

Description of the National Violence Index

Released December 14, 2000

1. Introduction

The National Violence Index 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, not including 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 need 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, rape, 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 8–10 (including social negligence, criminal justice concerns, and civil rights complaints against the government) all represent violence by the institution of the government. Variables 11–12 (including air pollution, injuries from products, and occupational injuries and fatalities) are measures of violence by corporations. Variables 13–14 (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 15–19, 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." 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. 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.

3. Index Development

Using principally books 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 and 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 we are

assuming. 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 number of 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 Violence Index: 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 1998 (see attached sheets or the Index web site). Included are separate spreadsheets for each year, 1995 through 1998. The Personal Violence 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 Violence 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 Violence 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 Violence Index: 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 Violence Index Summary: 1995–1998* provides the variable and overall indices for all four years.

6. Findings

Indices at all levels (overall, category, variable and indicator) were analyzed for consistent trends over the four-year study period. The “Correl.” column of the 1995-1998 Index Summary provides the coefficient of correlation (Pearson’s) for a given index versus time (year). The “Signif.” column indicates whether the trend over time (as represented by the correlation) is considered statistically significant at the .05 (*) and .01 (**) levels. Even using just four observations (years 1995, 1996, 1997 and 1998) 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 1998 values. For example, while smoking deaths (Variable 7a) only increased 2.4% from 1995 to 1998, since the increase was consistent over time the trend is considered significant. On the other hand, gang membership (Variable 19) increased 14.1% 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 Violence Index, which experienced an 11.2% decline from 1995 to 1998, shows a consistent downward trend (with correlation $r = ! 0.984$), as do six of its seven constituent variables. While the overall downward trend for the interpersonal violence is deemed significant ($r = ! 0.987$), no overall trend is observed for the intrapersonal variables ($r = ! 0.169$). 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 have generally decreased, while government indicators generally increased. With seven of the eight government indicators increasing over the study period, the overall government category shows a consistent upward trend ($r = 0.982$). In the remaining categories (corporate, family and structural) the majority of indicators (14 out of 17) did decrease, but only four showed consistent downward trends. In combination, the overall Societal Violence Index showed only a slight increase (0.1%) from 1995 to 1998, 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.

7. 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 Violence 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 1998 (see attached sheet or the Index web site) demonstrates the consistent decrease in the Personal Violence Index and the relative stability of the Societal Violence Index.

8. Authors of the Index

- C Neil Wollman, Ph.D., Senior Fellow, Peace Studies Institute; Professor of Psychology, Manchester College
- C Bradley Yoder, Ph.D., Professor of Sociology and Social Work, Manchester College
- C James Brumbaugh-Smith, Ph.D., Assistant Professor of Mathematics, Manchester College
- C Dustin Brown, B.A., Manchester College
- C Heidi Gross, student, Manchester College
- C Benjamin Long, student, Manchester College

9. Acknowledgments

The authors would like to thank many people for their assistance in the preparation of the index. These people include students and faculty at Manchester College, experts in the field of violence, and experts in the various fields which are included in the index (for example, those studying air pollution). Additionally, we would like to thank the Peace Studies Institute at Manchester College for its sponsorship and financial support, and Gib Foster (Office of Printing Services, Manchester College) who designed and executed the Index graphic.

10. Contact Information

For more information, please contact:

Neil Wollman
 njwollman@manchester.edu
 Phone: (219) 982-5346
 Fax: (219) 982-5043

The National Violence Index web page is located at:

<http://www.manchester.edu/Academic/Programs/Departments/Peace_Studies/VI/index.hm>

11. References

- Chasin, Barbara H. 1997. *Inequality and Violence in the United States*. Atlantic Highlands, NJ: Humanities Press.
- Iadacola, Peter and Anson Shupe. 1998. *Violence, Inequality, and Human Freedom*. New York: General Hall Publishers.