



## Measuring the Level, Pattern, and Sequence of Government Respect for Physical Integrity Rights

David L. Cingranelli; David L. Richards

*International Studies Quarterly*, Vol. 43, No. 2. (Jun., 1999), pp. 407-417.

Stable URL:

<http://links.jstor.org/sici?sici=0020-8833%28199906%2943%3A2%3C407%3AMTLPAS%3E2.0.CO%3B2-I>

*International Studies Quarterly* is currently published by The International Studies Association.

---

Your use of the JSTOR archive indicates your acceptance of JSTOR's Terms and Conditions of Use, available at <http://www.jstor.org/about/terms.html>. JSTOR's Terms and Conditions of Use provides, in part, that unless you have obtained prior permission, you may not download an entire issue of a journal or multiple copies of articles, and you may use content in the JSTOR archive only for your personal, non-commercial use.

Please contact the publisher regarding any further use of this work. Publisher contact information may be obtained at <http://www.jstor.org/journals/isa.html>.

Each copy of any part of a JSTOR transmission must contain the same copyright notice that appears on the screen or printed page of such transmission.

---

The JSTOR Archive is a trusted digital repository providing for long-term preservation and access to leading academic journals and scholarly literature from around the world. The Archive is supported by libraries, scholarly societies, publishers, and foundations. It is an initiative of JSTOR, a not-for-profit organization with a mission to help the scholarly community take advantage of advances in technology. For more information regarding JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

# Measuring the Level, Pattern, and Sequence of Government Respect for Physical Integrity Rights

DAVID L. CINGRANELLI

AND

DAVID L. RICHARDS

*Binghamton University, State University of New York*

We employ a polychotomous version of Mokken Scaling Analysis to create an improved measure of government respect for a subset of human rights known as physical integrity rights. The scale we produce is shown to be unidimensional, and it contains information about the level, pattern, and sequence of government respect for these rights. No previous measure has explicitly addressed the issue of sequence of government respect for human rights. The sequence, or ordering, of respect for physical integrity rights that we find tells us which rights are more commonly respected (the rights not to be killed or disappeared) and which ones are more commonly violated (the rights not to be imprisoned arbitrarily or tortured). Our findings improve upon previous studies that have assumed unidimensionality and that have made a priori assertions of patterns of respect. They also stand in contrast to McCormick and Mitchell's (1997) claim that government respect for physical integrity rights is necessarily a multi-dimensional phenomenon.

---

Almost all empirical human rights research has focused on government respect for one category of human rights, physical integrity rights, as the main concept of theoretical interest. Physical integrity rights are the entitlements individuals have in international law to be free from arbitrary physical harm and coercion by their government.<sup>1</sup> Human rights violations in this category include extrajudicial killings, torture, disappearances, and political imprisonment. As in many other subfields of political science, a debate over how to measure the main concept of theoretical interest has hindered the cumulation of findings. The most frequently used measure of government human rights practices is the Political Terror Scale (PTS), a five-category scale measuring the amount of government violation of physical integrity rights. While the PTS represents an improvement over previous measures of government respect for physical integrity, it too has certain limitations that can be overcome. Using Mokken Scaling Analysis (MSA), a cumulative scaling technique, on disaggregated information about government respect for particular physical

---

<sup>1</sup> Physical integrity rights are sometimes referred to as "personal integrity" or "life integrity" rights.

integrity rights, we are able to produce an easily replicable, unidimensional scale of overall government respect for physical integrity rights.<sup>2</sup>

This new scale is an improvement over the PTS, because we can empirically demonstrate unidimensionality, a requirement for any social science concept. The evidence of strong, unidimensional scalability of government respect for different physical integrity rights we present here refutes McCormick and Mitchell's (1997) argument that government respect for physical integrity rights is *not* a unidimensional phenomenon. This new scale also improves upon the PTS, because a single score provides information not only about the *level* of government respect for physical integrity rights, but also about the *pattern* and *sequence* of government respect for particular physical integrity rights. Here, *pattern* refers to the association of different levels of government respect for several physical integrity rights with a single, overall scale score. *Sequence* refers to the order in which governments have a propensity to violate particular physical integrity rights. The pattern of respect for physical integrity rights we discover using MSA differs from the a priori pattern asserted by the PTS. The PTS does not explicitly address the sequence of government respect for particular physical integrity rights. At this time, however, we are not questioning the substantive findings of previous research projects that have used the PTS as a dependent variable, because the scores we produce using MSA are strongly correlated (.78) with PTS scores.<sup>3</sup>

The pattern and sequence we discovered are affected by our definitions of the four human rights violations considered in this analysis. Torture refers to the purposeful inflicting of extreme pain, whether mental or physical, by government officials or by private individuals at the instigation of government officials. Torture includes the use of physical and other force by police and prison guards that is cruel, inhuman, or degrading. Political imprisonment refers to the incarceration of people by government officials because of their ideas including religious beliefs, their nonviolent religious practices including proselytizing, their speech, their nonviolent opposition to government policies or leaders, or their membership in a group including an ethnic or racial group.<sup>4</sup> Extrajudicial killings are killings by government officials without due process of law. They include murders by private groups if instigated by government.<sup>5</sup> Disappearances refers to unresolved cases in which political motivation appears likely and in which the victims have not been found. Disappearances and killings are closely related practices. Many victims of human rights abuse who initially are categorized as having been disappeared are later found to have been killed.

We found that if a government violated just one of the four physical integrity rights we examined, it was most likely to practice torture occasionally, because at least some instances of brutal treatment of individuals by police and prison guards occur in most countries. Holding some political prisoners was almost as common as the occasional practice of torture. Thus, we found that if a government chose to engage in two kinds of violations of the human rights to physical integrity, it usually

---

<sup>2</sup> While we concern ourselves here with the measurement of physical integrity rights, MSA could be used to measure government respect for other categories of rights such as civil rights, political rights, civil liberties, economic rights, and social rights if the items that compose these categories form unidimensional scales. Indeed, while these and other categories of human rights have been asserted as coherent categories based on logical argument, Mokken scaling analysis could be used to empirically identify the number and types of categories of human rights practices that actually exist.

<sup>3</sup> This is the Kendall's tau coefficient. It describes the relationship between the two ordinal scores for our sample of governments for the years 1981, 1984, and 1987, the years for which the PTS was available to us.

<sup>4</sup> Individuals who are imprisoned because they have committed violent acts, regardless of the reasons why they committed those acts, are not political prisoners.

<sup>5</sup> Extrajudicial killings may result from the deliberate, illegal, and excessive use of lethal force by the police, security forces, or other agents of the state whether against criminal suspects, detainees, prisoners, or others. Extrajudicial killing excludes combat deaths.

practiced torture and the taking of political prisoners. Fewer governments practiced extrajudicial killing and even fewer still made their citizens disappear. We speculate that not as many governments practice extrajudicial killing and make their citizens disappear, because the general publics of most countries are less tolerant of violations of these rights by the leaders of their own governments. Moreover, governmental leaders are less tolerant of violations of these rights by other governments.

### Methods

To develop scale scores measuring variations in overall respect for physical integrity rights by different governments of the world, we used a cross-national time-series data set containing variables describing government respect for these four human rights.<sup>6</sup> This data set comprises a random sample of seventy-nine nations of the world having a population size of at least 750,000 in 1981. Eleven percent of the countries in this sample can be described as “fully developed,” while the remaining 89 percent can be described as “developing” countries. This country sample is representative of all geographical regions of the world and all political system types. The data set covers the time period 1981 through 1996 at three-year intervals.<sup>7</sup> The time period is lower bound at 1981 due to problems with the quality and availability of human rights data before 1981.

The sources of data for the coding of human rights variables in this study are the annual *State Department Country Reports on Human Rights Practices* and Amnesty International annual reports. It has become standard procedure in the systematic study of human rights to check one source of information against another. In practice, usually State Department and Amnesty International reports are checked against each other to control for possible bias in either source (Stohl, Carleton, and Johnson, 1984; Carleton and Stohl, 1985, 1987; Poe, 1991, 1992; Poe and Tate, 1994; Gibney and Dalton, 1996; McCann and Gibney, 1996). Our coders were instructed to consider the Amnesty International reports as authoritative in those cases where the evaluations contained in the two sources differed.

Information about each country-year was gathered by no fewer than two coders. These coders worked independently and then met to resolve differences. One or both of the authors of this study refereed differences not easily resolved by the coders. These cases were rare, and indeed, most inter-coder differences were a result of one coder missing a piece of information in the source material. Given similar information, inter-coder reliability was over 90 percent.

The scoring categories for the four physical integrity variables used in this study, *extrajudicial killings*, *disappearances*, *political imprisonment*, and *torture*, are as follows:

- (0) Frequent Violations
- (1) Some Violations
- (2) No Violations

While looking like standards-based ordinal variables on the surface, these scoring categories rest on events-based criteria. A country must have 50 or more confirmed violations of a right to be scored a zero. A score of one represents less than 50 but

<sup>6</sup> The data used in this study are available at [www.polsci.binghamton.edu/hr.htm](http://www.polsci.binghamton.edu/hr.htm).

<sup>7</sup> Although the data were collected at three-year intervals (1981, 1984, 1987, 1990, 1993, and 1996), this data set offers a longer time span for analysis than any previously published empirical study of physical integrity. The data were collected at three-year intervals instead of annually because of the limited resources available to the authors. Also, annual coding is not necessary to demonstrate the value of this measurement technique or the pattern and sequence of government respect for physical integrity rights.

more than zero confirmed violations. A two denotes no confirmed violations of a right. Unlike the PTS, high scores indicate more respect for physical integrity rights, not more repression.

We use ordinal categories based on events data because these scoring categories fit the accuracy of the data being reported. Our coding schemes must be geared to “the level of precision actually evident in the information we employ” (Stohl et al., 1986:603). At the end of the day, we know that we can make “more or less” comparisons. This is enough to allow us to make useful comparisons among countries, regions, and system types (Spirer, 1990:203). We base our “more or less” comparisons on the *number* of confirmed violations in order to make these ordinal categories interpersonally comparable, and therefore, coding more replicable.

To investigate the unidimensionality of government decisions to violate the four physical integrity rights included in our analysis, we employed a polychotomous extension of what is known as Mokken Scaling Analysis (MSA).<sup>8</sup> MSA is a stochastic extension of and improvement upon Guttman’s deterministic scale analysis. A Mokken scale is a probabilistic formulation of a cumulative scale (Mokken, 1971). It has been used extensively in psychological research (see Molenaar, 1983; Kingma and Reuvekamp, 1984; Kingma and TenVergert, 1985; Gillespie, TenVergert, and Kingma, 1987, 1988), but less frequently in political science research (Scarritt, 1986; Jacoby, 1994, 1995; Schneider, Jacoby, and Cogburn, 1997).<sup>9</sup>

### The Mokken Scale Analysis Results

Table 1 summarizes the results of our MSA of government respect for four physical integrity rights during the period 1981–1996. In MSA, the “H” statistic represents the homogeneity, or scalability, coefficient for the scale as a whole. The H statistic is the most important statistic in MSA, indicating the strength of a particular scale. The overall H statistic calculated for our scale takes into account both scaling errors in the data, and cross-time errors.

According to Mokken’s (1971) rule,  $.3 < H < .4$  constitutes a weak scale,  $.4 < H < .5$  demonstrates medium scalability, and  $.5 < H < .6$  shows a strong scale. We see from Table 1 that our scale has an H of .59, demonstrating very strong scalability. Because of this strong scalability, we can confidently sum the scores of our four indicators of government respect for particular physical integrity rights into an additive scale showing the overall level of government respect for physical integrity in a country. This scale ranges from 0 (no physical integrity rights respected) to 8 (all physical integrity rights fully respected).

The “H Weight” statistic reported for each of our four scale items (rights) can be interpreted similarly to the overall scale H statistic, and indicates the homogeneity of each item with the rest of the items in the scale. All items have an H statistic of .55 or greater, so, according to Mokken’s (1971) rule of thumb, they are strongly homogenous with each other. This provides more refined evidence for the unidimensionality of government respect for physical integrity rights.

The sequence of government respect for different physical integrity rights as determined by the Mokken analysis is indicated in Table 1 by the differences in the

<sup>8</sup> To perform our analysis, we used MSP, a program for Mokken scale analysis, available from i.e.c. ProGAMMA.

<sup>9</sup> For an informative technical explanation of Mokken scaling, see Jacoby, 1994, 1995. Cumulative Mokken scaling was used because the human rights data are single stimulus data. Coombs, Tversky, and Dawes (1970) state that there are two ways that the two entities in a single data point can vary: they can be drawn from the same or different sets, and they manifest either a proximity or dominance relationship with each other (Jacoby, 1991:16). The two entities in the human rights data are governments, and the amount of respect for human rights they manifest. These entities are drawn from different sets, and manifest a dominance relation with each other.

TABLE 1. Mokken Scale Analysis of Government Respect for Physical Integrity Rights, 1981–1996: The Sequence of Respect

<i>Physical Integrity Right</i>	<i>Mean Level of Respect</i>	<i>H Weight</i>
Torture	0.75	0.59
Political imprisonment	0.80	0.55
Extrajudicial killing	1.13	0.60
Disappearance	1.48	0.64

Scale H Statistic: 0.59; N = 466

mean level of respect for each right included in the scale.<sup>10</sup> A mean score of “2” would indicate full respect for the right by all governments in our sample for all years of our study. In contrast, a mean score of “0” would indicate no respect for the right by any government for any year of our study. Table 1 shows us that across the 1981–1996 time period, the physical integrity right *least likely* to be respected by a government is the right not to be tortured (.75). The right not to be politically imprisoned is the next least likely right to be respected (.80). The right not to be extrajudicially killed (1.13) fares better than the two previous rights, and the right most easily and often respected is the right not to be disappeared (1.48). These findings show that governments will use torture and imprisonment before resorting to extrajudicial killing and disappearance (in that order) to achieve whatever goal(s) they seek to achieve by violating these rights.

Table 2 provides the MSA scores for our sample of governments over the 1981–1996 time period. The modal scale score for a country in our sample is 4, the exact midpoint of our nine-point cumulative scale. The mean scale score is 4.16. The distribution around the midpoint is fairly normal. Though the scores do not exhibit many large fluctuations from one time period to the next, there is considerable variability in the scores for individual governments over time. There are no governments that receive a score of 0 throughout the period of our study and only three, Denmark, the Netherlands, and Sweden, that receive the perfect score of 8 for each year.

One hazard in the measurement of human rights is that of making a priori assumptions about the different combinations of human rights that governments choose to violate. Our Mokken scale analysis frees us from making such guesses. Table 3 illustrates the different *patterns* of government respect for particular physical integrity rights that accompany each scale score, as empirically determined by our Mokken scale analysis. The relationship between these patterns and the ordering of respect in Table 1 is straightforward. If we picture government respect for physical integrity as a continuum from “no respect” to “full respect,” given the ordering from Table 1 we would expect to see in Table 3 that the first particular right to be fully respected would be the right not to be disappeared. The next rights to be fully respected would be the rights against killing, political imprisonment, and torture in that order. The evidence in Table 3 confirms these expectations. The right not to be disappeared reaches full respect at scale score three. The rights against killing, political imprisonment, and torture reach full respect at scale scores six, seven, and eight, respectively.

Again, the advantage of knowing these patterns is that given a scale score indicating the *overall level* of respect for physical integrity rights in a country, we

<sup>10</sup> While the means of these rights are useful in demonstrating the ordering itself, Mokken scale analysis determines the viability of this ordering by checking whether the criterion of double monotonicity has been met. For instance, despite the difference in mean level of respect for the rights against torture and political imprisonment being a mere .05, tests of double monotonicity assure us that there is enough difference between these two items to justify this ordering.

TABLE 2. Country Sample and Mokken Physical Integrity Scale Scores, 1981–1996

	1981	1984	1987	1990	1993	1996
Afghanistan	0	2	0	0	4	0
Albania	1	1	5	4	6	4
Algeria	7	5	5	4	2	2
Argentina	0	6	6	4	5	6
Austria	8	8	8	7	7	8
Benin	5	6	5	8	8	8
Bolivia	1	6	6	5	6	7
Brazil	4	4	4	3	3	4
Burkina Faso	6	5	5	3	6	6
Burundi	5	4	4	4	0	3
Cameroon	3	3	6	2	1	7
Canada	8	7	8	8	8	8
Chad	2	0	3	0	1	3
Chile	1	0	1	3	3	5
China	0	2	4	2	3	3
Colombia	3	1	0	0	2	0
Costa Rica	8	7	8	8	8	7
Czech	3	5	6	8	—	—
Denmark	8	8	8	8	8	8
Egypt	5	4	4	4	3	5
El Salvador	0	0	4	1	5	5
Estonia	—	—	—	—	7	7
Ethiopia	0	2	1	0	4	3
Ghana	7	4	5	4	6	6
Greece	7	5	6	6	5	7
Guatemala	0	0	4	0	4	3
Guinea	4	1	4	5	4	2
Guyana	5	5	6	5	6	6
Haiti	5	1	0	2	0	6
India	4	2	2	2	0	0
Indonesia	2	1	2	0	1	1
Iran	1	1	1	1	1	2
Iraq	0	1	0	0	2	0
Israel	3	4	4	5	4	5
Italy	7	8	6	7	7	7
Japan	8	7	8	8	7	7
Jordan	5	3	4	7	6	4
Kuwait	6	5	5	3	4	2
Laos	3	4	3	4	6	8
Liberia	4	5	5	0	1	0
Malawi	7	4	4	4	6	3
Malaysia	5	6	5	3	6	7
Mali	6	5	6	4	6	8
Mauritania	5	6	4	0	4	7
Mexico	1	2	1	0	3	1
Morocco	5	4	5	3	3	3
Myanmar	2	5	2	1	1	2
Nepal	4	6	5	3	3	6
Netherlands	8	8	8	8	8	8
Niger	7	7	5	3	6	8
Nigeria	6	6	7	2	2	3
North Korea	2	5	2	3	3	0
Pakistan	1	1	4	2	2	2
Paraguay	3	3	4	4	4	7
Peru	5	0	0	1	2	1

TABLE 2. Continued

	1981	1984	1987	1990	1993	1996
Philippines	1	1	0	3	4	2
Poland	6	4	5	8	7	7
Portugal	8	8	8	8	7	7
Romania	4	3	3	4	7	7
Saudi Arabia	6	2	4	4	4	3
Singapore	6	6	6	6	8	5
Somalia	4	5	3	4	2	2
South Africa	1	2	3	2	1	5
South Korea	4	6	3	4	4	4
Spain	6	5	5	5	7	5
Sudan	5	4	5	1	0	0
Sweden	8	8	8	8	8	8
Switzerland	8	8	8	8	7	8
Syria	0	1	0	2	3	3
Tanzania	5	6	6	4	4	5
Thailand	3	5	5	3	5	5
Tunisia	5	6	6	4	4	6
Turkey	4	4	4	3	2	0
U.S.A.	8	8	8	8	7	7
Uganda	0	0	2	3	4	2
Uruguay	4	4	7	7	7	7
Yugoslavia	4	4	5	5	0	3
Zaire	1	2	3	0	1	0
Zambia	4	5	4	4	4	4

also know the *particular pattern* of abuse or respect for particular rights. For example, looking at Table 3, we see that a scale score of three predicts *full* government respect for the right not to be disappeared, *partial* respect for the right not to be extrajudicially killed, and *no* respect for the rights against imprisonment and torture. For a scale score of four, we see that the right against torture is partially respected before the right against political imprisonment. This may seem odd given the ordering in Table 1, but note that the right against imprisonment is fully respected before the right against torture, as the ordering in Table 1 would have us expect. Table 3 is the result of MSA telling us how the world works given our data, not the result of an a priori expectation about how it should behave. This overall sequence of the patterns of respect in Table 3 is near-perfect, as reflected in our very high, but not perfect scale H statistic.

The accurate predictions we can make of the levels of respect for the four different physical integrity rights from scale scores provide additional evidence of the scalability of these four different human rights practices. Each of the rights in this analysis has three possible levels of respect. One error denotes that among the four rights, one of them deviated by one level of respect from the predicted level. Thus, for each prediction of a pattern of respect from an overall score, 16 errors are possible.<sup>11</sup> We found that in 256 out of 471 cases (54%), our Mokken-based prediction of government respect for physical integrity was *perfect*. In 324 out of 471 cases (69%), our prediction was within the range of one error. In other words, given one error out of a possible sixteen, our scale will make an accurate prediction 69 percent of the time. In 383 out of 471 cases, or in 81 percent of the cases, our scale is accurate within two errors. Given three errors, our success rate is 90 percent.

<sup>11</sup> In our data, the number of errors per observation is uncorrelated with that case's scale score.



TABLE 3. Physical Integrity Scale Scores and Mokken Scale Predictions of Patterns of Government Respect for Particular Physical Integrity Rights: The Pattern of Respect

Scale Score	Government Respect for Physical Integrity Rights			
	Disappearances	Killing	Imprisonment	Torture
0	None	None	None	None
1	Partial	None	None	None
2	Partial	Partial	None	None
3	Full	Partial	None	None
4	Full	Partial	None	Partial
5	Full	Partial	Partial	Partial
6	Full	Full	Partial	Partial
7	Full	Full	Full	Partial
8	Full	Full	Full	Full

### A Comparison of Empirically Derived Versus A Priori Patterns

The empirically derived pattern of government respect for physical integrity rights shown in Table 3 differs substantially from the pattern of respect specified by the PTS.<sup>12</sup> Table 4 displays the Political Terror Scale's specified pattern of government respect for particular physical integrity rights. Since the PTS is constructed in terms of *violations* of human rights, while the Mokken scale is presented in terms of government *respect* for human rights, we have arranged both tables so that the top row in each represents the category of least respect, and the bottom row represents the category of most respect.

There are significant differences in the patterns of government respect for physical integrity rights specified by the two scales. According to the PTS, countries in the "best" category still have limited violations of the rights against killing and torture. In contrast, the Mokken scale contains a category for governments having complete respect for all physical integrity rights. More than 12 percent of our cases fall into this "complete respect" category. While the MSA demonstrated that killing is much rarer than torture (as indicated by the means in Table 1), the expectation of the PTS is that respect by governments for these two rights is identical. The MSA predicts that governments are likely to use torture and political imprisonment before resorting to killing, but the implication of the PTS is that governments are indifferent when choosing between torture and killing. Finally, the PTS asserts that the only two rights that would ever be fully respected are the rights against disappearance and political imprisonment. In contrast, the Mokken scale predicts that if only two rights are fully respected, they will be the rights against disappearance and killing.

The PTS reports separate scores for both its Amnesty International and State Department sources, but not separate scores for each physical integrity right it includes. Some who use the PTS average the scores from its two sources to create a single score for each country. Thus, although the PTS is coded 1,2,3,4,5, it is possible for countries to receive midpoint scores of 1.5, 2.5, 3.5, and 4.5. However, no combinations of practices are associated with these midpoint scores. For example, looking at the case of Bolivia in 1990, the PTS leaves us between categories two and three, as Bolivia receives a score of 2.5. The PTS does not tell us what a score of 2.5 means, other than that overall, physical integrity rights in Bolivia in 1990 were worse off than in category two and better off than in category three. On our Mokken-based

<sup>12</sup> For a detailed explanation of the Political Terror Scale, see Gibney and Dalton, 1996, and McCann and Gibney, 1996.

TABLE 4. A Priori Expected Patterns of Government Violation of Particular Physical Integrity Rights as Specified by the Political Terror Scale

Level	<i>Government Violations of Physical Integrity Rights</i>			
	<i>Disappearances</i>	<i>Killings</i>	<i>Imprisonment</i>	<i>Torture</i>
5	Very common	Very common	Very common	Very common
4	Common	Common	Common	Common
3	None	Many	Common	Many
2	None	Rare	Some	Rare
1	None <sup>a</sup>	Rare	None	Rare <sup>b</sup>

<sup>a</sup> Disappearances are not mentioned until level four; we assume this is because they do not occur.

<sup>b</sup> If any.

physical integrity scale, Bolivia receives a score of five in 1990. From this score of five, we can look at Table 2 and accurately predict that the right against disappearance is fully respected, while the rights against extrajudicial killings, political imprisonment, and torture are all partially respected.

Poe et al. (1996) make a reasonable argument against placing too much stock in a simple, additive scale due to the possibility of policy substitutability. The problem of policy substitutability is that different governments assigned the same overall score measuring their level of respect for physical integrity rights could have achieved that score in very different ways. However, given our empirical evidence of a pattern of respect for particular physical integrity rights, knowing a scale score derived from MSA allows us to predict which particular rights are being respected and which are not. This ability to predict respect for particular rights from overall scale scores goes far in solving for the problem of policy substitutability in that it makes it highly unlikely that two governments with identical scale scores will have very different patterns of abuse of particular rights.

Another useful advantage of the Mokken-based physical integrity scale is its ability to predict *change* in government respect for these rights. That is, if a country's scale score decreases or increases from one point in time to the next, we can predict for which particular right(s) government respect has changed. For instance, Italy changed from a score of eight in 1984 to a score of six in 1987. Knowing the ordering of our Mokken scale as shown in Table 2, we can predict the particulars of this change. An examination of the disaggregated data set confirmed our prediction that respect for rights against torture and political imprisonment had declined, while respect for rights against extrajudicial killings and disappearances remained unchanged.

### Conclusion

We have argued that we can use cumulative scaling of disaggregated standards-based information about specific human rights practices to create improved aggregate measures of the level of government respect for different types of human rights. We illustrated the value of MSA, one type of cumulative scaling technique, by developing an aggregate measure of government respect for physical integrity rights. Our measurement procedure is easily replicable. It is based on empirically derived patterns of government respect for particular human rights, not expected patterns rooted in ideas about what violations are worse than others. Finally, while additive, it does not suffer from the problem of policy substitutability.

The main advantage of a human rights measure produced through cumulative scaling of standards-based information is that knowing the resulting *pattern* of government respect, given a single scale score for any country-year, one can predict

with great accuracy which particular rights a government respects and which ones it violates. Our H coefficient of .59, measuring scale strength or degree of unidimensionality among items, indicates that we have produced a very strong scale. This finding of a strong unidimensional scale among indicators of degree of government respect for particular physical integrity rights stands in contrast to the argument for multidimensionality among these indicators advanced by Mitchell and McCormick (1988) and McCormick and Mitchell (1997). Since knowing a scale score allows us to predict accurately what rights are being respected, we also can accurately predict increases or decreases in government respect for particular rights as scores change over time.

The *sequence*, or ordering, of respect for physical integrity rights described in Table 1 tells us which rights are more commonly respected by governments (the rights not to be extrajudicially killed or disappeared) and which ones are more commonly violated (the rights not to be imprisoned arbitrarily or tortured). It may be that the rights against extrajudicial killing and disappearance are more commonly respected, because the publics of most countries are less tolerant of violations of these rights by the leaders of their own governments. Moreover, governmental leaders are less tolerant of violations of these rights by other governments.

The prohibition against torture by other governments is relatively weak, because, despite apparent good intentions, many governments have been unable to eradicate the practice of torture by police and prison guards. Even governments such as the United States, Switzerland, and Austria, with excellent records of respect for other physical integrity rights, have found it difficult to completely prevent these practices.

The domestic and international prohibitions against political imprisonment are also weaker, because the same people who are categorized as political prisoners by human rights organizations are often categorized as terrorists by the governments that hold them. Many governments have little tolerance for “dangerous” speech or for strong opposition to government policies and leaders. Many citizens tacitly support political imprisonment of their fellow citizens, because they too have little tolerance for potential threats to the public order. In contrast, public justifications of the practice of extrajudicial killings and disappearances are rarely attempted, either domestically or internationally. Hence, governments with good records of respect for other physical integrity rights almost never practice extrajudicial killing or disappearance.

Given our findings about the pattern and sequence of government respect for particular human rights, future measurement efforts would do well to begin with the collection of disaggregated information about government respect for particular rights. This information can then be used to produce empirically verified unidimensional indices measuring higher-level concepts.

## References

- CARLETON, D., AND M. STOHL (1985) The Foreign Policy of Human Rights: Rhetoric and Reality from Jimmy Carter to Ronald Reagan. *Human Rights Quarterly* 7:205–229.
- CARLETON, D., AND M. STOHL (1987) The Role of Human Rights in U.S. Foreign Assistance Policy. *American Journal of Political Science* 31:1002–1018.
- COOMBS, C., A. TVERSKY, AND R. DAWES (1970) *Mathematical Psychology: An Elementary Introduction*. Englewood Cliffs, NJ: Prentice-Hall.
- GIBNEY, M., AND M. DALTON (1996) “The Political Terror Scale.” In *Human Rights and Developing Countries*, edited by D. L. Cingranelli, pp. 73–84. Greenwich, CT: JAI Press.
- GILLESPIE, M., E. M. TENVERGERT, AND J. KINGMA (1987) Using Mokken Scale Analysis to Develop Robust Cross-National Scales. *Social Indicators Research* 19:74–95.
- GILLESPIE, M., E. M. TENVERGERT, AND J. KINGMA (1988) Secular Trends in Abortion Attitudes 1975–1980–1985. *The Journal of Psychology* 122:323–341.
- JACOBY, W. G. (1991) *Data Theory and Dimensional Analysis*. Newbury Park, CA: Sage.

- JACOBY, W. G. (1994) Public Attitudes Toward Government Spending. *American Journal of Political Science* **38**:336–361.
- JACOBY, W. G. (1995) The Structure of Ideological Thinking in the American Electorate. *American Journal of Political Science* **39**:314–335.
- KINGMA, J., AND J. REUVEKAMP (1984) The Construction of a Developmental Scale for Seriation. *Educational and Psychological Measurement* **44**:1–23.
- KINGMA, J., AND E. M. TENVERGERT (1985) A Nonparametric Scale Analysis of the Development of Conservation. *Applied Psychological Measurement* **9**:375–387.
- MCCANN, J. A., AND M. GIBNEY (1996) “An Overview of Political Terror in the Developing World.” In *Human Rights and Developing Countries*, edited by D. L. Cingranelli, pp. 15–27. Greenwich, CT: JAI Press.
- MCCORMICK, J. M., AND N. J. MITCHELL (1997) Human Rights Violations, Umbrella Concepts, and Empirical Analysis. *World Politics* **49**:510–525.
- MITCHELL, N. J., AND J. M. MCCORMICK (1988) Economic and Political Explanations of Human Rights Violations. *World Politics* **40**:476–498.
- MOKKEN, R. J. (1971) *A Theory and Procedure of Scale Analysis*. The Hague: Mouton.
- MOLENAAR, I. W. (1983) Mokken Scaling Revisited. *Kwantitatieve Methoden* **3**:145–164.
- POE, S. C. (1991) Human Rights and the Allocation of U.S. Military Assistance. *Journal of Peace Research* **28**:205–216.
- POE, S. C. (1992) Human Rights and Economic Aid Under Ronald Reagan and Jimmy Carter. *American Journal of Political Science* **36**:147–167.
- POE, S. C., AND C. N. TATE (1994) Repression of Rights to Personal Integrity in the 1980s: A Global Analysis. *American Political Science Review* **88**:853–872.
- POE, S. C., C. N. TATE, L. C. KEITH, AND D. LANIER (1996) Domestic Threat and Abuse of the Human Right to Personal Integrity. Paper presented at the Annual Meeting of the Midwest Political Science Association, Chicago.
- SCARRITT, J. R. (1996) Measuring Political Change: The Quantity and Effectiveness of Electoral and Party Participation in the Zambian One-Party State, 1973–91. *British Journal of Political Science* **26**:283–297.
- SCHNEIDER, S. K., W. G. JACOBY, AND J. D. COGGBURN (1997) The Structure of Bureaucratic Decisions in the American States. *Public Administration Review* **57**:240–249.
- SPIRER, H. (1990) Violations of Human Rights—How Many? *American Journal of Economics and Sociology* **49**:199–204.
- STOHL, M., D. CARLETON, G. LOPEZ, AND S. SAMUELS (1986) State Violation of Human Rights: Issues and Problems of Measurement. *Human Rights Quarterly* **8**:592–606.
- STOHL, M., C. DAVID, AND S. E. JOHNSON (1984) Human Rights and U.S. Foreign Assistance: From Nixon to Carter. *Journal of Peace Research* **21**: 215–226.