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INTERNATIONAL CRIMINAL STATISTICS: A PROPOSAL

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By applying the measurement theory involved in psychophysical scaling and obtaining seriousness scores for criminal offenses in various countries, Professor Wolfgang proposes here a new method for collecting international criminal statistics. His article was read as a paper at the annual meeting of the American Sociological Association in Miami, Florida on September 1, 1966.

There are traditional criticisms about comparing the criminal statistics of one nation with those of another. The problems and limitations have resulted in relatively few sets of data that permit scholars to make valid international comparisons. Among these problems are the following:

1) The definitions of crime found in the statutes of different countries vary widely, so that what is defined as criminal in one nation may not be defined as criminal in another nation.

2) Even the same act of burglary, robbery, homicide, etc., may be defined differently in different countries.

3) Penalties for the same acts vary widely.

4) Wide cultural differences exist regarding respect for property and person, and these cultural traditions cannot adequately be reflected in traditional national comparisons of crime rates.

5) Variations exist in the administrative efficiency of police systems.

6) Some countries maintain better social accounting systems than do other countries; i.e., some countries have a more elaborate, comprehensive system of recording criminal statistics than do others.

7) Some countries count crimes according to police reports of "offenses known"; other countries keep a crime count according to judicial statistics of the number of persons brought to trial and convicted.

Additional items might be subsumed under these general headings, but they would all point to the same problem of cultural variations in the definition of crime, sentiments of severity, degrees of reportability, probabilities of discovery, types of penalties, and the methods of collecting criminal statistics. Many of these same problems

faced the committee on uniform crime reporting of the International Association of Chiefs of Police when in the late 1920's the association sought to establish a system of national crime reports for the separate states of the United States. The history of the Association's resolution of most of these problems is adequately recorded elsewhere,¹ and it is well known that since 1930 the Federal Bureau of Investigation of the United States Department of Justice has been collecting uniform crime reports that have satisfied many of the demands for a national recording system. Still, this is one nation, and although regional and other cultural variations exist within its political boundaries, they are minor compared to the variations between and among other national groupings. The limitations and inadequacies inherent in the United States uniform crime reporting system have been brought to our attention by many criminologists;² we need not dwell on them here. We wish only to emphasize that some of the same problems faced in constructing international criminal statistics have been encountered before. However, we are not suggesting that the resolution of some of these problems for the United States can or should be applied internationally.

Efforts to prepare a valid format for international criminal statistics have been made by various groups or experts. A recent report by Thorsten

¹ *Uniform Crime Reporting: A Complete Manual for Police*, New York, N.Y.: Committee on Uniform Crime Records, International Association of Chiefs of Police, 1929.

² Wolfgang, *Uniform Crime Reports: A Critical Appraisal*, 111 U. PA. L. REV. 708 (1963); Robison, *A Critical View of the Uniform Crime Reports*, 64 MICH. L. REV. 1031 (1966); and the more defensive statement in Lejins, *Uniform Crime Reports*, 64 MICH. L. REV. 1011 (1966).

Sellin to the Council of Europe has reviewed and briefly summarized these efforts. Unfortunately, we are not far along in producing the kinds of international data that would satisfy scholars who wish to compare the national patterns of various forms of deviant conduct.

At present, only a few types of crime are reported in the United Nations Yearbook or by the International Police Organization. These reports, and the occasional attempts by individual scholars to compare nations by certain types of crimes, all make the same unwarranted assumption; namely, that a crime of homicide, of robbery, burglary, or rape, for instance, is perceived as being of the same order of magnitude of seriousness in one country as in another. To compare the robbery rate per population unit in England with the robbery rate per population unit in Yugoslavia assumes that this kind of vis-a-vis theft means the same thing in both countries. We are not simply referring to the fact that the legal definitions may differ. Even if they do not, robbery may be viewed in the one country as much higher on a scale of seriousness. It is hardly likely that the loss of property or injury to the person will be perceived with the same weights of severity in all cultures, although their relative positioning in a rank ordering may be similar.

To make international comparisons by merely counting the number of violations of a specific type and dividing by a population constant reflects an arbitrary arrogance of assumed similarity that pays no attention to cultural diversities. This kind of assumption may be valid for comparing fertility and mortality statistics but not for comparing criminality. It is interesting that when political, anthropological, and other social analysts engage in cross-cultural comparisons, each culture is described as a separate functional system, and the attitudes and values of each culture are conceived as important attributes for understanding the operation of the system. Yet, in comparative criminal statistics, these cultural distinctions in values are "washed away" by the simple unit count method.

Arguments that have elsewhere been made for using in a crime index those offenses which are considered by a given culture as sufficiently serious to have high probability of being reported to the public authorities are also considered here as useful in constructing an international crime index. The reasons for using police statistics for a valid index have been presented by many

criminologists³ and are here suggested for international statistics. That some nations have traditionally used judicial statistics, and that variations exist in police efficiency, do not disturb the validity of the model we are proposing. Any nation can as readily collect police as it can court statistics; and police efficiency in apprehending offenders should have relatively little effect on the reporting of serious offenses to them. Thus, items 5, 6, and 7 in our earlier list of problems are purely administrative policies that need not impede the collection of international criminal statistics. Moreover, a team of experts from an international organization could, like the field representatives of the Department of Justice in the United States, help individual countries to set up and promote reliable crime reporting systems.

While these administrative problems may be important, they are not the chief ones preventing valid international comparisons. Many nations already have good accounting systems, and as new nations emerge with reliable data, they could be added to the world's collection. The most serious impediments to comparative data are found in the first four problem areas outlined at the beginning of this article: those concerned with differential definitions of crimes and of their gravity.

We are proposing a system of international criminal statistics based upon the assumptions and analyses found in our book *The Measurement of Delinquency*.⁴ Among the several main features of this system is the elimination of legal labels for measurement purposes. Thus, as noted, rape, robbery, burglary, larceny, homicide, etc., are replaced by requests for information about the type of physical injury, the pecuniary value of property theft or damage. To these items are added information regarding the existence of forcible sex relations, the existence of intimidation and by what method, and the presence of a forcible entry.

It is important to note that although the specific legal labels do not appear, the designation that an injury or property loss is a crime depends upon

³Thorsten Sellin's arguments are used by many writers who have discussed this issue in the United States and abroad. For his early statement, see Sellin, *The Basis of a Crime Index*, 22 J. CRIM. L. & CRIMINOLOGY 335 (1931).

⁴SELLIN & WOLFGANG, *THE MEASUREMENT OF DELINQUENCY* (1964). This study was originally conducted under a grant from the Ford Foundation.

the legal statutes of the culture within which such acts occur. In this way, variations in the definitions of crimes are respected and maintained, while a common basis for comparison of the essential elements of these offenses is available.

Counting the number of victims of each type of physical injury is no problem. The elements designated are applicable everywhere. The pecuniary value of property theft or damage can be indicated by reference to the currency of each country. If desired, the international rate of exchange can be used to standardize these money values.

The next problem is that of providing a weighting system to indicate the relative degrees of seriousness of crime. By using the ratio scale suggested by psychophysics, each country participating in the collection of international statistics could replicate the Philadelphia study, as has recently been done in Canada.⁵ The choice of subjects used to provide the scale scores should be determined by the administrators of the scaling analysis in each country. Once the geometric means or medians of the magnitude scores are established in each nation for all index offenses, the frequency of persons injured and of property stolen or damaged can be multiplied by the respective weights of seriousness.

As in the case of the Canadian replication of Philadelphia, we would minimally expect that if the magnitude scale scores of seriousness are derived from any two populations, the relation between them should be a power function ($y = aX^b$), and the plotted points should constitute a straight line on log-log paper. Maximally, we would hypothesize that if the magnitude scale scores of seriousness are derived from any two populations in the same culture, the relation between them should be a power function ($y = aX^b$), with the plotted points constituting a straight line on log-log paper and with the value of b approximately 1.

Because specific scale scores are expected to vary across cultures, we are now required to determine how countries might be compared with one another. In short, how can we interpret

⁵ Canadian replication studies thus far include the following: Normandeau, *The Measurement of Delinquency in Montreal*, 57 J. CRIM. L., C. & P. S. 172 (1966); AKMAN & NORMANDEAU, A MANUAL FOR CONSTRUCTING A CRIME AND DELINQUENCY INDEX IN CANADA, (1966); AKMAN, NORMANDEAU & TURNER, THE MEASUREMENT OF CRIME & DELINQUENCY IN CANADA, a forthcoming publication.

comparisons? As has been suggested, it would be necessary to obtain for each country the sum of the frequency of each measured crime, multiplied by its weight, divided by a constant population unit. The result is, of course, a weighted rate of crime for each country. Injuries and property crimes could be shown by separate rates if so desired, and refinements by age and sex compositions could easily be computed.

Assuming that frequency counts have been made by each participating country, there are several ways in which comparisons could be made. One method is to calculate what might be called a *world mean weight* for each element of the criminal events to be measured. This world mean weight could be calculated by multiplying each country's scale score for an element of an index event, divided by the proportion of population represented by each country. The sum of these figures would result in the world mean weight for each criminal element to be applied in each country. Symbolically, this can be expressed as follows:

$$(I) R_x = \frac{\sum_i f_i \bar{w}_i}{P_x} \cdot k$$

R = weighted crime rate

x = country x

f_i = frequency of a given criminal event

\bar{w} = world mean seriousness weight for a given class of events

k = constant multiplying unit of 100,000

P_x = total population of country x .

This method may not sound attractive because it could significantly reduce the seriousness scores of one country while significantly raising the scores of another country. The chief virtue of this method is that it produces less distortion overall than any other method can if reduction of all countries' seriousness scores to one score is the desideratum. Moreover, this method comes closest to an ideal model that would take a random representative population of all nations in order to obtain a single set of scale scores for each scorable element in the international index.

A second method that could be used would involve a matrix of international calculations by which the sum of the frequency of crimes in country x , for example, would be multiplied by the seriousness scores of country y , times the ratio

of the population between country x and country y , divided by the population of country y . Thus,

$$(II) \quad R_y = \frac{\sum_i f_{ix} s_{iy}}{P_y} k \left(\frac{P_x}{P_y} \right)$$

In short, the question posed for answering by this method is whether country y would perceive the extent of its crime problem as more or less serious if country y had the same incidence of crime as country x . Would Philadelphia be "happier" with Montreal's incidence of crime, using Philadelphia seriousness scores, than Philadelphia is with its own incidence and distribution of crime? The reverse question could be asked of Montreal. This method, while feasible, is cumbersome and involves elaborate computations for all cross-national comparisons.

A third method is available, and, we believe, more attractive than the previous two because it has simplicity and more firmly retains a reflection of each country's weighting of gravity. Rather than calculating an international mean weight for each measurable element, each country would sum its frequencies times its own weights and produce its own weighted crime rate each year. Thus, the weighted crime rate of country x ,

$$(IIIa) \quad R_x = \frac{\sum_i f_{ix} s_{ix}}{P_x} \cdot k$$

is compared to the weighted crime rate of country y ,

$$(IIIb) \quad R_y = \frac{\sum_i f_{iy} s_{iy}}{P_y} \cdot k$$

As previously mentioned, we would expect variations in the specific scale scores among different nations and cultural groups. These are the very differences that are not recognized when all crimes are treated as a weight of 1, as is presently the case; and these cultural differences are the ones we wish to retain, while at the same time using a unidimensional base for international comparisons.

We assume that the lowest unit reduction for scale scores would be the nation-state, and that each subpopulation unit within a nation (city, town, rural area) would use the same set of scores. In an inter-city comparison across nations, therefore, the separate weighted rates could be employed. Attention is drawn to the present re-

search of the National Opinion Research Center which seeks to collect, from a random representative sample of the United States, not only data on amounts and kinds of victimization, but also data on the rating of seriousness of a variety of all index and some non-index offenses.⁶

With the third method suggested, the annual weighted rate for Philadelphia could be compared to the annual weighted rate for Belgrade. The rate for Philadelphia would be based on the seriousness scores as evaluated by the Philadelphia judges; the rate for Belgrade would be based on the seriousness scores as evaluated by the Belgrade judges. By way of a crude illustration, if the derived, adjusted (rounded) scale score for a single homicide were 26 in Philadelphia but 52 in Belgrade, and if Philadelphia had 100 homicides during a given period of time and Belgrade had 50 homicides during the same time period, and assuming the populations were similar, the weighted rates would be equal. The interpretation is that the total social injuries inflicted upon these communities through homicides are perceived as equally serious in each respective community, despite differences in the absolute numbers of homicides. This simple illustration suggests the way in which all types of index crimes and the sum of all index crimes can be handled statistically.

Moreover, because each nation's scale scores constitute a ratio scale, the weighted rates of any two or more nations may be treated as constituting a ratio scale containing all of the concomitant advantages of statistical manipulations common to ratio scales. If Philadelphia were to have a total weighted crime rate twice as high as the weighted crime rate of Belgrade, it could legitimately be claimed that crime is only half as serious in Belgrade (to the people of Belgrade) as it is in Philadelphia (to the people of Philadelphia). We thus avoid the arbitrary assumption of cultural uniformity in the judgment of seriousness of crime, which, as we have said, is now done when each offense is treated (a) as if it were the same degree of seriousness (scored 1) in all countries, and (b) the same degree of seriousness as any other offense. Under this proposed system, international statistical comparisons should be possible and valid because they contain the mean-

⁶ The study by NORC has been conducted for the President's Commission on Law Enforcement and the Administration of Justice. The data were not yet analyzed at the time of this writing.

ing which each nation does in fact give to its criminal violations within its own borders.

If one man's meat can be another man's poison, then we should recognize that one country's felony may be another country's misdemeanor. By adding to this recognition a common system for obtaining mathematical weights for the gravity of crime, a new method for comparative international criminal statistics can be established.

The utility of such measurements of crime, both

within a country and internationally, are abundant. Evaluation of action programs, police operations, deterrence procedures, intervention models, treatment strategies, research on recidivism, and so forth, are some areas where more refined measurement utility is needed. In future studies, we intend to examine how seriousness scores of crime can be useful for research and administrative purposes, as well as for statutory and judicial interpretation.