Gauging Civil Unrest with Speed Data:
The Societal Stability Protocol and the Intensity of Civil Unrest

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ABSTRACT

Destabilizing events – whether they are political expression events, politically motivated attacks, disruptive state acts, or some other manifestation of discontent – can vary enormously in their intensity. It is important to capture differences in intensity because they can affect the impact of seemingly similar events or the reactions of others to those events. The SPEED project's Societal Stability Protocol captures a great deal of information on what can be considered "intensity indicators." These indicators include such things as the type of weapons employed, the number of protesters, the number of people killed/injured, and the number of people arrested. Developing composite measures of intensity is complicated because different sets of intensity indicators are relevant for different types of events. This document reports the procedures that were used to derive intensity measures for the different categories of destabilizing events recognized in SPEED's Societal Stability Protocol.

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Gauging Civil Unrest with SPEED Data:
The Societal Stability Protocol and the Intensity of Civil Unrest

The objective of SPEED's Societal Stability Protocol (SSP) is to provide the empirical base for advancing our understanding of civil unrest during the post WWII era. Civil unrest is the public and contentious manifestation of discontent over communal matters. Discontent can be expressed by different actors in various ways: words, symbolic gestures, physical attacks, official (and unofficial) state acts, coups, etc. These different modes of contention are captured in the SSP's ontology of destabilizing events (see Figure 1), which defines the substantive scope of the SSP. The top tier of this ontology contains four broad (Tier 1) categories of behavior (political expression, political attacks, disruptive state acts and political power reconfigurations) and many subcategories of cognate behaviors.[1] The event types embedded in Figure 1 were initially culled from the literatures on social movements and political violence. That initial set was augmented by a year-long, multi-wave pretest involving the analysis of tens of thousands of news reports; that pretest led to the construction of the more refined, multi-tier ontology depicted in Figure 1.

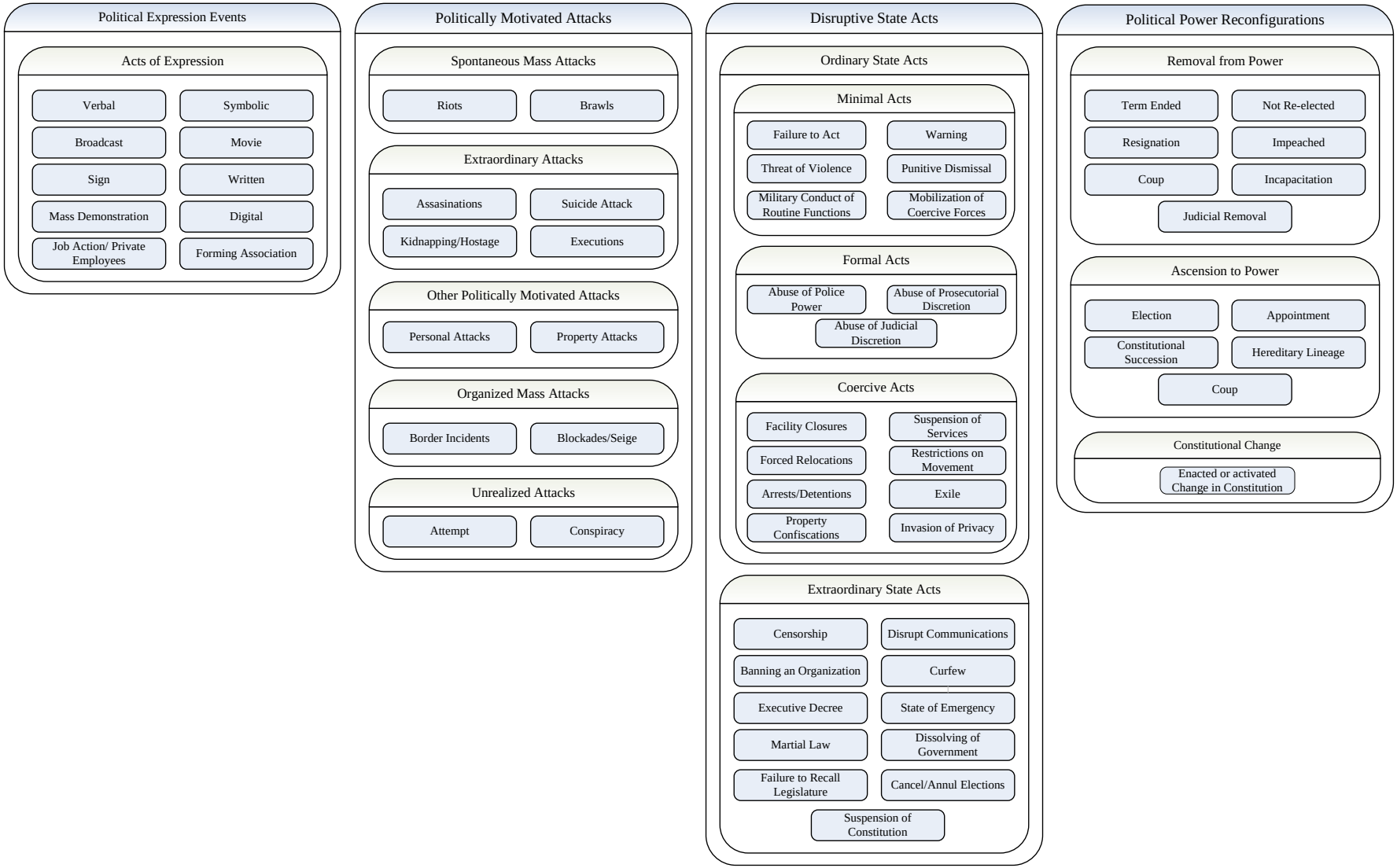
Any effort to advance a global understanding of civil unrest during the modern era must, at a minimum, rest on analyzing spatially and temporally referenced data on the range of destabilizing behaviors reported in Figure 1. Maintaining the distinctions across these broad categories of event is important because each involves a very different mode of behavior. But it is equally important to capture *within-category* distinctions. The disruptive effects of the destabilizing events that that fall within one of the Tier 1 categories depicted in Figure 1 can vary enormously. A sit-in is less unsettling than a self-immolation; a march of 100,000 is more disconcerting than a march of 5,000. Some violent attacks involve small arms; others involve powerful explosives and kill hundreds. The use of soldiers to suppress a march is more threatening than using local police. A coup in which the president is merely deposed is different from one in which he is brutally assassinated. Merely generating counts of destabilizing events will miss these differences and handicap efforts to advance the study of civil unrest.

The importance of capturing within-category differences across destabilizing events led to the development of question sets in the SSP aimed at capturing the intensity of destabilizing events. These question sets deal with such things as the number and type of actors involved, the type of weapons used, and the type of harm inflicted.[2] But developing the ability to generate more in-depth data is only the first step toward enhancing our analytic capacity to study civil unrest. Indeed, if not handled properly, a morass of event-centered data on such things as weapon types, actor traits, victim effects, etc. can cripple efforts at identifying behavioral patterns. To maximize the utility of these data they must be integrated into composite intensity measures that are capable of producing parsimonious insights into the drivers and effects of civil unrest. Creating those intensity measures from SPEED's SSP data involved: (1) specifying the broad categories

[1] Definitions of these event types, explanations of the different subtypes, and illustrative examples of each are reported at http://www.clinecenter.illinois.edu/research/publications/SPEED-Definitions_of_Destabilizing_Events.pdf.

[2] This structure of these question sets is outlined in http://www.clinecenter.illinois.edu/research/publications/SPEED-An_Overview_of_the_SSP.pdf.

Figure 1
Societal Stability Event Ontology



of destabilizing events depicted in Figure 1 for which separate intensity measures need to be constructed; (2) identifying and justifying the intensity indicators relevant to each category; and (3) integrating those indicators into composite measures. Each of these steps is discussed below. Then the substantive meanings of the composite intensity measures are illustrated by outlining the contributions of the intensity indicators to variations in the composite measures.

Delineating Categories of Destabilizing Actions

While it is possible to construct an overall measure of the intensity of civil unrest using all of the Tier 1 categories embedded in Figure 1, such a measure would not be particularly useful in advancing research. Such things as speeches, marches, symbolic acts, violent political attacks, repressive state acts, and coups manifest discontent in very different ways. These modes of behavior require very different levels of commitment and organization and they are unsettling to their targets in different ways and for different reasons. Moreover, they are initiated by different types of actors who are often motivated by different concerns and objectives. Thus, the first section below discusses the considerations that led to a focus on three sets of composite intensity variables. The first includes contentious actions by non-state actors; the second involves a set of disruptive acts initiated by state actors; the third relates to irregular transfers of power, relatively rare occurrences normally involving actions by elite either non-state or state actors.

Destabilizing Acts Initiated by Non-state Actors

While modes of contention have evolved considerably over the centuries, and continue to evolve in an era that has been transformed by unprecedented technological advances, the repertoires of contention used by non-state actors are relatively limited. They primarily manifest their discontent with communal matters using words/symbolism (political expression) or through various physical acts capable of inflicting harm (political attacks).[3] As Figure 1 reveals, a broad array of Tier 2 categories emerged during the SSP pretest. In reviewing the types of behavior involved in these subcategories it became clear that, for the purpose of developing intensity measures, mass expression events (demonstrations, marches, strikes, etc.) had to be differentiated from other forms of political expression. The defining characteristic of mass expression events is the number of people involved (protesters, strikers, marchers, etc.), which is almost meaningless with respect to expression events involving such things as speeches, pamphlets, web postings and symbolic acts. Thus, three measures are used to capture the intensity of civil unrest events initiated by non-state actors: the intensity of small-gauge political expression (**$\text{EXPRESSION}_{\text{SG}}$**), the intensity of mass political expression (**$\text{EXPRESSION}_{\text{MASS}}$**), and the intensity of political violence (**$\text{VIOLENCE}_{\text{NS}}$**).

[3] Another way of manifesting discontent is through flight and an earlier version of the SSP captured events involving the mass movement of people. Unfortunately, analyses of the data collected suggested that news reports were not the optimal means of collecting data on mass movements and that better sources existed.

Destabilizing Acts Initiated by State Actors

Identifying basic categories of destabilizing acts initiated by state actors is more challenging than for non-state actors because of the broad array of powers available to the state. These powers are designed to enhance the ability of the state to provide for civil order and public safety. For example, most states are empowered to use coercion (e.g. physical restraint, arrest, legal prosecution, fines, imprisonment, etc.), if necessary, to conduct a range of routine tasks that are essential to the smooth functioning of fundamental societal processes. Moreover, virtually all governments have the power (legitimate or illegitimate) to initiate a range of extraordinary actions, such as declaring a state of emergency, imposing martial law, suspending the actions of other branches of government, etc. Finally, one of the defining traits of the modern Weberian state is that it enjoys a monopoly on the legitimate use of violent force. In order to realize the objectives for which these various powers were vested, state actors are expected to exercise them judiciously. However, throughout history state actors have abused the powers entrusted to them, violating their fiduciary obligations to the public. In doing so they transform the panoply of state powers available to them into instruments of repression. These abuses can have corrosive effects that disrupt the conduct of day to day affairs and undermine core societal processes.

The modern state's prominence as a societal actor, and the frequency with which state actors abuse their powers, underscore the importance of including state acts in the SSP. Consequently, much attention in the SSP's pretest was devoted to inventorying destabilizing state actions. Within the "Disruptive State Acts" category in Figure 1 these acts are included in two Tier 2 categories (ordinary state acts and extraordinary state acts); there are also more than two dozen Tier 3 and Tier 4 categories. In addition, data on the state use of violence is captured under the "Politically Motivated Attacks" category; state attacks are differentiated from those initiated by non-state actors by question sets that identify the initiators. The differences between the various broad categories of government actions depicted in Figure 1 make it inadvisable to construct a single composite measure of disruptive state actions.

The abusive use of routine state powers is often the work of bureaucrats, prosecutors, judges, police officers, and soldiers. Moreover, these abuses of discretion normally have direct and tangible effects on discernible individuals. In contrast, extraordinary acts of government are normally invoked by high-level state actors (chief executives, general officers, monarchs, etc.) and have intangible and largely unknowable effects on large swaths of people (often entire nations) that extend for uncertain periods of time. Violent state attacks have direct effects on discernible individuals. But those effects are more lethal and threatening than the mere use of coercion. These distinctions led to the creation of three measures of disruptive state acts. The first relates to the abusive use of ordinary state powers (**REPRESSION$_{ST}$**); the second captures the initiation of extraordinary state acts (**DISRUPTIVE$_{ST}$**); the third concerns political attacks initiated by state actors (**VIOLENCE$_{ST}$**).

Irregular Transfers of Political Power

Throughout human history transitions between political leaders have been, more often than not, tumultuous, wreaking havoc upon their societies. The death of a leader often leads to scrambles for power among would be successors. Unhappiness with the conduct of unaccountable leaders in regimes with no clear provision for the leadership transitions often leads to highly disruptive

efforts (conspiracies, assassinations, sieges, etc.) to replace them. Consequently, most modern states provide for the regular transfer of power. Unfortunately, in many countries, the provisions for power transfers are ignored – either by the incumbent or his/her opponents. As seen in Figure 1, the SSP has a relatively comprehensively listing of the different ways in which individuals ascend to power or are removed from power – two acts that are often distinct from one another. The data collected from these questions are used to construct a variable that captures irregular transfers of political power, largely coups: **TRANSFER$_{IRR}$.**

Modes of Civil Unrest and Intensity Indicators

The identification of intensity indicators for each of the seven composite variables introduced above involved a multi-stage process. It began with a category-specific analysis (small-gauge expression, mass expression, political attacks, etc.) that focused on the event-specific attributes within each category that are most likely to generate such things as fear, anxiety, concern and uncertainty in others. This analysis was supplemented by an exploratory factor analysis. The following sections describe, for each of the seven composite measures introduced above, the types of intensity indicators that were identified in this process and why they are important to gauging within-category differences in intensity.

Intensity Indicators for Small-gauge Political Expression Events (EXPRESSION$_{SG}$)

As noted above, small-gauge political expression events involve the use of words and symbols to manifest discontent about communal matters. The words used can be spoken (speeches, plays, news casts, etc.) or written (books, pamphlets, signs, web postings, etc.); symbolic expressions range from sit-ins, boycotts, and prayer sessions to bra burnings, hunger strikes, and self-immolations. Compared to marches, demonstrations and strikes, small-gauge political expression involves a relatively small number of participants, though some forms of symbolic expression (sit-ins, boycotts, etc.) can involve a considerable number of people. Given the nature of small-gauge expression events, the intensity indicators examined in constructing **EXPRESSION$_{SG}$** related to such things as the type of expression used, the number of participants, the length of the expression event, and the advocacy of violence. The exploratory factor analysis suggested that there are two dimensions to the intensity of small-gauge expression. One relates to the type of expression event (symbolic expression, number of expressers, event length); the other relates to content of the expression (advocacy of violence).

Four variables are used in the derivation of **EXPRESSION$_{SG}$**. The first is a dummy variable (**SYMBOLIC**) denoting whether the event involved a symbolic expression. **SYMBOLIC** is coded ‘1’for symbolic acts and ‘0’ for all other types of small-gauge expression. The factor analysis demonstrated that the difference between symbolic expression and other modes of expression was the most useful way of distinguishing among small-gauge expression events; it also showed that the distinction between verbal and written expression was not useful. The importance of symbolic acts is hardly surprising given how powerful some symbols can be in conveying discontent. The second variable used in constructing **EXPRESSION$_{SG}$** relates to the number of initiators (**# OF INITIATORS$_{DISC}$**); it differentiates among events with ten or fewer initiators and those with more than ten (i.e., it is scored ‘0’ if there are l0 or fewer initiators and ‘1’ if there are

more than 10). This variable primarily relates to symbolic events as verbal or written expressions seldom have multiple initiators. It is a meaningful intensity measure because the involvement of more initiators is likely to convey an image of more widespread discontent.

The third variable relates to the length of the event (**$LENGTH_{DISC}$**). **$LENGTH_{DISC}$** is an ordinal variable ranging from '1' to '4.' It denotes whether the event: 1) occurred on a single day, 2) lasted between two and seven days, 3) lasted between eight and thirty days, or 4) lasted longer than thirty days. Here again the length variable relates primarily to symbolic expressions, which often can extend for considerable lengths of time. Lengthy protests are more intense because they reflect a greater commitment on the part of the protesters and they are more likely to attract the attention of targets and the wider public. The final variable used in the derivation of **$EXPRESSION_{SG}$** is an "advocacy of violence" variable (**$VIOLENCE_{ADV}$**); it is coded '1' if the protesters advocated violence during the event; if not it has a value of '0.' While rare, the advocacy of violence in public expression events underscores the intensity of the protesters' feelings and views and a commitment to taking extreme actions, both of which can be disquieting to targets and observers.

Intensity Indicators for Mass Political Expression Events (**$EXPRESSION_{MASS}$**)

The distinguishing characteristic of mass expression events, which include demonstrations, marches, strikes, etc., is the number of participants. Also relevant, however, is the potential, use, or advocacy of violence. Thus, the intensity indicators examined in constructing **$EXPRESSION_{MASS}$** related to such things as the number of protesters/strikers and violence indicators. The exploratory factor analysis suggested that there were two dimensions to the intensity of mass expression: a magnitude and a violence dimension.

Three variables are used in the derivation of **$EXPRESSION_{MASS}$**. The first is a magnitude variable
(**# PARTICIPATING**) that simply reflects an estimate of the number of protesters involved in the event.[4] Obviously a protest by fifty individuals does not generate the anxiety or attention of a protest involving tens of thousands of protesters. The second variable used relates to the violence dimension (**WEAP/INJURY**); it is a dummy variable that captures the presence of a weapon at the event or the infliction of some type of personal injury. The presence of a weapon suggests the potential for violence and the existence of personal injuries reflects the realization of violence. Both of these factors make mass expression events more threatening than those that are devoid of violence. The third variable used to construct **$EXPRESSION_{MASS}$** relates to the advocacy of violence. It is the same dummy variable (**$VIOLENCE_{ADV}$**) used in constructing **$EXPRESSION_{SG}$**. As noted above, **$VIOLENCE_{ADV}$** is a useful intensity measure because it underscores the intensity of the protesters' feelings and views, as well as their commitment to taking extreme actions to realize their objectives.

[4] These estimates were either contained in the news report, based on the coder's estimate based on a reading of the news report, or derived from a statistical estimation routine. While these estimates are useful in providing distinctions among the broad ranges of individuals that are routinely involved in mass expression events, they should not be viewed as highly refined measures. On the other hand, the measure employed here performed better in the factor analysis that an ordinal measure that lumped the estimates into a discrete number of categories.

Intensity Indicators for Politically Motivated Attacks ($\mathbf{VIOLENCE_{NS}}$)

What separates political attacks from political expression events is their capacity to inflict damage or harm, particularly to individuals. But political attacks differ enormously in ways that affect their ability to generate anxiety, fear, concern and uncertainty. Some are targeted at property while others are targeted at individuals. A range of weapons can be used, which vary dramatically in their capacity to inflict harm or damage. While many political attacks result in no injuries or deaths, others kill or wound scores, if not hundreds of people. Finally, some attacks are so extraordinary or brutal that they generate angst that cannot be captured merely by the weapons used or the number of people injured or killed. Corresponding, the intensity indicators examined in deriving $\mathbf{VIOLENCE_{NS}}$ dealt with such things as attack type, weapons and injuries.
The exploratory factor analysis indicates that there are two dimensions to the intensity of violence. One relates to the type of attack (personal, weapon type, existence of an extraordinary attack or gratuitous violence), the other to the magnitude of its impact (number injured/killed)

Five variables are used in the derivation of $\mathbf{VIOLENCE_{NS}}$. The first variable ($\mathbf{ATTACK_{PER}}$) is a dummy indicating whether the attack was targeted at a person. Attacks targeted at humans are scored '1'; all other attacks (e.g., those targeted toward property or geographic locales) are scored '0.' Even if no one is actually injured or killed, the mere targeting of a human is more likely to generate anxiety than an attack aimed at buildings or structures. The second variable relates to the type of weapon used, if any. An ordinal "weapon-grade" variable ($\mathbf{WEAPON_{GRD}}$) was constructed with five categories: (1) no weapon (e.g., hands, feet, teeth, etc.); (2) crude weapon (rocks, sticks, knives, computer, etc.); (3) small arms (pistols, rifles); (4) explosive devises (grenades, ied's, bombs, etc.); and (5) military-grade weapons (mortars, rockets, tanks, planes, etc.). Often more than one type of weapon is used, especially where there are multiple initiators. In these cases the $\mathbf{WEAPON_{GRD}}$ variable captures the highest grade weapon. Obviously, higher grade weapons reflect the potential for more harm and are, therefore, more menacing. The third variable ($\mathbf{ATTACK_{EXT}}$) is a dummy variable indicating the existence of an attack that was extraordinary in its nature (suicide bombing, targeted assassination, ritualistic execution, etc.) or its execution (beheading, mutilation, maiming, extreme brutality, etc.). These extraordinary attacks generate levels of fear and anxiety that are quite independent of the weapons used or the number of people injured or killed in them. Indeed, it is often the intention of the initiators to send a message by planning or using extraordinary means of inflicting harm.

The last two variables used relate to the magnitude of the attack's impact on humans. One reflects an estimate of the number of people injured (**# INJURED**); the other is an estimate of the number of people killed (**# KILLED**).[5] These variables obviously relate only to personal attacks. The justification for viewing them as intensity measures is straightforward. All else being equal, attacks resulting in many injuries or deaths are more disturbing than those with few, or none.

[5] These variables are estimates of number injured and the number killed derived from the news reports, the coder's judgment based on a reading of the news report, or statistical estimates.

Gauging the Intensity of Tangible State Repression (REPRESSION$_{ST}$)

The repressive use of ordinary state powers is a distinctive from other destabilizing acts because it employs routine state powers in ways that have direct and tangible effects on discernible individuals. The challenge in gauging the intensity of tangible state repression derives from the wide range of powers that can be abused by street-level bureaucrats (harassment, threats, disbanding crowds, mobilizing coercive forces, making arrests, invoking the legal process, closing facilities, suspending services, restraining movement, etc.) and the diverse ways in which those actions are executed. Thus, the intensity indicators examined in constructing **REPRESSION$_{ST}$** focused on the characteristics of both actions and how they were implemented. The exploratory factor analysis suggests that there are two dimensions to the intensity of tangible state repression. One relates to the type of state power invoked (coercive powers, arrest power); the other relates to circumstances surrounding its invocation (the number of state actors involved, whether soldiers were involved).[6]

Four variables are used to construct **REPRESSION$_{ST}$**. The first variable reflects whether the event involved the use of coercion. As indicated in Figure 1, events involving the exercise of ordinary state powers are organized within three Tier 3 categories: minimal acts (warnings, threats, the mobilization of coercive forces, etc.), formal acts (abuses of discretion by police, state lawyers or judges), and coercive acts (forced relocations, restrictions on movements, arrests/detentions, invasions of private spaces, etc.). These distinctions were used to create a dummy variable (**COERCIVE$_{ACT}$**), which indicates whether the event was categorized in the "coercive acts" category. Coercive acts are viewed as more destabilizing than minimal or formal acts because they are bald exercises of state power. Minimal acts constitute more veiled uses of

[6] Quite independent of the dimensions to **REPRESSION$_{ST}$** and the variables used to measure it is the question of whether or not a specific act constituted an abuse of discretion. Differentiating between the proper use of discretion and the abuse of power was addressed at the data collection stage and was handled in several ways. The first was through clear instructions and the training and testing of coders. The distinction between the different exercises of state power was introduced in a training manual and by using examples of news reports illustrating different types of situations. These examples were covered in large and small group training sessions. Coders were told that in order for an action by a state official to be deemed repressive (and hence coded as a destabilizing event) that it had to be clear that the officials were abusing the discretion vested in them. More precisely, they were instructed that

> Actions that meet the "abusive use of ordinary state power" criterion are considered destabilizing because they undermine public trust in state actors. Public officials are: (1) entrusted with responsibilities that are important to the lives of citizens; and (2) given a set of powers and resources to perform those responsibilities. When public officials violate their fiduciary obligations that compact is violated; violations occur when the performance of routine public duties are not conducted in an even-handed, good-faith manner that inspires trust on the part of the citizenry. Malfeasance goes beyond simple incompetence, negligence, or even personal greed; it requires an element of favoritism, vindictiveness, disdain, or some other abuse of discretion that suggests that the act is not a good-faith execution of state power. Because this category of events includes routinely performed state tasks, it should not be used unless textual materials in the news report clearly suggest that the event is not a good-faith exercise of state power or discretion.

Coders are tested on their understanding of this concept and they have to pass a "gatekeeper test" before they were allowed to code "production" events. In addition, all coders are routinely fed pre-coded articles to check their accuracy and the reliability of the coding process. None of these tests suggested that coders had difficulty in distinguishing between the good-faith exercise of state power and the abuse of discretion. Part of the reason for the proficiency with which coders handled these events is that the routine exercise of state powers is not particularly newsworthy and most press coverage is of fairly clear-cut violations of the public trust.

power and formal acts involve at least the appearance of involving the more structured use of state power. But coercive acts are executed "on the street" and involve the direct, and often unreviewable, use of force on citizens. The second variable used is a dummy arrest variable (**ARREST**), which is coded '1' if an arrest was made, and '0' if no arrest was made. **ARREST** is an important intensity indicator because it involves the detention of citizens, disrupts normal life, and can be the first stage in an extended legal proceeding that can be costly and has the potential to result in formal punishment. When the state's arrest power is abused it sends a chilling message to citizens that can produce anxiety and fear.

The last two intensity indicators used in deriving $\textbf{REPRESSION}_{\textbf{ST}}$ capture differences surrounding the invocation of state power. The first is simply the number of state actors involved in the event ($\textbf{\# OF INITIATORS}_{\textbf{DISC}}$); it is a dummy variable that is coded as '1' if more than ten state actors were involved in the event and '0' if ten or fewer were involved. Obviously, the greater the number of state actors involved, the more intimidating the actions. The second variable (**SOLDIER**) relates to the involvement of soldiers in the event; it is coded '1' if a soldier was listed as an initiator and '0' if not. The use of soldiers in civil affairs is a useful intensity indicator because the local police are the most common state actor employed in the exercise of coercive force. When the state employs the military it suggests a commitment to the use of a more highly trained and lethal force. This, of course, can be highly intimidating to citizens.

Intensity Indicators for Disruptive State Acts ($\textbf{DISRUPTIVE}_{\textbf{ST}}$)

Extraordinary state acts include such things as censorship, banning associations, imposing curfews, declaring a state of emergency, suspending constitutions, etc. What distinguishes this category of events from other destabilizing state acts is that they have intangible, diffuse effects on large groups of individuals that are inherently disruptive. The mere exercising of these powers can produce anxiety and resentment, as well as generate uncertainty about the future. The fact that these extraordinary events are both intangible and inherently disruptive requires a somewhat different strategy for developing an intensity measure, one that relies on distinctions across event types rather than event-specific attributes. The implementation of this strategy was straightforward. An ordinal variable (**EXTRAORDINARY**) was created with three ranks that corresponded to various categories of events labeled as Extraordinary State Acts in Figure 1. Events that impede political rights (censorship, interfering with electronic communications, banning of a civil society organization) were assigned a score of '1.' Those that restrict a more fundamental set of civil rights (curfews, states of emergency, martial law) were assigned a score of '2.' Finally, events that interfere with the normal governing processes (dissolving the legislature, failing to convene the legislature, suspending/postponing/canceling elections, suspending the constitution) were assigned a score of '3.'

The logic behind this ranking scheme is that interfering with a broader set of human activities is more disruptive to the operation of key societal processes and the conduct of normal human interactions than the curtailment of political activities. Such things as curfews and states of emergency can interfere with family life, economic activities and personal freedoms. Interfering with normal governing processes is accorded the highest score because it raises questions about whether clear boundaries between civil life and governmental activity exist. The uncertainty and

anxiety that such ambiguity introduces can be highly disruptive, particularly when dealing with such a powerful societal actor as the modern state.

Gauging the Intensity of State Violence (**VIOLENCE$_{ST}$**)

The abusive use of mundane state powers (threats, warnings, mobilizations of force, arrests, political prosecutions, forced relocations, invasions of privacy, etc.) can be intimidating and disruptive to the lives of citizens. However, while incarcerated dissidents can be disconcerting to those contemplating contentious confrontations with the state, few things are more destabilizing than the use of lethal force by the state, especially when it leads to extensive injuries and deaths. Thus, the intensity indicators examined in deriving **VIOLENCE$_{ST}$** dealt with such things as attack type, weapons and injuries. The exploratory factor analysis indicates that there are two dimensions to the intensity of state violence. One relates to the type of attack (personal, weapon type, involvement of soldiers), the other to the magnitude of its impact (number injured/killed).

Five variables are used in the derivation of **VIOLENCE$_{ST}$**; four of these were used in the derivation of **VIOLENCE$_{NS}$** (**ATTACK$_{PER}$, WEAPON$_{GRD}$, # INJURED**, **# KILLED**); the fifth was used in the derivation of **REPRESSION$_{ST}$** (**SOLDIER**). The justifications for using these variables as intensity indicators are the same as offered earlier and they will not be repeated here. What should be mentioned here, however, is that caution should be used in the employment and interpretation of **VIOLENCE$_{ST}$**. In some instances violent state attacks are targeted at insurgents; in other instances they are in response to violent attacks by others. For the purposes of some analyses employing the use of **VIOLENCE$_{ST}$**, it is not legitimate to interpret these uses of violent force as repressive acts. Fortunately, using SSP data on targets/victims, state attacks against insurgents can be isolated. Similarly, excluding state attacks categorized within the SSP as "post-hoc reactions" can be used to identify defensive uses of lethal force by the state.

Intensity Scale Construction

Our intensity measures are, essentially, standardized additive scales that are translated so that the lowest value is '1.' [7] In order to combine the intensity indicators described above into a set of composite intensity measures, the intensity indicators had to be standardized (i.e., transformed to have a mean of '0' and a standard deviation of '1.'). The means and standard deviations used to standardize the intensity indicators were based on the subset of the data for which they were relevant (small-gauge expression events, mass expression events, citizen-initiated political attacks, etc.) as the subset means were very different from the global means. The existence of a small proportion of extreme outliers in a handful of variables (**# PARTICIPATING**, **# INJURED, # KILLED**) introduced some challenges to the standardization procedure. Extremely large values led to collapse of variance at the lower ranges. For example, in 98% of the political attacks initiated by private actors, 300 or fewer people were killed. But in a handful of cases, more than

[7] Despite the use of factor analysis in the development of the composite measures, a unweighted additive procedure was chosen to construct them for ease of interpretation. A parallel set of composite intensity measures was constructed using weights derived from the factor analysis. The correlations between the weighted and the unweighted scales were above .90. Thus, the costs of using the more interpretable scales are minimal.
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10,000 people were killed. Including these cases in the calculation of the standardized measure obscured the difference between events in which 25 people were killed and 100 people were killed. This is undesirable because, within the overall distribution of **# KILLED**, the difference between 50 and 100 is considerable. It is also a significant substantive difference, one that could well affect anxiety levels. To address this problem the extreme outliers were removed from the calculations used to generate the means and standard deviations using in standardizing these three variables. The means and standard deviations derived from the truncated distributions were then used to standardize all of the values – including the extreme values. This procedure preserved the variance at the lower end of the distribution without eliminating the extreme values.

The untransformed additive scales were then constructed by simply adding the standardized intensity indicators:

$$\textbf{EXPRESSION}_{SG} = \textbf{Z\_SYMBOLIC} + \textbf{Z\_\# OF INITIATORS}_{DISC} + \textbf{Z\_LENGTH}_{DISC} + \textbf{Z\_VIOLENCE}_{ADV}$$

$$\textbf{EXPRESSION}_{MASS} = \textbf{Z\_\# PARTICIPATING} + \textbf{Z\_ WEAP/INJURY} + \textbf{Z\_VIOLENCE}_{ADV}$$

$$\textbf{VIOLENCE}_{NS} = \textbf{Z\_ATTACK}_{PER} + \textbf{Z\_WEAPON}_{GRD} + \textbf{Z\_ATTACK}_{EXT} + \textbf{Z\_\# INJURED} + \textbf{Z\_\# KILLED}$$

$$\textbf{REPRESSION}_{ST} = \textbf{Z\_COERCIVE}_{ACT} + \textbf{Z\_ARREST} + \textbf{Z\_SOLDIER} + \textbf{Z\_\# OF INITIATORS}_{DISC}$$

$$\textbf{DISRUPTIVE}_{ST} = \textbf{Z\_EXTRAORDINARY}$$

$$\textbf{VIOLENCE}_{ST} = \textbf{Z\_ATTACK}_{PER} + \textbf{Z\_WEAPON}_{GRD} + \textbf{Z\_SOLDIER} + \textbf{Z\_\# INJURED} + \textbf{Z\_\# KILLED}$$

The final versions of the six intensity measures (**EXPRESSION**$_{SG}$, **EXPRESSION**$_{MASS}$, **VIOLENCE**$_{NS}$, **REPRESSION**$_{ST}$, **DISRUPTIVE**$_{ST}$, **VIOLENCE**$_{ST}$) were created by simply transforming the values so that the smallest value in each distribution was '1'. Table 1 contains sample descriptive statistics for the six intensity measures using a global random sample (1946-2005) with nearly 30,000 destabilizing events. As Table 1 makes clear, there is a considerable range in each of the measures, which suggests that simple event counts obscure a good deal of within-category variance in the intensity of civil unrest. This is especially true for **EXPRESSION**$_{MASS}$, **VIOLENCE**$_{NS}$ and **VIOLENCE**$_{ST}$, which have a great deal of variance in the number of demonstrators and victims.[8] But even those intensity measures without large numbers of initiators or victims (**EXPRESSION**$_{SG}$, **REPRESSION**$_{ST}$, **DISRUPTIVE**$_{ST}$) have means and ranges (2.2, 1-5.7; 2.3, 1-5.2; 2.2, 1-4.3, respectively) that reflect a good deal of within category variance.

[8] It must be noted that the distribution of **EXPRESSION**$_{MASS}$, **VIOLENCE**$_{NS}$ and **VIOLENCE**$_{ST}$ are highly skewed due to a handful of outliers generated by events involving a large number of demonstrators/victims. For example, despite their considerable ranges, 98% of the values for **EXPRESSION**$_{MASS}$ are below 25; 98% of the values for **VIOLENCE**$_{NS}$ are below 6; and 98% of the values for **VIOLENCE**$_{ST}$ are below 8.

Table 1
Descriptive Statistics for the Composite Intensity Measures

Intensity Scale	N	Mean	S.D.	Minimum	Maximum
EXPRESSION$_{SG}$	3805	2.2	1.0	1.0	5.7
EXPRESSION$_{MASS}$	4493	4.2	31.1	1.0	1196.2
VIOLENCE$_{NS}$	10415	3.8	81.4	1.0	8261.6
REPRESSION$_{ST}$	3587	2.3	1.0	1.0	5.2
DISRUPTIVE$_{ST}$	1678	2.2	1.0	1.0	4.3
VIOLENCE$_{ST}$	4294	25.7	1339.0	1.0	87661.4

Illustrating the Meaning of the Composite Intensity Scales

While the statistics reported in Table 1 demonstrate a good deal of within-category variance in the intensity of civil unrest, they do not provide insights into the factors that generate that variance. It is possible to illustrate those factors by using the intensity indicators that were used to create the composite measures. The following sections provide those illustrations.

Small-gauge Expression Events

The lowest score for **EXPRESSION$_{SG}$** ('1') represents a written or verbal expression that does not advocate violence, transpires on a single day, and is generated by less than ten protesters. If violence were advocated under those same circumstances the value of **EXPRESSION$_{SG}$** increases to '5.7,' which is the highest value on the observed scale. Violence is seldom advocated in symbolic expressions, but the number of protesters and the length of the symbolic expression affect **EXPRESSION$_{SG}$**. Thus, if no violence is advocated in some form of symbolic expression (sit-in, boycott, hunger strike) involving less than ten protesters – but lasting only one day – the value of **EXPRESSION$_{SG}$** is '1.8;' if the event involved more than ten protesters the value of **EXPRESSION$_{SG}$** increases to '2.8.' If the same event (a non-violent, symbolic expression involving more than 10 protesters) were to last between two and seven days, the value of **EXPRESSION$_{SG}$** would increase to '3.4;' if it lasted between eight and thirty days, the value would increase to '4.1.' An identical symbolic protest lasting more than a month would have a value on **EXPRESSION$_{SG}$** of '4.7.'

Mass Expression Events

A demonstration/strike involving 10 or fewer participants – and involving no injuries or weapons and no advocacy of violence – has the lowest value on **EXPRESSION$_{MASS}$** ('1'). If participants in a demonstration/strike involving 10 or fewer participants advocate violence, the value of **EXPRESSION$_{MASS}$** increases to '1.4;' if weapons are present, or injuries occur, the value increases to '1.6.' The value of **EXPRESSION$_{MASS}$** also increases as the number of participants increase. Consider, for example, a demonstration/march involving no advocacy of violence, weapons or injuries. If that event involves between 100 and 1,000 participants it has a value of '1.1' on

EXPRESSION$_{MASS}$. If the same event drew 10,000 participants, the value of **EXPRESSION$_{MASS}$** increases to '1.9;' if there were 100,000 participants, **EXPRESSION$_{MASS}$** would be '9.6.'

Political Attacks by Non-state Actors

The lowest score for **VIOLENCE$_{NS}$** ('1') represents a property attack involving no weapons (e.g., a dissident breaking the windows of a government office); as it is a property attack it can involve no egregious violence or personal injuries. If the political attack was targeted at a human, but involved no egregious violence, weapons or injuries (e.g., a protester that swings at a police officer, but the blow is defected), the value of **VIOLENCE$_{NS}$** increases to '2.1.' If an attack against a human involved no injuries or egregious violence but some type of crude weapon, the value of **VIOLENCE$_{NS}$** increases to '2.5;' if the attack involved small arms, the value is '2.8;' for explosives and military grade weapons the value of **VIOLENCE$_{NS}$** increases to '3.1' and '3.4,' respectively. If a personal attack involved the use of small arms and egregious violence that results in the death of one individual, the value of **VIOLENCE$_{NS}$** would increase from '2.8' to '3.6.' In contrast, the contributions of **# INJURED** to **VIOLENCE$_{NS}$** are fairly minimal until the number injured becomes large. To illustrate this consider the example of a personal attack with crude weapons, no egregious violence, and none killed, which has a value on **VIOLENCE$_{NS}$** of '2.5.' Having as many as 10 injured people does not change the value of **VIOLENCE$_{NS}$**; having as many as 50 injured increases it to only 2.6. If, however, 400 people are injured, the value of **VIOLENCE$_{NS}$** increases to '3.5.' A similar effect is exerted by **# KILLED**. Consider the example of a personal attack using small arms, no egregious violence, and none injured or killed, which has a **VIOLENCE$_{NS}$** value of '2.8.' Having as many as 10 people killed changes the value of **VIOLENCE$_{NS}$** to only 2.9; having as many as 50 killed increases it to 3.2. If, however, 100 people are killed, the value of **VIOLENCE$_{NS}$** increases to '4.2.' The value of **VIOLENCE$_{NS}$** is 7.7 if 300 people are killed.

Tangible State Repression

The least intense tangible state repression event involves a minimal or formal state act (e.g., a reprimand, a threat, the issuance of an indictment, the massing of coercive forces) involving ten or fewer state actors (none of whom are soldiers) and no arrests. If the state act involves the use of coercive (but non-violent) force (e.g., dispersing protesters, refusing access to a public building, trespassing upon private property, detaining dissidents) – but no arrests and no soldiers – the value of **REPRESSION$_{ST}$** increases to '1.9.' A coercive act involving more than ten state actors – but no arrests and no soldiers – increases the value of **REPRESSION$_{ST}$** to '3;' if the same coercive act involves arrests, the value of **REPRESSION$_{ST}$** increases to '4.' Finally, if a coercive act involves more than ten soldiers and arrests, the value of **REPRESSION$_{ST}$** is '5.2.'

Disruptive State Acts

The variance in **DISRUPTIVE$_{ST}$** is the most straightforward to interpret. An extraordinary state act that infringes upon political rights has the lowest score on the scale ('1'); an act that infringes upon civil rights/liberties has a score of '2.6;' an act that interferes with the normal operations of government has a score of '4.3.'

Political Attacks by State Actors

The lowest score for **VIOLENCE$_{ST}$** ('1') represents a property attack involving no weapons (e.g., unarmed police officers who destroyed derogatory signs planted by dissidents). If the political attack was targeted at a human, but involved no soldiers, weapons or injuries (e.g., the police mount an assault against protesters, who flee without being injured), the value of **VIOLENCE$_{ST}$** increases from '1' to '2.6.' If an attack against a human involved no injuries or soldiers but some type of crude weapon (e.g. a baton), the value of **VIOLENCE$_{ST}$** does not increase perceptibly. However, if the attack involved small arms, the value of **VIOLENCE$_{ST}$** increases to '2.8;' for explosives and military grade weapons the value of **VIOLENCE$_{ST}$** increases to '3.1' and '3.3,' respectively. If a personal attack involves the use of small arms by soldiers, but results in no injury, the value of **VIOLENCE$_{ST}$** increases from '2.8' to '3.7.' In contrast, as was the case with **VIOLENCE$_{NS}$**, the contributions of **# INJURED** to **VIOLENCE$_{ST}$** are fairly minimal until the number injured becomes large. Consider, for example, a personal attack by soldiers with small arms, and none killed, which has a value on **VIOLENCE$_{ST}$** of '3.7.' Having as many as 25 injured people does not change the value of **VIOLENCE$_{ST}$**; having as many as 50 injured increases it to only 3.8. If, however, 100 people are injured, the value of **VIOLENCE$_{ST}$** increases to '4.2;' if 300 are injured it increases to 4.7. A similar pattern occurs for **# KILLED**. Consider the example of a personal attack by soldiers using small arms, and none injured, which has a value on **VIOLENCE$_{ST}$** of '3.7.' Having as many as 10 people killed changes the value of **VIOLENCE$_{ST}$** to just 3.8; having as many as 50 killed increases it to '4.4.' If, however, 100 people are killed, the value of **VIOLENCE$_{ST}$** increases to '5.1;' if 300 are killed it increases to '8.1.'