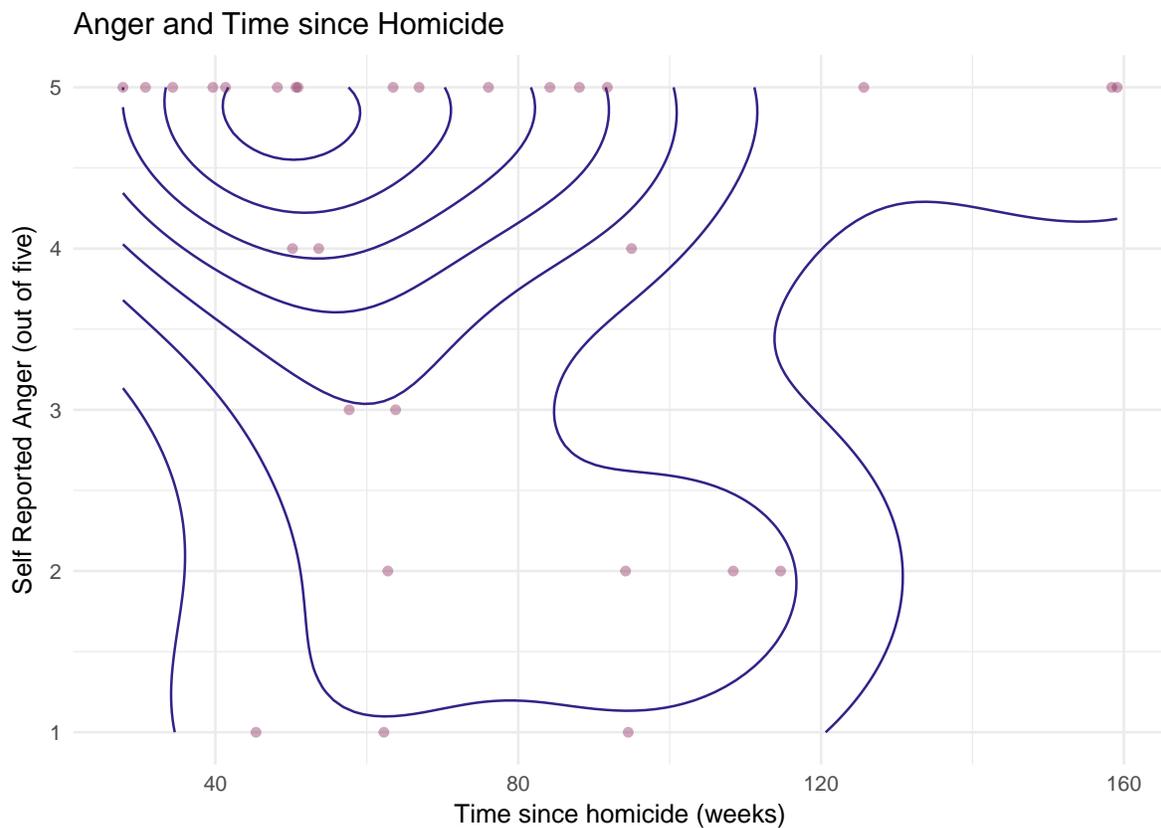


Figure A.1: Plot of self-reported anger scores against time since homicide in weeks. Respondents who self-reported their level of anger more weeks after the homicide were slightly more likely to report lower anger scores, but contour lines show the trend is very weak. Most respondents report very high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

A.0.1 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.

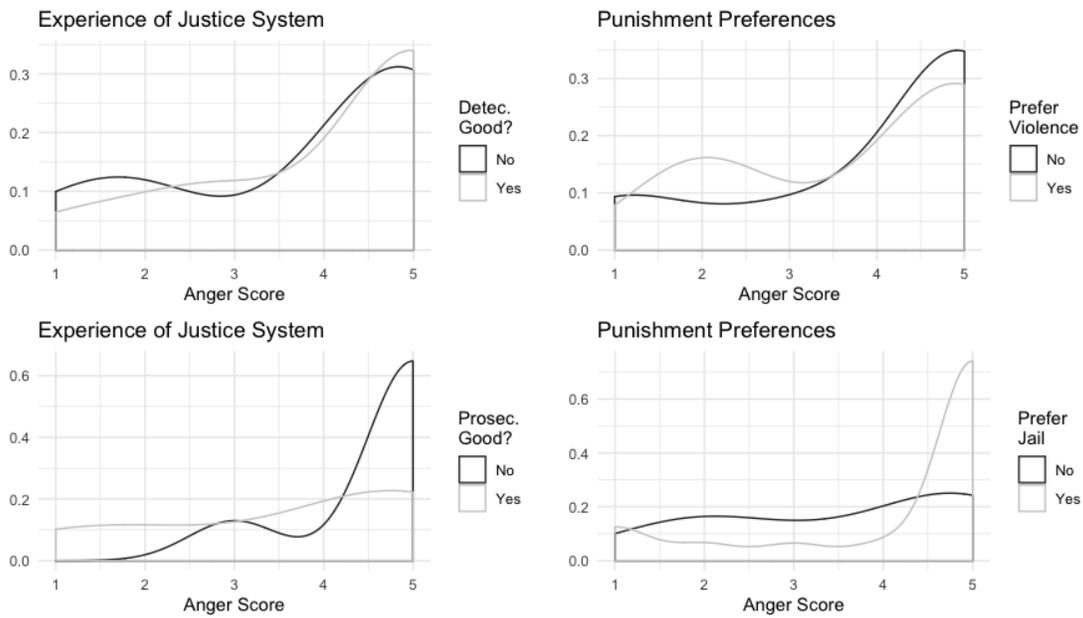


Figure A.2: Density plots of bivariate associations for distribution of respondent self-reported anger related to a) experience of the justice system, and b) respondent's preferences for how to punish the perpetrator.

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 32, 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.0.2 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.

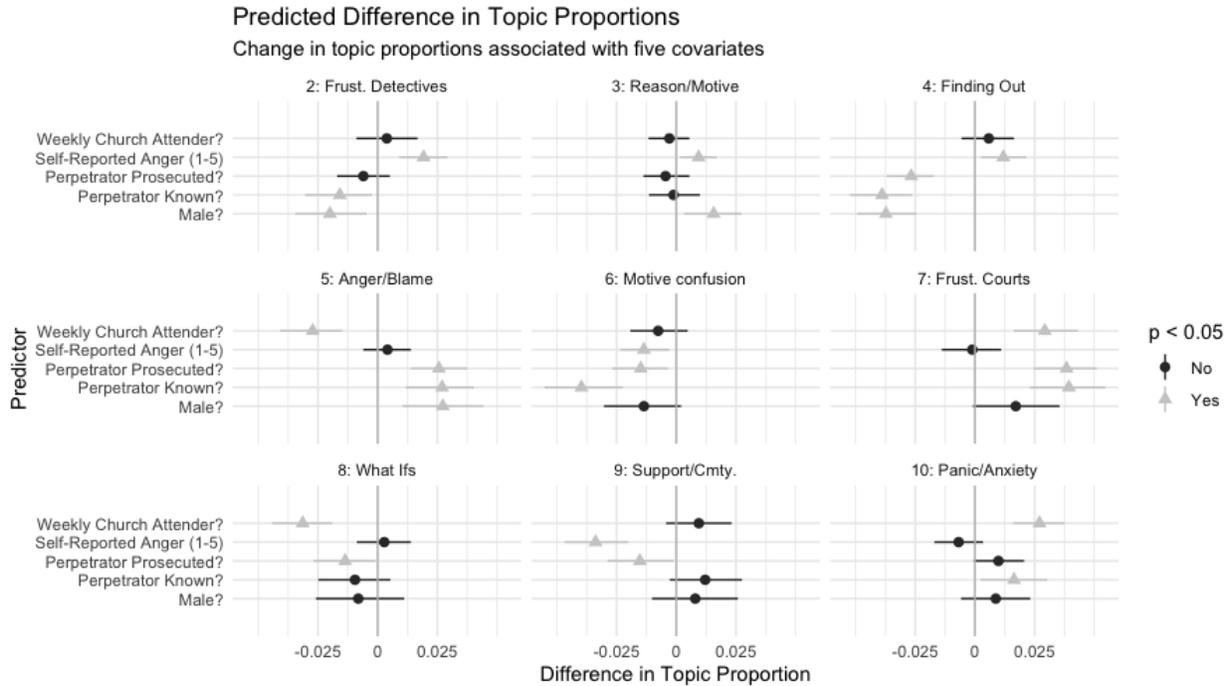


Figure A.3: Change in predicted proportions of topics 2-10 associated with five predictors. The difference plotted in the figure is the expected change in topic proportion associated with either moving from 0 to 1 if the predictor is an indicator variable, or from the 25th to the 75th percentile if the 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.¹⁴ 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

¹⁴Respondents who brought up God when asked about motive were generally respondents who lacked cognitive clarity about the motive.

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 Online Appendix 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:¹⁵

¹⁵Mr. 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.

“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 girlfriend, 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.¹⁶ 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)

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

¹⁶This 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.

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."¹⁷

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.

¹⁷J'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."

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."¹⁸ (Respondent 68, Chicago, IL, January 2018)

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.¹⁹ 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.

¹⁸Ms. B broke her foot a couple months before the trial and was still in a boot cast and on crutches when she attended court.

¹⁹M's father had also been murdered years previously

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?”).²⁰ This is consistent with the idea that not knowing the perpetrator’s identity is a significant impediment to feeling 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.”

²⁰Part 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).

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 the 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.²¹

²¹Ms. F also expressed disappointment at the police and the fact that they hadn't gotten any good

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

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.

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].”

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 32 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.²² 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 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

²²I 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.

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.²³ 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.

²³Ms. J got the real story (and found out the cousin was lying) when the detectives showed her surveillance footage of the shooting.

C Online Appendix 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 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 didnt' 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 the 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

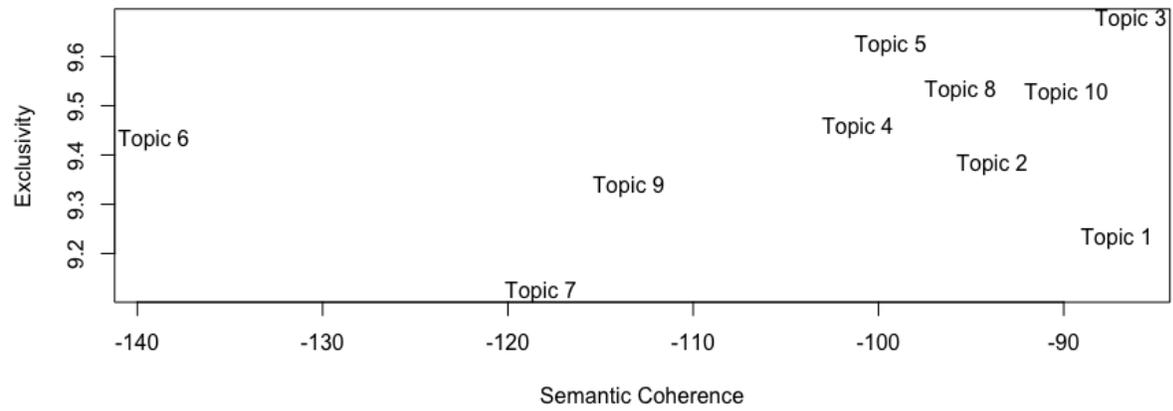


Figure C.1: Topic quality in the model used in the body of the paper, expressed in terms of semantic coherence and exclusivity.

D Online Appendix D: T-Tests for PANAS Scores

Question	Valence	Diff. In Means	SE	T-Score	P-Value
Present Day	Negative Affect	10.98	2.50	4.38	0.00010
	Positive Affect	-10.49	2.23	-4.70	0.00003
Immediate Aftermath	Negative Affect	9.98	3.18	3.14	0.00355
	Positive Affect	-18.92	2.06	-9.17	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.