

Description of the National Index of Violence and Harm

1999 Index Released on November 7, 2001

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1. Introduction

The *National Index of Violence and Harm* is constructed to measure the level of violence in the United States in any given year since 1995 compared to the level of violence in the United States in 1995. The Index indicates changes in the level of violence from year to year. It does not attempt to determine an absolute level of violence in any given year. Two different indices are included: personal violence and societal violence. The value for each index is relative to the baseline year 1995, which is indexed at 100%. Personal violence includes both interpersonal and intrapersonal violence (see below). Societal violence includes both institutional and structural violence (see below). The personal violence scale consists of seven individual variables, and the societal violence scale consists of twelve, for a total of 19 individual variables. Some of these variables are made up of several indicators; for example, the deaths from substance abuse variable includes measures related to smoking, alcohol, and other drugs.

2. Conceptual Background

We are using a concept of violence as defined by some academics which encompasses various types and components such as interpersonal, structural, institutional, physical, and psychological. However, we did limit the definition to violence against humans; for example, we did not include violence against the environment except as it might affect humans (such as air pollution). Using the definition by Iadacola and Shupe (1998), violence is an action or structural arrangement that results in physical or non-physical harm to one or more persons. Such actions or hierarchies need to be purposely done, perpetuated, or condoned (e.g., accidents causing harm are excluded). However, violence occurs whether harm is intended or not, whether the action is justified or not, can be psychological, and needs not be recognized by the perpetrator or the receiver of violence.

We have divided violence into two scales, personal and societal, with each of these having two parts. Personal violence includes both interpersonal (Variables 1–5: homicide, sexual offenses, battery, robbery, and reckless behavior) and intrapersonal (Variables 6 & 7: suicide/self-harm and deaths from substance abuse) violence. Iadacola and Shupe (1998) define personal violence as “violence that occurs between people acting *outside* the role of agent or representative of a social institution.”

Societal violence includes both institutional violence and structural violence. “Institutional violence is violence that occurs by the action of societal institutions and their agents. Institutional violence is violence by individuals whose actions are governed by the roles that they are playing in an institutional context,” according to Iadacola and Shupe (1998). Variables 8 & 9 (criminal justice concerns, and civil rights complaints against the government) represent violence by the institution of the government. Variables 10 & 11 (including air pollution, injuries from products,

and occupational injuries and fatalities) are measures of violence by corporations. Variables 12 & 13 (domestic violence and child abuse/neglect) are acts of violence that occur within the institution of the family.

The second part of societal violence is structural violence, which is measured by Variables 14–19, all of which represent violence that comes about because of the structure or hierarchies of United States society. Iadacola and Shupe's (1998) definition of structural violence is "violence that occurs in the context of establishing, maintaining, extending, reducing or as a consequence of the hierarchical ordering of categories of people in a society." Social negligence represents basic human needs which are left unaddressed by society at large. We have defined "basic" needs to include food, housing, health care and education, and have incorporated related measures of unmet need. Infant mortality and life expectancy, while not direct indicators of structural violence, provide general indicators of the quality of life and health care that is provided through the overall organization of society. Hate crimes occur due to prejudice and enmity between various social and ethnic groups. Employment discrimination is a measure of active bias on the part of those with economic/decision-making power against groups with lesser power. Poverty disparity measures imbalances in the poverty levels between different sub-populations such as racial, age, and gender groups. Gang membership is used as a marker for those who are deprived of basic family and community resources (or otherwise disenfranchised from the mainstream culture) and thus less likely to benefit from societal improvements in education, employment, health care, economics, etc.

3. Index Development

Principally using references by Iadacola and Shupe (1998 *Violence: Inequality and Human Freedom*) and by Chasin (1997 *Inequality and Violence in the United States*), we worked toward conceptualizing overall categories and possible individual variables to include within each. A large list of potential variables and indicators (suicide, domestic violence, etc.) was constructed, within the categories of interpersonal, intrapersonal, institutional, and structural violence. Various professionals, mainly in the social sciences and some with a particular interest in or expertise in violence, were solicited for feedback, principally by use of relevant list-servs. They were asked to rate each variable on whether it should be included in the scale. Suggestions for additional variables/indicators were also solicited and a search was then conducted for valid, yearly, and national measures for those variables which were highly rated or otherwise seemed interesting to pursue (e.g., a good measure was sought to show harmful/insufficient aspects of our health system; lack of health insurance was chosen). Input was also obtained from experts in specific areas during this process of selecting measures (for example, health professionals or those involved with corporate accountability projects). From this, the process moved to another round of discussions among our group, obtaining additional feedback, and more refining.

4. Methodology

Some variables are a combination of several indicators (e.g., deaths from substance abuse includes figures relevant to deaths due to alcohol, tobacco, and drug abuse). There are also occasional double countings of some figures in the overall scale (e.g., sexual violence is counted in the personal violence scale, but some sexual violence occurs as domestic violence, which is also counted as institutional family violence). This happens when the action can be considered in two different ways.

Additionally, we are concerned more with changes from year to year, rather than establishing an absolute level of violence for a particular year. Therefore, even if an occasional variable or indicator might be considered by some to be undermeasured because of lack of full reporting, this is not a concern as long as that under-reporting occurs yearly and consistently, which is our assumption. We chose 1995 to be our baseline year as that was the year in which many of our statistical measures first became available.

We have made corrections for population growth. (This is to ensure that, for example, the measure for homicides does not increase one year merely because there are more people who might kill or be killed.) However, we correct for overall population, rather than population changes in specific age groups that might be more prone to particular types of violence.

Finally, as noted, we sought measures that are valid, annual, and national, trying to use direct measures of harm, when available. When this was not possible for conceptual variables we thought important, we used measures that represented markers of particular types of harm if they met the above criteria (yearly, etc.) as long as empirically they were linked to harm in that area of concern. For example, we used the variable of air pollution because of evidence linking it to ill-health effects, and we used civil rights complaints against the government as a marker of the negative impact of government toward citizens. We excluded some conceptual variables we would have liked to use for want of measures which fit our criteria. We gained feedback from various sources, but, in the end, it was our research group's own call, and we recognize differences of opinion on various aspects of the index. There can be no perfect, scientific index in an area such as "violence" with different definitional, political/value, and methodological perspectives. For example, we realize that some people will feel that legal abortion should be included in the index and its calculations. Those wishing annual figures for abortion can go to <http://www.cdc.gov/mmwr>, a web page provided by the Centers for Disease Control. Detailed discussion of the variable definitions is provided in *National Index of Violence and Harm: Definitions and Sources* (see attachment or the Index web site).

5. Index Calculations

The Personal and Societal Indices were calculated in an Excel spreadsheet. Separate sheets provide detailed calculations for each year, 1995 through 1999 (see attached sheets or the Index web site). The Personal Index is computed as the mean of the indices for Variables 1 through 7,

giving each variable equal weight. Each variable index is computed as a percentage of the variable's 1995 baseline value. (Note that all indices for year 1995 are thus 100.0.) As mentioned earlier, some variables are comprised of several indicators (e.g., Variable 7 - Deaths from Substance Abuse). In this case the variable index is the mean of the indices for the individual indicators. From these procedures the relative weighting of variables and indicators can be inferred. For example, in constructing the Personal Index, Variables 1–6 each contribute to one seventh of the index while Indicators 7a–c each contribute one twenty-first (i.e., one third of the remaining seventh).

The Societal Index is calculated in similar fashion, as the mean of the indices for Variables 8–19, with numerous variables comprised of several indicators. Index values have also been computed for the various categories (e.g., Interpersonal, Government); however, these category indices are not used in the actual calculations of the two overall indices.

The column “Unadjusted” contains the raw data for each variable. Those data that need to be adjusted per the U.S. population (see *National Index of Violence and Harm: Definitions and Sources*) are divided by the population figure (in 100,000s) indicated, with the result appearing in the “Adjusted Data” column. The indexed value (relative to 1995) is computed under “Indicator Index” and subsequently these values are averaged in the columns “Variable Index” and “Overall Index.”

In addition to the annual detail sheets, the *National Index of Violence and Harm Summary: 1995–1999* provides variable and overall indices for each year.

6. Changes from the 1998 Index

To provide more accurate measures, several changes to variable definitions or calculations have been made in the 1999 Index and, for consistency's sake, have been carried back into the 1995–98 Index. The changes, summarized below, did not affect the overall findings reported in the 1998 release, except for Sexual Offenses and Battery. These differences are discussed in the Findings section. For comparative purposes, the original version of the 1995–98 Index is available at the Index web site. (See the Contact Information section.)

Variable 2: Sexual Offenses - This variable is now subdivided into two indicators: a) “Forcible Rape” and b) “Other Offenses.” Inclusion of “Other Offenses” had been intended for the original release but was inadvertently omitted.

Variable 3: Battery - This variable is now subdivided into two indicators: a) “Aggravated” and b) “Other Assaults.” Inclusion of “Other Assaults” had been intended for the original release but was inadvertently omitted.

Variable 5: Reckless Behavior - Incorrect data values were used in 1996 and 1997. Additionally, the rate for this variable has been recalculated using a more appropriate population base. (See *Definitions and Sources* for more details.)

Variable 8b: Nonviolent Incarceration - A more consistent set of values were obtained from the Bureau of Justice Statistics.

Variable 10b: Ambient Pollution Level - The 1995-98 numbers were revised somewhat by the EPA. For consistency with published data we incorporated these revisions.

Variable 10c: Pollution Emitted - The 1995-98 numbers were revised somewhat by the EPA. For consistency with published data we incorporated these revisions. Additionally, we now separately index the six types of pollution included, rather than first aggregating the six individual quantities. This better represents the contribution of each pollutant, as now all six are given equal weight in calculating this indicator.

Variable 12: Domestic Violence - Incorrect data values were used in 1996 and 1997. Additionally, the rate for this variable has been recalculated using a more appropriate population base. (See *Definitions and Sources* for more details.)

Variable 13: Child Abuse/Neglect - Rates comparing total number of child victims (age 17 and under) to the total population base are now used. Previously, rates were computed per the entire U.S. population.

Variable 14: Social Negligence - This variable was previously included in the Government category. After considering feedback we received after the 1998 release, Social Negligence has been moved to the Structural category. Although government should bear some responsibility for addressing the issues covered by this variable, we realize that other social institutions can contribute both to creating and rectifying these problems.

Additionally, the 1998 values for homicide, forcible rape, aggravated assault and robbery have been adjusted to reflect the revised figures in the FBI's *1999 Uniform Crime Report*. Each year, these numbers are adjusted to account for late-reporting states, whose incidence rates were previously only estimated by the FBI. To remain consistent with the FBI's historical data, these adjustments, which are generally less than one-half of one percent, will be incorporated into each year's Index.

7. 1999 Findings

Indices at all levels (overall, category, variable and indicator) were analyzed for consistent trends over the five-year study period. The "Corr." column of the *1995-1999 Index Summary* provides the coefficient of correlation (Pearson's) for a given index versus time (year). The "Sig." column indicates whether the trend over time (as represented by the correlation) is considered statistically

significant at the .05 (*) and .01 (**) levels. As observed in the 1998 release, many variables/indicators show statistically significant trends (i.e., the observed trend was unlikely to occur in the presence of just random fluctuations in the measurement). We note that a “significant trend” should be thought of as a consistent *increase* or *decrease* from year to year, rather than a significant *difference* between the 1995 and 1999 values. For example, while smoking deaths (Variable 7a) only increased 3.8% from 1995 to 1999, as this increase was consistent over time the trend is considered significant. On the other hand, gang membership (Variable 19) increased 21.8% during the study period but, due to its erratic movements, the variable does not display a statistically significant trend.

A number of interesting observations are made from this analysis. The Personal Index, which experienced a 13.0% decline from 1995 to 1999, shows a consistent downward trend (with correlation $r = ! 0.992$), as do four of its seven constituent variables. While the overall downward trend for the interpersonal violence is deemed significant ($r = ! 0.994$), the trend in the intrapersonal variables ($r = ! 0.716$) is not considered statistically significant. This is due to the offsetting changes in the suicide/self-injury and substance abuse variables.

Despite decreases in personal violence, which have been widely reported, societal indicators reveal two patterns. Corporate, family, and structural indicators (excluding social negligence) have generally decreased, while the government and social negligence indicators generally increased. With three of the four government indicators increasing over the study period, the overall government category shows a consistent upward trend ($r = 0.978$) as does the social negligence variable ($r = 0.952$). In the remaining categories (corporate, family and other structural) the majority of indicators (13 out of 17) did decrease, with eight showing consistent downward trends. In combination, the overall Societal Index showed only a small increase (2.5%) from 1995 to 1999, with no significant trend. We note that as future years of data are collected many variables which now appear to fluctuate randomly may exhibit trends that would be considered significant based on a larger data set.

Comparing the 1999 results to the 1998 Index we note that seven categories, variables, or indicators that were not previously deemed significant now exhibit such trends. These are listed below, along with the direction of the observed trend.

- C Battery (!)
- C Criminal Justice (+)
- C Occupational Fatalities (!)
- C Social Negligence (+)
- C Homelessness (+)
- C Infant Mortality (!)
- C Poverty Disparity, Race (!)

There were also three measures that showed an upward trend from 1995 to 1998 but whose indices dropped substantially in 1999, nullifying the previous trend.

- C Substance Abuse
- C Substance Abuse, Other Drugs
- C Lack of Health Insurance

As noted in the previous section, several variable definitions have been revised from those used in the 1998 release, with the changes carried back into the 1995-98 indices. Using the revised data, the trends observed in Sexual Offenses and Battery were no longer apparent in the 1995-98 data.

8. The Index Graphic

We created a graphical image to represent the level of violence in the United States as measured by the Personal and Societal Indices. The image of a ruler suggests a measurement with inches representing multiples of ten percentage points. The height of the bars effectively displays whether violence is increasing or decreasing from year to year. The graphic comparing years 1995 through 1999 (see attached sheet or the Index web site) demonstrates the consistent decrease in the Personal Index and the relative stability of the Societal Index.

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* - The views expressed in this article do not necessarily represent the views of the agency or the United States.

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The *National Index of Violence and Harm* web page is located at:

www.manchester.edu/Academic/Programs/Departments/Peace_Studies/VI/index.htm

12. References

- Chasin, Barbara H. 1997. *Inequality and Violence in the United States*. Atlantic Highlands, NJ: Humanities Press.
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