

***The National Index of Violence and Harm***  
--- a project of the Manchester College Peace Studies Institute ---  
2001 Index Released on October 31, 2003

## **1. Introduction**

The *National Index of Violence and Harm* is constructed to measure the levels of violence and harm to individuals in the United States in a given year compared to levels observed in 1995. The Index indicates changes 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 and societal. The value for each index is relative to the baseline year 1995, which is indexed at 100%. The personal index includes measures of both interpersonal and intrapersonal violence and harm, while the societal index includes institutional and structural measures. The personal scale consists of seven individual variables, and the societal scale consists of twelve, for a total of 19 individual variables. Some of these variables are made up of several indicators; for example, "Deaths From Substance Abuse" 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 limit the definition to harm inflicted upon humans; for example, we do not include harm to 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 the harm.

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-injury and deaths from substance abuse). 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

(harm caused by correctional systems and law enforcement) 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, 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 are 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 effects on health, 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 [www.manchester.edu/links/ViolenceIndex](http://www.manchester.edu/links/ViolenceIndex) ).

## 5. Index Calculations

The Personal and Societal Indices were calculated in an *Excel* spreadsheet. Separate sheets provide detailed calculations for each year, 1995 through 2001 (see attached sheets or the Index web site). The Personal Index is computed as the arithmetic 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 consist 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 contributes one seventh of the index while Indicators 7a–c each contributes 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 consisting 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: 1995–2001 Summary* displays changes in the variable and overall indices over the entire period of study.

## 6. Changes from the 2000 Index

### U.S. Population

Between decennial censuses the Census Bureau publishes monthly U.S. population estimates. Index measures requiring population adjustment are based on the Census Bureau's July 1 estimate for each year. The estimated growth from the April 1, 1990 census to April 1, 2000 was 10.3%. However using the 2000 census data, the U.S. population actually grew 13.1% during this time period. Thus, using the 2000 census figure in conjunction with the previous yearly estimates would create an artificial increase of an additional 2.8% from 1999 to 2000. In the 2000 Index we compensated by adjusting the 1995-99 population figures so that this additional 2.8% was spread out over the years 1990 through 2000, in a manner proportionate to the Census Bureau's estimated yearly increase. However, subsequent to publication of the 2000 Index the

Census Bureau released its own revised population estimates for 1991 through 1999. (*See National Intercensal Estimates, 1990–2000*, posted on September 13, 2002 at <<http://eire.census.gov/popest/data/national/intercensal.php>>.) In this Index release we use their revised population estimates for years 1995-99. This change did not impact the patterns previously observed in the 1995–2000 data.

Impact of September 11<sup>th</sup> Attacks on Homicide (Variable 1), Occupational Injuries and Fatalities (Variables 11b & c), and Hate Crimes (Variable 16)

Consistent with our data sources, deaths and injuries related to the four jetliner attacks of September 11, 2001 are *not* reflected in the Index. A special report contained in Section V of the FBI's *2001 Uniform Crime Report* indicates there were a total of 3,047 victims killed directly by the attacks. This is in addition to the 15,980 murders we cite, as reported in the annual FBI's *Index of Crime*. In addition to the 5,270 workplace fatalities (which we report), the Bureau of Labor Statistics (BLS) reports that 2,490 of the 3,047 murder victims were killed while in the workplace or in the course of business travel. Additionally, 396 emergency workers were killed in the line of duty. (*See National Census of Fatal Occupational Injuries in 2001*, Bureau of Labor Statistics, September 25, 2002.) Since the BLS uses statistical sampling to estimate the number of *non*-fatal workplace injuries they did not separate injuries attributed to September 11<sup>th</sup>. Their estimate of 5.2 million workplace injuries and illnesses would not be significantly affected by this event.

The FBI did not attempt to determine the number of hate crimes occurring as a direct response to September 11<sup>th</sup>. However, they did report anti-Islam crimes increased seventeen fold (to 554 victims) from the previous year. Furthermore, crimes motivated by bias against ethnicity/national origin, other than Hispanic, more than quadrupled to 1,822 victims. (Racial bias is defined as a category separate from ethnic/national origin.) These two increases account for about ninety percent of the 2001 increase, with hate crime victims increasing from 9,924 in 2000 to 12,020 in 2001. Previously, the number of hate crime victims had declined steadily from 1985 to 1998 and then remained flat through 2000.

Variable 9: Law Enforcement

Variable 9 has been replaced with a new measure “Abuse/Misconduct” and combined with former Variable 8c “Deaths by Police Intervention,” to form the new Variable 9 “Law Enforcement.” Variable 9 had previously been titled “Civil Rights Complaints Government.” However, after additional consultation with the Civil Rights Division/Criminal Section of the U.S. Department of Justice, it was determined that a better indicator would be the number of law enforcement officers (e.g., police, sheriffs’ deputies, state and federal correctional officials, INS officers, and boarder patrol agents) charged for police abuse or official misconduct (generally excessive use of force).

### Variables 10b & c: Ambient Pollution Level and Pollution Emitted

The EPA revised these data for all year's prior to 2001. These new figures are reflected in the 2001 Index. Significant downward trends previously observed for these indicators are still present in the revised data.

### Variable 14c: High School Dropout Rate

We are now using the U.S. Census Bureau's Current Population Survey as our source for the dropout rate, as this (primary) source provides an earlier release date. Figures differ slightly from the secondary source previously used (the National Center for Education Statistics) but year-to-year changes are comparable. This change has been incorporated into all previous years.

### Variable 18: Poverty Disparity

In 2001 the Census Bureau made a slight revision in its method for computing income estimates. This change has been carried back into the 2000 Index and did not affect our previous findings.

### Updating of 2000 Preliminary Values

For several variables (primarily FBI crime data and CDC health data) we use preliminary data provided by our sources and adjust it based on prior years' deviations between the preliminary and final values. (See details in Section 6 of *Description of the National Index of Violence and Harm*, 2000 Release.) In this release we thus update the 2000 Index with final figures for Variables 1, 2a, 3a, 4, 6, 7abc, 8c, 11c, 14a, and 15b. No significant differences were observed in the final 2000 data except for Substance Abuse - Other Drugs (Variable 7c) and Deaths by Police Intervention (Variable 9a, previously 8c), which increase 8.8% and 5.3%, respectively. All revised 2000 figures are indicated in italics in the 2000 detail report. NOTE: For the 2001 Index final CDC health figures have been used.

## **7. 2001 Findings**

Indices at all levels (overall, category, variable and indicator) were analyzed for consistent trends over the seven-year study period. The column "Corr." in the *1995-2001 Summary* provides Spearman's rank correlation for each index versus time (year). As indices do not represent data sampled from a given population, use of Spearman's rank correlation ( $r_s$ ), while somewhat less powerful than Pearson's correlation, is more theoretically sound. The column "Sig." indicates whether the trend over time, as represented by the correlation, is considered statistically significant at the .05 (\*) and .01 (\*\*) levels. Asterisks in parentheses indicate a variable that displays less significance than in past years, while asterisks in square brackets indicate an increase in significance. (Statistical significance was determined using two-tailed probability values, as provided by *SPSS, Version 11.5*.) In this context statistical significance indicates that

the index values are ordered over time (either in an increasing or decreasing fashion) to a degree that is unlikely to occur solely due to chance (i.e., in the presence of only random fluctuations in the data).

As observed in the 2000 release, many variables/indicators show statistically significant trends. We emphasize that a “significant trend” does not necessarily imply a significant *difference* between the 1995 and 2001 values. For example, while smoking deaths (Variable 7a) only increased 2.3% from 1995 to 2001, as this increase was fairly consistent over time the trend is considered significant. On the other hand, people experiencing pollution (Variable 10a) decreased 26.2% 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 experienced a 14.9% decline from 1995 to 2001. While actually increasing slightly in 2001, it still shows a significant downward trend (with Spearman’s rank correlation of  $r_s = -0.964$ ), as do six of its seven constituent variables (all except deaths from substance abuse which appear to be increasing). However most of the constituent variables (particularly homicide and robbery) leveled off or increased slightly in 2000 and 2001. We also note that individually the interpersonal and intrapersonal categories each have downward trends deemed significant (with rank correlations of  $-1.000$  and  $-0.775$ , respectively).

In contrast to the long-term decreases in personal violence, 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 all four government indicators increasing over the study period, the overall government category shows a consistent upward trend ( $r_s = 0.857$ ) as does social negligence ( $r_s = 1.000$ ). In the remaining categories (corporate, family and other structural) the vast majority of indicators (14 out of 17) have decreased, with ten showing consistent downward trends. In combination, the overall Societal Index showed only small variation from 1995 to 2000 (fluctuating between 97.3 and 101.0) with no significant trend. However, in 2001 it increased from 99.0 to 102.9, largely due to the effects of criminal charges against law enforcement, hunger, homelessness, and hate crimes.

Comparing the 2001 results to the 2000, we observe just one variable displaying a significant trend which had not been seen previously—a downward trend in air pollution. Furthermore, two variables changed significantly enough to contradict the previous trend that had been observed. The hate crime index increased from 89.5 to 107.3, higher than any year since 1995. (Its rank correlation changed from  $-0.771$  to  $-0.214$ , and is no longer statistically significant.) The number of executions decreased for the second straight year (down from 98 in 1999, to 66 in 2001), with its correlation decreasing from 0.829 to a statistically insignificant 0.536. Additionally we observe that product injuries, which had been fluctuating within an indexed range of 88.8 to 100.0 has jumped from 96.9 in 2000 to 102.5.

We also note that while poverty disparity overall has decreased consistently since 1995 (to an index of 95.7), gender disparity has shown no significant change and class disparity has increased. Furthermore, in 2001 one was 159% more likely to be in poverty if Black, Hispanic or Asian (versus non-Hispanic White), 24% more likely if female (versus male), and 61% more likely if under 18 years of age (versus 18 or over). (See 2001 detail sheet.)

There were several categories or variables which had exhibited a downward trend from 1995 through 2000, but increased in 2001, though not enough to invalidate the statistical significance of the overall trend. These were:

- Homicide
- Robbery
- Intrapersonal
- Suicide/Self-Injury
- Deaths from Substance Abuse - Alcohol
- Corporate
- Consumer/Employees
- Child Abuse/Neglect

Similarly, two categories show a decrease in 2001, in contrast to upward trends from 1995 through 2000. These were:

- Deaths from Substance Abuse - Smoking
- Nonviolent Incarceration

It is also interesting to observe that numerous variables and categories have decreased (or increased) consistently during all years covered in the study. Those that have decreased for six straight years are:

- Interpersonal
- Ambient Pollution
- Pollution Emitted
- Occupational Injury/Illness
- Infant Mortality/Life Expectancy
- Poverty Disparity

Those that have increased each year are:

- Social Negligence
- Hunger
- Homelessness

## 8. The Index Graphic

A graphic is provided to represent the levels of violence and harm in the United States as measured by the Personal and Societal Indices. The heights of the bars display whether violence is increasing or decreasing from year to year. The graphic comparing years 1995 through 2001 (see attached sheet or the Index web site) demonstrates the consistent decrease in the Personal Index and the relative stability of the Societal Index, until 2001 when a clear increase is observed. Time plots of individual variables are available at the Index web site.

## 9. Index Authors

The *National Violence of Index and Harm* was originally authored in 1999-2000 by the following research team:

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## 12. References

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