

External and Internal Conflict Behavior Among Nations, 1966-1967

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In this article we attempt to replicate the hypothesis tested by Rummel and others that external and internal conflict are unrelated. We do this using data for 125 nations for the years 1966-1967. As did Rummel, we use exploratory factor analysis and regression analysis; in addition, we also employ confirmatory factor analysis. Results from confirmatory factor analysis contradict Rummel and reveal moderately strong correlations between internal and external conflict factors. Regression analysis and partial correlations, however, show that zero-order cross-country correlations between internal and external conflict are reduced to insignificance when a control variable, population size, is introduced in the analysis.

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In the analysis of the relationship between internal and external conflict, comparative politics and international politics intersect. If nations differ with respect to their levels of instability and the amount of internal conflict they experience, then these variations might explain varying national involvement in external conflict. Following Bodin, Waltz (1959: 81) argues that "the best way of preserving a state and guaranteeing against sedition and civil war is to keep the subjects in amity with one another and, to this end, to find an enemy against whom they can make a common cause." Rosecrance (1963: 304) argues similarly: "There tends to be a correlation between international instability and the domestic security of elites." Thus with increasing domestic conflict and growing instability one would expect the corresponding nations' ruling elites to engage in external conflict in order to divert the populace from domestic problems in the attempt to stabilize their leadership. The dependence of external conflict behavior on domestic conflict or instability becomes obvious in the form of hazardous foreign policy behavior. In the literature, the externalization hypothesis captures this theoretical perspective. From this it has been deduced that indicators of internal and external conflict should correlate with one another. If, in fact, we find such correlations, the hypothesis is corroborated, but certainly not proven. The hypothesis will only have successfully withstood one attempt at falsification (Popper, 1969).

There may be other reasons for correlations between internal and external conflict. The entanglement in external conflict activities possibly puts too much strain on the social and political system, thereby contributing to an increasing level of domestic conflict and instability. In this case one would also expect a positive correlation between indicators of internal and external conflict. But a different causal model would be needed in order to explain these correlations.

In this article the problem of causality will be left aside even though the mainstream of theoretical reasoning is based on causal arguments as outlined above, i.e., domestic conflict leads to foreign conflict behavior. Instead we confine ourselves to the simple question: does internal conflict correlate with external conflict at all? This restriction is necessary for two reasons: first, the extensive literature on this subject (Rummel, 1963; Haas, 1965; Tanter, 1966; Wilkenfeld, 1968, 1969, 1972; Flanigan and Fogelman, 1970; Burrowes and Spector, 1973; Collins, 1973; Hazelwood, 1973, 1975; Liao, 1976; summaries by McGowan and Shapiro, 1973; Zimmerman, 1975, 1976; Zinnes, 1975) is full of contradictions and does not yet allow an answer to the question

of whether a significant cross-sectional correlation exists. Second, the causal explanation of such a correlation can only be tested adequately either when reliable time-series of internal and external conflict data are available, or when sufficient data on different known determinants of external and internal conflicts are ready for use. For all practical purposes, both kinds of data are required (Weede, 1977). These conditions have yet to be met, though it can be said that a first step in this direction was made by Gurr and Duvall (1973; criticized by Weede, 1975b).

Whatever the causal structure of the relation between internal and external conflict might be, we are primarily interested in the correlation between a country's internal conflict and its external conflict behavior. This excludes a focus on countries becoming the targets of foreign conflict activities by other nations, i.e., suffering from foreign intervention, due to their internal conflict. Although that proposition has already been investigated quantitatively (Doran, 1976; Gurr and Duvall, 1973; Odell, 1974; Pearson, 1974; Weede, 1975a, 1978) and seems to be promising, it will be ignored in this article.

The most salient result in the literature on the relation between internal and external conflict is found in Rummel's 1963 paper. There he analyzed in a cross-national setting the relation between nine external conflict indicators and 13 domestic conflict indicators during the mid-fifties. Using standard exploratory factor analysis (for the technique see Harman, 1967; Rummel, 1970), he extracted three factors of internal and three factors of external conflict, the internal conflict factors being uncorrelated with the external conflict factors. From this result and from a follow-up regression analysis, Rummel concluded that external conflicts are independent of internal conflicts and that, contrary to theoretical expectations, no systematic relation between both types of conflicts existed. The replication study by Tanter (1966) using data from 1958-1960, basically supported Rummel's findings. Research in the following years evoked some doubts regarding Rummel's findings. Scholars such as Wilkenfeld (1968, 1969), Burrowes and Spector (1973), Collins (1973), Copson (1973) and Liao (1976) analyzed the relationship between internal and external conflict for separate groups of countries or even for individual countries over time. Sometimes, but not always, a significant correlation between internal and external conflict emerged.

There are several reasons for not pursuing such a restrictive research strategy. Rummel and Tanter analyzed a much more general problem than many of their successors. If we find a relation between internal and

external conflict over all countries, thus contradicting Rummel and Tanter, such a result would have greater theoretical weight than one valid only for specific countries, because correlations for single countries or groups of countries can hardly be generalized. It is impossible to use them for systematic explanatory purposes. Evidence of this can be seen in McGowan and Shapiro's (1973: 80) findings, which sought to summarize the research in this field: "For *certain* classes of nations, there is a positive relationship between *certain* types of domestic conflict and *certain* types of foreign conflict behavior at one point in time." Frequently, studies focusing on specific nations or groups of nations suffer from an insufficient number of cases and/or lack of independence of observations because of autocorrelation. Therefore doubts about the robustness and replicability of these results are justified.

Our basic aim in the following analysis is the attempt to replicate Rummel's classical findings for the years 1966-1967, i.e., to determine whether internal conflicts and the domestic instability of nations induce them to engage in external conflict activities. In other words, is there a correlation between internal and external conflicts over all nations? Even though in general the results of quantitative research confirm Rummel's rejection of the externalization hypothesis, Hazelwood's (1975) objection still stands. He argues that most analyses supporting Rummel's findings used data from the late fifties. Therefore the externalization hypothesis may still be compatible with events in other years or decades.¹

From a methodological point of view a replication study is meaningful. It is questionable whether exploratory factor analysis as used by Rummel is the best technique for analyzing the externalization hypothesis.² Exploratory factor analysis does not necessarily have to, but may, produce misleading results (Weede and Jagodzinski, 1977). Choosing an orthogonal or a moderately oblique rotation amounts to an a priori bias in favor of a solution allowing the rejection of the externalization hypothesis. Furthermore, if such solutions exist, as Rummel (1963)

1. If our results for the sixties were different from Rummel's (1963) for the fifties we would have to ask why the externalization hypothesis holds in the first instance and why it fails in the second. Further steps would then be required to specify the conditions validating the hypothesis.

2. As will be shown, our critique of Rummel's method focuses primarily on the use of orthogonal factor analysis and not so much on his regression procedure which uses only crudely estimated factor scores. Especially crude estimation of factor scores might, under some conditions, lead to oblique factors. Using both regression, with crudely estimated factor scores, and confirmatory factor analysis on our data, we get similar results.

showed for his data set, it is conceivable that there are different solutions for other data sets which also provide for significant correlations between internal and external conflict factors. If this is the case, the question to ask is which solution is more meaningful in terms of substance. Furthermore, one would have to ask which is theoretically more satisfactory. In other words, the problem would consist of producing factor analytic results based on substantive arguments instead of relying exclusively on mathematical and aesthetic criteria. One would also have to ask which solution is more parsimonious and easier to test and which applies "Occam's razor," i.e., the principle of "*explicanda non sunt multiplicanda praeter necessitatem*." To answer these questions, confirmatory factor analysis in our view is the adequate technique to be used (Jöreskog, 1969; Jöreskog et al., 1970; Jöreskog and Sorbom, 1976; Costner and Schoenberg, 1973; Weede, 1977; Weede and Jagodzinski, 1977).

We will try to replicate Rummel's study with data for the years 1966-1967. The empirical results relevant to the theoretical discussion will be produced by exploratory factor analysis and regression analysis on the one hand and by confirmatory factor analysis on the other. We hope to contribute thereby to the solution of an important problem linking international politics with comparative politics as well as to demonstrate the potential of confirmatory factor analysis for empirical research.

THE DATA SET

To test the hypothesis that a systematic and replicable relationship between domestic and external conflict behavior valid for all nations does not exist, we must fulfill two requirements. First, the data set has to be as universal as possible. Second, following Hazelwood (1975), the data should not cover the late fifties because this period has been analyzed in most studies so far.

The final selection of the data has been determined by the data sets available: the domestic conflict variables come from the *World Handbook of Political and Social Indicators II* (Taylor and Hudson, 1972); the external conflict variables are taken from *McClelland's World Event Interaction Survey* (WEIS).³ The external conflict data are avail-

3. In contrast to the *World Handbook II*, the WEIS data are not available in printed form. We obtained these data from the Inter-University Consortium for Political and Social Research through the assistance of the Zentralarchiv in Cologne. The ICPSR study number for WEIS is 7513, for the *World Handbook II* 7522.

able beginning with 1966, the domestic conflict data ending 1967. The temporal domain is thus determined by the intersection of both data sets, the years 1966-1967.⁴ The units of analysis, the nations as actors and not as targets, were chosen accordingly. The *World Handbook* lists domestic conflict data for 136 political units; WEIS reports external conflict events for 159 actors. The intersection of both lists consists of 125 nations. None of the greater sovereign countries is missing, nor are there missing data.⁵

WEIS reports events data that purportedly describe foreign policy behavior of states. They are used to explain, and in a long-term perspective (Burgess, 1975) they are intended to be used in the prediction of the international system's interaction dynamics. McClelland (1972: 38) defines events as "official government acts reported as separate items of international conduct." The events thus defined are the means whereby states try to influence others. McClelland differentiates between event/interaction on the one hand and transaction on the other. While events are by definition single, discrete, and nonroutinized acts, transactions stand for continuous and routinized behavior.⁶

As the unit of analysis is the nation as actor, the external conflict indicators measure the frequency of conflict activities of the 125 nations.⁷ We have eliminated all the events from the data set reporting conflict

4. Basically, two alternatives are available: either to aggregate the data for the whole two-year period and then compute the correlations cross-sectionally, or to aggregate them into two one-year periods, thus obtaining two cross-sectional data blocks, allowing the computation of lagged correlations between internal and external conflict variables. Choosing the greater aggregation period, as we did, has the advantage of more reliable measurement of the indicators but the disadvantage of being unable to systematically detect the dominant causal influence either from internal to external conflict with Heise's (1970) procedure as implied by the externalization hypothesis, or vice versa. Because information on the type and duration of the time lag would be necessary, this aspect is not considered in this article.

5. As Mack (1975: 605) pointed out, the absence of missing data in events data sets is likely to be spurious rather than real. A zero score may either refer to a country where a certain type of event did not happen, or to a country where it did happen but was not reported. While this problem undoubtedly exists, little can be done. Or any cure might be as bad as or worse than the illness itself. Therefore, we proceed as if there were no missing data.

6. This differentiation and the fact that transactions in the WEIS data set are left out, has the consequence that all continuous aspects of the Vietnam war are ignored. Nonetheless Vietnam is still a dominant field of conflict, not only for the regional actors, but also for the superpower United States.

7. Besides conflict indicators the WEIS data set also contains indicators on participatory and cooperative event interactions. These are irrelevant to our research problem.

directed at insurgents, e.g., the Viet Cong, the Pathet Lao, the PLO, Biafra. Classifying as external these events which the respective governments consider as internal would have meant a built-in bias in favor of the externalization hypothesis.⁸

The external conflict behavior of the 125 nations is described by 12 variables. These variables consist of the WEIS combined events.⁹ Even though the conflict variables could, according to the coding rules, be used in a more disaggregated form (McClelland and Hoggard, 1969), we decided to use them at a higher level of aggregation. We thereby come closer to Rummel's (1963) representation. It must be recalled that Rummel (1963) and McClelland use different variable definitions and coding rules. There is a degree of similarity between the two (e.g., for accusations), but there are also great differences (as in the case of "use of military force"). This is not necessarily a disadvantage. With Blalock (1968) we may speak of different auxiliary theories implicit in the coding procedures. Both authors use abstract concepts that can be measured and counted differently. Neither for Rummel nor for most other investigators are these auxiliary theories part of the externalization hypothesis. Our choice of auxiliary assumptions for the operationalization should hardly affect the basic relations we are primarily interested in.¹⁰

The differences in the data collection procedures followed by Rummel and McClelland should not represent a fundamental obstacle to our analysis. We are more concerned with some similarity: both Rummel and McClelland collected their data primarily from the *New York Times*. The use of one data source only, instead of several sources from as many different cultures and regions as possible, creates in itself considerable measurement problems (Azar et al., 1974; Doran et al., 1973;

8. The implication is not only that conflict behavior of governments against "their" subversive groups is excluded, but also the omission of any conflict activity of third countries against insurgents, e.g., the United States versus the Viet Cong. We thus follow Rummel, who took into consideration only conflicts between nation states. Furthermore, the elimination of the conflict behavior directed against insurgents has no effect on the results worth mentioning, as was revealed by an analysis undertaken for control purposes.

9. The WEIS data set lists 28 different subcategories (events) of conflicts aggregated to 12 categories (combined events). Choosing the subcategories would have reduced the number of events per conflict variable, thus increasing the risk of greater measurement error (Weede, 1973).

10. If operational definitions had a great influence on the test of the externalization hypothesis, this would have required determining systematically these effects in order to overcome the ad hoc character of the operationalization schemes.

Hazelwood and West, 1974; Sigler, 1972).¹¹ Especially for very rare events, like some of our conflict indicator measures (see Table 1), skewed distributions and distortions due to measurement errors may have disastrous consequences (Abelson and Tukey, 1970; Weede, 1973).

Table 1 shows twelve indicators of international conflict activities—seven for verbal conflict and five for nonverbal conflict behavior. All have a minimum of 0, a relatively low mean, but a high maximum. This is indicative of very skewed distributions and severe outlier problems. As is well known, skewed distributions and outliers produce very unstable relations between the variables. These correlations may, under specific circumstances, be determined by a very few or even single cases (Abelson and Tukey, 1970; Blalock, 1960: 290; Weede, 1973). To reduce the impact of the distribution, we have transformed all external conflict variables by adding one to each value, then computing its natural logarithm.¹² The result is that the skewness in distribution is, in fact, reduced for all the variables.¹³ At the same time the outliers come closer to the other cases.

Rummel (1963) had chosen a different transformation procedure, a grouping procedure, leading to comparable results. The methodological objection (Blalock, 1964, 1970; Doreian, 1972) to such a grouping procedure is that it leads to only a few categories. Our transformation procedure, while having an intent similar to Rummel's, avoids artificial discontinuities and the resulting measurement errors. Neither the different variable definitions and coding rules, nor the different transformation procedures should lead to substantially different results.

The indicators of internal conflict are listed in Table 2. They are taken from the *World Handbook of Political and Social Indicators II* (Taylor and Hudson, 1972). According to the authors, they can be interpreted as a "typology of protest behavior on a figurative spectrum of intensity, ranging from the relatively normal and legitimate demonstration . . . to

11. There is an ongoing systematic discussion about source reliability and measurement error in event data sets. Because of the contradictory findings of Azar et al. (1972), the skewed distribution of the variables, and susceptibility to measurement error in the conflict indicators (Weede, 1973), we are rather sceptical about Hoggard's (1975: 26) optimistic view: "McClelland's original studies and more recent analyses of crises seem to indicate that the paucity of data problem is not as severe when dealing with conflict phenomena."

12. The addition of the value of 1 to the conflict variables prior to the logarithmic transformation is necessary because the logarithm for zero values is undefined.

13. Prior to the logarithmic transformation, skewness varies between 3.42 (THREAT) and 8.73 (DENY); after the transformation between 1.07 (ACCUSE) and 2.72 (DENY).

TABLE 1
Indicator List: External Conflict

Verbal Conflict: Event Frequencies Total = 2179

	<i>Mean</i>	<i>Maximum</i>
REJECT	2.7	42
ACCUSE	9.5	198
PROTEST	1.5	33
DENY	0.9	42
DEMAND	0.9	17
WARN	1.3	29
THREAT	0.6	8

Conflict Behavior: Event Frequencies Total = 952

DEMONSTRATE	1.4	33
REDUCE	2.1	52
EXPEL	0.7	12
SEIZE	1.0	17
FORCE	2.4	73

NOTE: These 12 conflict indicators are the "combined events" from the WEIS data set. The minimum for all variables is 0. Minimum, mean, and maximum refer to the raw data of all 125 nations for the period analyzed (1966-1967).

TABLE 2
Indicator List: Internal Conflict

	<i>Mean</i>	<i>Maximum</i>
DOMESTIC PROTEST	6.3	239
STRIKES	1.3	17
RIOTS	8.7	34.4
ATTACKS	36.7	1473
DEATHS FROM POLITICAL VIOLENCE	5236	525492
ASSASSINATIONS	0.24	6
COUPS	0.31	4

NOTE: The 7 internal conflict indicators are from the *World Handbook II* (Taylor and Hudson, 1972). The minimum is 0 for all variables. Minimum, mean and maximum refer to the raw data for all 125 states in the period analyzed (1966-1967).

the comparatively subversive or revolutionary violence of the armed attack." Because the *World Handbook* is easily available, a more detailed discussion of the indicators is unnecessary. It is important to mention the fact that the *World Handbook II* uses regional sources in addition to the *New York Times* and the Associated Press.¹⁴

The *World Handbook II* indicators, "successful coups," "unsuccessful coups," and "assassinations," are not used in the original form. Inspired by Rummel's indicator "number of revolutions," we added the number of coup attempts, both "successful" and "unsuccessful" (note that the outcome of coups is irrelevant to the problem at hand). The indicator "assassinations" has an extremely skewed distribution. It has a value different from zero for only 17 nations. "Assassinations" are such an intensive form of domestic violence that the exact frequency is less important than the actual occurrence. For the evaluation of the climate of domestic violence the difference between one political murder and none is greater than the difference between one murder and six, the maximum in our data set. We therefore dichotomized "assassinations" so that all the values different from zero get a value of one. Because the internal conflict indicators have very skewed distributions and outliers, they were transformed by the same logarithmic procedures used for the external conflict indicators.¹⁵

In addition to the external and internal conflict variables we use "population size" as listed by Taylor and Hudson (1972) as an indicator in some of our analyses. One can argue that the greater the population, the more frequent the occurrence of protest demonstrations or armed attacks will be. Ten demonstrations may be very significant in Luxemburg, but quite irrelevant in the United States. Moreover, great powers in general are more heavily involved in external conflicts (e.g., Richardson, 1960; Singer and Small, 1972; Weede, 1975a; Wright, 1965; Bremer, 1978). Using this variable we can determine whether the correlations between internal and external conflict indicators are spurious due to effects of population size. This procedure is the first step away from simple correlation analysis in the direction of causal dependence analysis.

14. For further information consult Appendix I of *World Handbook II*. Irrespective of the attempt to increase the reliability of the data, scepticism and doubts are in order. To give just one example: while Ploetz (1973: 200) reports 30,000 deaths in the Ibo massacres in Northern Nigeria for October 1966, alone, Taylor and Hudson (1972: 111) list only 4,200 deaths due to internal conflicts in Nigeria for the whole year 1966.

15. Prior to the logarithmic transformation skewness varies between 2.59 (COUPS) and 10.6 (DEATHS), after the transformation between 1.12 (ATTACKS) and 3.01 (ASSASSINATIONS).

EXPLORATORY FACTOR ANALYSIS

In the exploratory factor analysis of the WEIS data for external conflict behavior 1966-1967 and the *World Handbook* data for internal conflict, the procedure employed by Rummel (1963) is followed as closely as possible. We therefore ran separate principal component analyses for the seven internal conflict indicators and the 12 external conflict indicators.

For the external conflict indicators only one factor with an eigenvalue greater than 1.00 can be extracted. This analysis is not reported here in detail. All loadings exceed .70. Our indicators for internal conflict cover a behavior pattern similar to that found in Rummel's study. In a first analysis we extract only two factors with an eigenvalue greater than 1.00. Because Rummel reports three factors we forced the extraction of the same number of factors in the follow-up principal component analysis. The result after the orthogonal rotation of the axes according to the varimax criterion is reported in Table 3. It shows the utility of extracting three factors. The pattern is very similar to Rummel's. About 77% of the variance is explained. The first factor is labeled PROTEST because all the indicators measuring demonstrative acts with a low level of physical violence load high on it. Nearly half of the variance is explained by this factor. The three indicators measuring violent forms of internal conflict load high on the second factor. We therefore call it VIOLENCE. The indicator ATTACKS has a similarly high loading on the factors PROTEST and VIOLENCE. Therefore the exploratory factor analysis reported in Table 3 neither allows us to assign definitively each of the indicators to one and only one factor nor permits us to draw a sharp line between PROTEST and VIOLENCE. The third dimension, COUPS, is described by the indicator of the same name, measuring successful and unsuccessful coups.

The exploratory factor analysis, as reported in Table 3, does not lead to a very clear-cut and simple structure; there is no unambiguous relation between indicators and factors. DEATH loads about the same on all three factors, even though from a substantive point of view, it should be clearly related to the VIOLENCE factor. Given the different sets of variables, and the use of standardized values (Mulaik, 1972: 356), a straightforward comparison of our international conflict factor structure with Rummel's is not possible. Nevertheless our PROTEST factor

TABLE 3
Factor Analysis of the Internal Conflict Indicators

<i>Indicators</i>	<i>Orthogonal Rotation (Varimax) Factors</i>			<i>Communalities</i>
	<i>PROTEST</i>	<i>VIOLENCE</i>	<i>COUPS</i>	
RIOTS	0.86	0.10	0.21	0.80
DOMESTIC PROTESTS	0.86	0.08	0.06	0.74
STRIKES	0.77	0.10	-0.07	0.61
ATTACKS	0.60	0.57	0.34	0.80
ASSASSINATIONS	0.00	0.93	0.05	0.86
DEATHS	0.39	0.57	0.48	0.70
COUPS	-0.05	0.12	0.93	0.88
				Sum of rows:
% Variance explained	47.6	28.8	23.6	100.0
% Total variance	36.7	22.2	18.2	77.1

shares a certain similarity with Rummel's TURMOIL factor.¹⁶ The COUP dimension corresponds quite exactly to his REVOLUTIONARY factor. Indicators having high loadings on our VIOLENCE factor have correspondingly high loadings on Rummel's SUBVERSIVE dimension.

Following Rummel's procedure we report the factor analysis using all of the 19 indicators where an eigenvalue greater than 1.00 is used as an extraction criterion. Table 4 shows that the orthogonal rotation leads to a similar factor structure as was the case in the two separate principal component analyses. All the WEIS indicators load high on a common factor for external conflict (abbreviated EXCON). Once more we extract a PROTEST and a VIOLENCE factor with COUPS loading on the latter. Surprisingly enough, ATTACKS again is not clearly assigned to any one of the internal conflict factors, PROTEST or VIOLENCE. However, all the indicators are definitively associated with either the external or the two internal conflict factors.

16. Rummel (1963) uses nine domestic conflict indicators. Assassinations, general strikes, major government crises, riots, and antigovernment demonstrations have loadings greater than 0.50 on his turmoil factor. Our domestic protest indicator corresponds roughly to his antigovernment demonstrations indicator. Riots and strikes also have high loadings on our protest factor. Instead of assassinations loading high on the protest factor, which is the result of Rummel's analysis, armed attacks has a high loading on PROTEST.

TABLE 4
Factor Analysis of Internal and External Conflict Indicators

<i>Indicators</i>	<i>Orthogonally Rotated (Varimax) Factors</i>			<i>Communalities</i>
	<i>PROTEST</i>	<i>VIOLENCE</i>	<i>EXCON</i>	
RIOTS	0.78	0.27	0.25	0.75
DOMESTIC PROTESTS	0.83	0.03	0.24	0.75
STRIKES	0.73	0.07	0.21	0.58
ATTACKS	0.54	0.67	0.22	0.80
ASSASSINATIONS	0.12	0.69	-0.08	0.49
DEATHS	0.36	0.75	0.10	0.71
COUPS	-0.20	0.70	0.15	0.56
REJECT	0.23	0.00	0.82	0.72
ACCUSE	0.08	0.12	0.86	0.76
PROTEST	0.23	-0.03	0.82	0.72
DENY	0.18	-0.02	0.79	0.66
DEMAND	0.18	0.00	0.83	0.72
WARN	0.17	0.00	0.87	0.78
THREAT	0.08	0.13	0.77	0.62
DEMONSTRATE	0.34	-0.08	0.67	0.57
REDUCE	0.16	0.05	0.80	0.67
EXPEL	0.22	0.20	0.65	0.52
SEIZE	0.04	0.28	0.75	0.64
FORCE	0.13	0.23	0.70	0.57
				Sum of rows:
% Variance explained	21.6	18.0	60.4	100.0
% Total variance	14.3	11.9	39.9	66.1

We are interested in the interdependence of domestic and foreign conflict behavior of nations. Such a relationship, if it exists, may produce either correlations between domestic and foreign conflict factors in an oblique solution or loadings of domestic conflict indicators on the foreign conflict factor, and loadings of foreign conflict indicators on some domestic conflict factor (Weede and Jagodzinski, 1977). In our enforced orthogonal solution (Table 4) only one out of 12 indicators of foreign conflict (DEMONSTRATE) loads higher than .30 on one of the domestic conflict factors. None of the seven indicators of domestic conflict has a loading of .30 or above on the EXCON factor. These results replicate Rummel's (1963) findings. The rotated dimensions clearly distinguish between domestic and foreign conflict. There is no

reason to call into question Rummel's (1963: 17) early finding: "there may be little relationship between domestic and foreign conflict behavior."

CONFIRMATORY FACTOR ANALYSIS

In principal component analysis, which is a special kind of exploratory factor analysis, only the selection of indicators may a priori influence the theoretical meaning of factors. The relationship between operational measures (indicators) and the theoretical concepts (factors) is left to the calculation procedure. We doubt (Armstrong, 1967; Weede and Jagodzinski, 1977) that this is an optimal strategy of theory construction. Confirmatory factor analysis instead allows, and even requires, first, theory-guidance, because of the necessity to define first the number of theoretical variables (factors); second, to specify a priori the relationships between indicators and factors, and third, to select some factor loadings which are to be set at zero.¹⁷

A first model for confirmatory factor analysis is specified in agreement with the results from the separate exploratory factor analyses for internal and external conflict. This allows us to estimate the correlations among the three factors of internal and the one factor of external conflict as well as the respective indicator loadings. In general, we specify all indicators having high loadings on a specific factor in the principal component analysis to load on this factor alone. The solution has been constrained in such a way as to produce equally high loadings of *ATTACKS* and *DEATHS* on the *VIOLENCE* factor. For theoretical reasons we split *EXCON* into a verbal (*VERBEXCON*) and a non-verbal (*NONVERBEXCON*) conflict dimension. The result is a somewhat better fit between model and data.

As mentioned above we assume external and internal conflict activities to be related to the size of a nation.¹⁸ We thus introduce into the model as a sixth factor free of measurement error the population size

17. In order to get a model with identifiable parameters, some of these have to be fixed before starting the analysis. Most often, researchers fix some factor loadings at zero. So do we. Sometimes, one fixes loadings at one. In principle, one might choose any numerical value, e.g., a value drawn from previous empirical research.

18. Population is a concept that theoretically represents one aspect of a nation's power relevant to its external conflict behavior (Richardson, 1960; Wright, 1965; Singer and Small, 1972; Weede, 1975a). As Hibbs (1973) shows, there is also a close relationship between population size and at least some types of internal conflict.

of a country. Besides obtaining the correlations among the conflict factors we also measure the extent to which they are related to POPULATION. For comparison purposes, we also run another analysis without POPULATION. The main results are hardly affected thereby: the correlations between the factors are fairly stable, whether POPULATION is included or excluded. Contrary to the approach of exploratory factor analysis, we allow the factors to be correlated with one another. Given all these assumptions we compute those 17 factor loadings which differ from .0 to 1.0 and which are not fixed a priori (see Table 5), and the correlations among the oblique factors (see Table 6) with ACOVSF (Jöreskog et al., 1970). The factor loadings in Table 5 can be interpreted as standardized regression or path coefficients where the factors (columns) are the independent, and the indicators (rows) are the dependent variables. The squared factor loadings give the amount of variance in the indicators that is determined by the factor (communality). Table 5 implies that most of the indicators have a communality greater than 50%. The only exception here is ASSASSINATIONS, which has only a low loading on VIOLENCE. Comparing Tables 3 and 5 we notice not only changing factor loadings but also a different rank ordering of the indicators in terms of their loadings.

More interesting to our research problem are the correlations between internal and external conflict factors (Table 6). The three internal conflict factors correlate between .11 and .59 with the two external conflict factors.¹⁹ We can therefore conclude that not all aspects of internal conflict are unrelated to external conflict. In general, nonverbal external conflict activities (NONVERBEXCON) correlate more highly with internal conflict than verbal external conflict (VERBEXCON), a fact to be interpreted cautiously given the size of the correlations.

Furthermore, PROTEST correlates more strongly with external conflict than does VIOLENCE, and the latter correlates higher with external conflict than COUPS. In any case, our confirmatory factor analysis reveals a pronounced relationship between internal PROTEST and external conflict behavior.

19. To assess the relationship between internal and external conflict we could also look at the correlations between the indicators instead of those between the factors. The effect would be the systematic underestimation of the relationship because random measurement errors reduce the correlations between the indicators. Confirmatory factor analysis not only tests the assumption of random measurement error, but also corrects for it. The correction amounts to looking at the relationships between the factors rather than at those between the indicators (Werts et al., 1974; Weede and Jagodzinski, 1977).

TABLE 5
Factor Loadings from the One-Level Confirmatory Factor Analysis

	<i>PROTEST</i>	<i>VIOLENCE</i>	<i>COUPS</i>	<i>VERBEXCON</i>	<i>NONVERBEXCON</i>	<i>POPULATION</i>
DOMESTIC PROTESTS	0.77					
STRIKES	0.66					
RIOTS	0.86					
ATTACKS		0.91				
ASSASSINATIONS		0.34				
DEATHS		0.91				
COUPS			1.00			
REJECT				0.85		
ACCUSE				0.85		
PROTEST				0.84		
DENY				0.79		
DEMAND				0.83		
WARN				0.87		
THREAT				0.75		
DEMONSTRATE					0.71	
REDUCE					0.79	
EXPEL					0.69	
SEIZE					0.73	
FORCE					0.72	
POPULATION						1.00

NOTE: (1) 0.0 factor loadings are not listed for the better visualization of the simple structure;
 (2) all 0.0 and all 1.0 loadings are fixed;
 (3) loadings of attacks and deaths were constrained to be equal;
 (4) the factor loadings are to be considered as *standardized regression* or *path coefficients*; and
 (5) the results have been computed with ACOVSF according to the least squares criterion.

TABLE 6
Correlations Among the Oblique First-Order Factors for the
One-Step Confirmatory Factor Analysis

	<i>PROTEST</i>	<i>VIOLENCE</i>	<i>COUPS</i>	<i>VERBEXCON</i>	<i>NONVERBEXCON</i>
PROTEST	1.00				
VIOLENCE	0.61	1.00			
COUPS	0.08	0.37	1.00		
VERBEXCON	0.50	0.30	0.11	1.00	
NONVERBEXCON	0.59	0.40	0.24	0.97	1.00
POPULATION	0.63	0.47	0.08	0.57	0.58

Furthermore, Table 6 shows verbal and nonverbal external conflict activities to have a correlation of .97. Given the range of the correlations between the three internal conflict factors, however, (minimum .08, maximum .61) internal conflict seems to be a more complex and differentiated phenomenon than international conflict.

The model specified fits the data well. The quantitative evidence is provided by the matrix of the residuals, that is, the matrix of the differences between the observed and the implied correlations and the variances of the model. According to the common .10 criterion the quality of the model can be evaluated in terms of the number of absolute differences greater than .10. Our model misses this limit in only 20 out of 190 cases with a maximum residual difference of .17. Thus the observed correlations between the indicators are reproduced quite well.

There are other and similar models fitting the data even better. If, for example, one would constrain the loading of ATTACKS or DEATHS on VIOLENCE at 1.0, the number of absolute differences greater than .1 would decrease further without changing considerably the theoretically relevant correlations between the factors. Yet this would imply the untenable assumption of ATTACKS or DEATHS to be free of measurement error. No further adjustment of the model has been attempted because it would only lead to slightly improved models out of a whole class of comparable models, while the danger of "overfitting" would increase, thus producing nonreplicable results.

Because confirmatory factor analysis in general, as well as in our case, produces first-order oblique factors, the idea that the relationship between the first-order factors can be traced back to relationships between second-order factors is certainly not far-fetched. We do not distinguish any more between two levels of abstraction, between measurable indicators and abstract terms, but between three such levels. We have decided to combine the three internal and the two external conflict factors respectively into a second-order factor each. In doing this we assume VERBEXCON and NONVERBEXCON to be related with equal intensity to the second-order factor EXCON, while the three internal conflict factors PROTEST, VIOLENCE and COUPS are related to the second-order factor INCON. In the case of the POPULATION indicator, first-order and second-order factors are identical.

The results of this hierarchical analysis can be described by three matrices²⁰: one matrix of the loadings of the indicators on the first-order

20. To be precise, two more matrices (or vectors) are needed, one for the error variances of the indicators and one for the error variances of the first-order factors (see Jöreskog et al., 1970).

factors, one of the loadings of the first-order factors on the second-order factors, and, finally, one of the correlations between the second-order factors. If the calculation for the hierarchical factor analysis is performed in one step only—as we have done—the matrix of indicator loadings on the first-order factors will usually deviate from the comparative matrix computed in the nonhierarchical analysis.

This is true in our case as well. As deviations from Table 5 are minimal, however, we do not report them here. Table 7 gives the matrix of loadings of first-order factors on second-order factors; Table 8 presents the correlations between the second-order factors.

According to Table 7, PROTEST loads very high on the second-order conflict factor INCON, VIOLENCE moderately high, with COUPS loading only very moderately. The dominant loading of PROTEST, on INCON indicates that PROTEST is the most frequent form of internal conflict. All the other loadings reported in Table 7 are constrained. For the highest level of abstraction, on which the externalization hypothesis is usually discussed, Table 8 is the most interesting one. It shows the relationship between internal (INCON) and external (EXCON) conflict summarized in one correlation only. Its value of 0.56 is impressive: INCON and EXCON share more than 30% common variance!

The question now is whether our hierarchical model fits the data set as well as the nonhierarchical model. In general, we have to expect a rise in the discrepancies between observed and model-implied correlations if an additional level of abstraction is added. Instead of getting 20 residuals above .10 we now have 25, with two cases even exceeding the .20 threshold. The abstract and, at the same time, parsimonious description of the hierarchical model has to be paid for by somewhat reduced accuracy.

Exploratory factor analysis, using all the internal and external conflict indicators (Table 4), as well as confirmatory factor analysis, reproduce satisfactorily the correlations between the indicators. A fatal theoretical problem arises in that the solutions contradict each other. While confirmatory factor analysis supports the externalization hypothesis, the results from exploratory factor analysis do not. We prefer the results derived from confirmatory factor analysis because of the greater confidence we have in this procedure. Several reasons can be given to support this decision:

- (1) Only confirmatory factor analysis allows the translation of the theoretical substance of the externalization hypothesis into a model. This substance is reflected

TABLE 7
Loadings of the First-Order Factors on the Second-Order Factors
Resulting from the Hierarchical Factor Analysis

	<i>INCON</i>	<i>EXCON</i>	<i>POPULATION</i>
PROTEST	0.95		
VIOLENCE	0.64		
COUPS	0.25		
VERBEXCON		0.98	
NONVERBEXCON		0.98	
POPULATION			1.00

NOTE:

- (1) 0.0 factor loadings are not listed to better visualize the simple structure;
- (2) all the 0.0 and 1.0 loadings are fixed;
- (3) loadings for VERBEXCON and NONVERBEXCON on EXCON were constrained to be equal; and
- (4) the factor loadings are to be interpreted as standardized regression or path coefficients, the results having been computed by ACOVSF according to the least squares criterion.

TABLE 8
Correlations Among the Second-Order Factors Resulting
from the Hierarchical Factor Analysis

	<i>INCON</i>	<i>EXCON</i>	<i>POPULATION</i>
ICON	1.00		
EXCON	0.56	1.00	
POPULATION	0.68	0.58	1.00

in the parsimonious and unambiguous association of indicators and factors as determined by the researcher. A comparable theory-guided procedure is not possible in exploratory factor analysis.

- (2) On substantial grounds the results of the confirmatory factor analysis are more plausible than those of the exploratory factor analysis. The former implies a relationship between factors from which measurement error has been eliminated. The latter still has many external indicators marginally dependent on internal factors, and internal indicators marginally dependent on external factors. All these low loadings cannot be interpreted easily.
- (3) By choosing an orthogonal solution in exploratory factor analysis we have, by implication, made an a priori decision against the externalization hypothesis. The best we can get is a factor structure not unequivocally interpretable in terms of internal and external conflict factors. The confirmatory oblique solution, however, allows the data to confirm or disconfirm our hypothesis.

- (4) Furthermore, by confirmatory factor analysis we can directly test the orthogonality assumption by constraining the correlations between the factors at zero. We can then see whether the implications of such a model are compatible with the initial correlation matrix. This is in fact *not* the case.²¹
- (5) Exploratory factor analysis is easily subject to misinterpretations. Loadings smaller than .30 or .50 are usually not taken into account when interpreting the results. If we ignore the many small factor loadings, the interpreted part of the exploratory factor solution will no longer sufficiently reproduce the correlations between the indicators. Therefore a restricted interpretation of the exploratory solution is dangerous since it might create the wrong impression that a parsimonious orthogonal solution would fit the data equally well as a parsimonious oblique solution.²² For theoretical reasons, many loadings are constrained at zero in confirmatory factor analysis so that an analogous problem does not emerge. However, the correlations may be reproduced either by a parsimonious oblique solution or by an orthogonal solution using considerably more coefficients.

THE CORRELATION BETWEEN INTERNAL AND EXTERNAL CONFLICT: REAL OR SPURIOUS?

Our results for the years 1966-1967 obviously contradict Rummel's (1963) and Tanter's (1966) older findings. We have found a relatively strong correlation between external and internal conflict for the time period analyzed. No similarly high correlation valid for *all* nations has been reported so far. One partial explanation might be that confirmatory factor analysis amounts to a "correction for attenuation," that is, a correction for the decrease of the correlations due to measurement errors (Werts et al., 1974).

Without going into detailed causal modeling at the quasi-error-free factor level, the idea expressed above nevertheless suggests that POPULATION, or a nation's size, effects its internal and external conflict behavior. Given this assumption, even if external and internal conflict behavior are causally independent, we should, due to population effects, find a correlation between the conflict factors at the first-order and/or the second-order level. If size alone accounts for the correlations between internal and external conflict, then the partial correlations should fall close to zero when we control for POPULATION.

21. In doing so we have related indicators and factors to each other as we did in Table 5 and used the same constraints, that is, inserted values of .00, where we did so in Table 5.

22. In this case "parsimony" means the smallest number of factor loadings or correlations between the factors, different from zero.

Looking first at the influence POPULATION has on the correlation between the second-order factors (see Table 8), we see that the correlation between INCON and EXCON is .56 while the partial correlation drops to .28 when we control for POPULATION. With regard to the correlations between the first-order factors (Table 6), the situation is comparable. While the correlation between PROTEST and the two external conflict factors is above .5, these values decrease when we control for POPULATION. The highest partial correlation is .36 (Table 9). The .40 correlation between VIOLENCE and NONVERBEXCON in Table 6 is another interesting correlation from a theoretical point of view. The corresponding partial correlation is .18. In other words, the introduction of POPULATION as a control variable reduces the previously reported relatively high and substantively interesting correlations to relatively small and uninteresting levels. We don't support (or replicate) Rummel's zero-order correlation between internal and external conflict, but we basically agree with the causal thrust of his conclusion with respect to the externalization hypothesis. Our first cautious and certainly imperfect step in the direction of causal analysis contradicts the hypothesis that internal conflict has a significant influence on external conflict activities. A final judgment as to the causal relationship between internal conflict, external conflict, and the size of a nation cannot be made on the basis of the partial correlations presented above. Nonetheless, we cannot exclude the possibility that POPULATION has an indirect impact on external conflict behavior via a fourth variable, for example, the national power potential.

In order to isolate the global effects of POPULATION, as well as the three internal conflict factors, upon external conflict behavior we run two regression analysis. We first calculate factor scores for the 125 nations for the factors extracted in the two separate principal component analyses. This is done by multiplying the standardized values of all indicators by their weight on the respective factor and summing them up. This step is not identical to Rummel's procedure. He used only indicators with high loadings to compute factor scores.

Regressing the external conflict factor on the three internal conflict factors, we notice that the path coefficient from PROTEST to EXCON is significantly higher than the other two (see Table 10). When we include POPULATION in the regression model, the direct effects of VIOLENCE and COUPS on EXCON disappear almost completely while only a slight effect of PROTEST is left.

TABLE 9
 Partial Correlation Between Internal and External Conflict
 Controlling for Population

	<i>VERBEXCON</i>	<i>NONVERBEXCON</i>
PROTEST	0.22	0.36
VIOLENCE	0.04	0.18
COUPS	0.08	0.24

NOTE: Computed from the correlations between the factors reported in Table 6.

TABLE 10
 Standardized Coefficients from the Regression of EXCON
 on Domestic Conflict and Population

	<i>Without Controlling for POPULATION</i>	<i>Controlling for POPULATION</i>
PROTEST	0.48	0.24
COUPS	0.17	0.12
VIOLENCE	0.01	-0.06
POPULATION		0.42
Variance explained (R^2)	0.26	0.37

NOTE: The factor scores have been computed from the separate principal component analyses for external and internal conflict.

Interpreting these results we have to take into account the fact that multicollinearity between PROTEST and POPULATION makes it difficult to assess the effect of both variables on the proportion of variance explained by EXCON. This problem does not emerge in the first regression because the factors from a varimax rotated solution do not correlate. In addition, we cannot directly compare the results of the regression with those obtained from confirmatory factor analysis because the meaning of the theoretical concepts in exploratory factor analysis is established along principles different from those used in confirmatory factor analysis (Burt, 1976). Disregarding these facts we are nevertheless able to draw the following conclusion for our data set: both regression analysis based on exploratory factor analysis and confirmatory factor analysis reveal that the correlations between internal

and external conflict factors are largely spurious when control for POPULATION is introduced. What is left is a very weak relationship between PROTEST and EXCON.

SUMMARY AND OUTLOOK

Like Rummel and Tanter we analyzed the relationship between internal conflict and external conflict behavior for all countries but for another time period, for the years 1966-1967. Unlike these two authors, we found substantial correlations between internal and external conflict for the middle of the sixties, especially expressed in a strong relationship between collective protest against the government and foreign conflict activities. This result can be verified by confirmatory factor analysis and also by a procedure following Rummel more closely, i.e., using factor scores obtained from exploratory factor analysis for regression analysis. Reanalyzing Rummel's own data we could not discover any correlation worth mentioning between external and internal conflict, irrespective of the technique (confirmatory or exploratory factor analysis or regression) used. Thus, the considerable relationship between internal and external conflict for the mid-sixties as well as Rummel's contradictory findings for the late fifties do not arise from the use of a specific method.

Compared with previous findings our bivariate correlations between internal and external conflict turn out to be astonishingly high. This might be due to peculiarities of the data set. We noticed, for example, a much higher correlation between active and passive conflict involvement in the WEIS data than in Pearson's (1974) or Taylor and Hudson's (1972). For the time period analyzed, actor and target of use of FORCE in the WEIS data, using all of the 125 countries, correlate at .77, active and passive military intervention in Pearson's data correlate at .38, while the comparable value for the *World Handbook* data is .09. So far, no systematic research has been undertaken to determine whether this is related to systematic errors in the coding rules or due to measurement errors in the various data sets. These differences cannot, however, be ignored, and users of event data have not yet paid sufficient attention to this problem. Therefore, the consequences for our analysis cannot be assessed at present.

It might be necessary to distinguish further between several external conflict activities. It does make a difference whether a state reacts

against external interference or aggression or engages in a hostile foreign policy without having previously been the target of such a policy. Only in the latter case will the externalization hypothesis apply. Despite their importance, these problems cannot be analyzed with the external conflict data presently available.

Even though internal protest and conflict correlate significantly with external conflict activities, these findings do not support the externalization hypothesis. Only a very weak correlation between internal protest or conflict and external conflict survives the control of population size irrespective of the technique used. The results for 1966-1967 point to a spurious relationship instead of supporting the causality implied by the externalization hypothesis. We thus agree with Rummel and Tanter as to the causal aspect of the hypothesis, even though our correlations are much higher than theirs. What we find puzzling is not that Rummel and Tanter reject the externalization hypothesis but rather that they are not able to find any relationship at all between internal and external conflicts. A positive zero-order correlation should be expected due to the simple fact that the greater and the more populated a country, the more frequent its internal and external conflict activities should be.

REFERENCES

- ABELSON, R. P. and J. W. TUKEY (1970) "Efficient conversion of non-metric into metric information," in E. R. Tufté (ed.) *The Quantitative Analysis of Social Problems*. Reading, MA: Addison-Wesley.
- ARMSTRONG, J. S. (1967) "Derivation of theory by means of factor analysis of Tom Swift and his Electric Factor Analysis Machine." *Amer. Statistician* 21: 17-21.
- AZAR, E. E. et al. (1972) "The problem of source coverage in the use of international events data." *Int. Studies Q.* 16: 373-388.
- BLALOCK, H. M. [ed.] (1971) *Causal Models in Social Sciences*. London: Macmillan.
- (1970) "A causal approach to nonrandom measurement errors." *Amer. Pol. Sci. Rev.* 64: 1099-1111.
- (1968) "The measurement problem: a gap between the languages of theory and research," in H. M. Blalock and A. B. Blalock, *Methodology in Social Research*. New York: McGraw-Hill.
- (1964) *Causal Inferences in Nonexperimental Research*. Chapel Hill: Univ. of North Carolina Press.
- (1960) *Social Statistics*. New York: McGraw-Hill.
- BREMER, S. A. (1978) *The Powerful and the War Prone: Relative National Capability and War Experience*. IIVG preprints. Berlin: Wissenschaftszentrum.
- BURGESS, P. M. (1975) "Introduction," in E. E. Azar and J. D. Ben-Dak (eds.) *Theory and Practice of Events Research*. New York: Gordon & Breach.

- BURROWES, R. and B. SPECTOR (1973) "The strength and direction of relationships between domestic and external conflict and cooperation: Syria, 1961-67," in J. Wilkenfeld (ed.) *Conflict Behavior and Linkage Politics*. New York: McKay.
- BURT, R. S. (1976) "Interpretational confounding of unobserved variables in structural equation models." *Soc. Methods and Research* 5: 3-52.
- COLLINS, J. N. (1973) "Foreign conflict behavior and domestic disorder in Africa," in J. Wilkenfeld (ed.) *Conflict Behavior and Linkage Politics*. New York: McKay.
- COPSON, R. W. (1973) "Foreign policy conflict among African states, 1964-1969," pp. 189-217 in P. J. McGowan (ed.) *Sage International Yearbook of Foreign Policy Studies*, 1. Beverly Hills: Sage Publications.
- COSTNER, H. L. and R. SCHOENBERG (1973) "Diagnosing indicator ills in multiple indicator models," in A. S. Goldberger and O. D. Duncan (eds.) *Structural Equation Models in the Social Sciences*. New York: Seminar Press.
- DORAN, C. F. (1976) *Domestic Conflict in State Relations: The American Sphere of Influence*. Sage Professional Papers in International Studies 02-037. Beverly Hills: Sage Publications.
- , R. E. PENDLEY, and G. E. ANTUNES (1973) "A test of cross-national event reliability." *Int. Studies Q.* 17: 175-203.
- DOREIAN, P. (1972) "Multivariate analysis and categorized data." *Quality and Quantity* 6: 253-372.
- FLANIGAN, W. H. and E. FOGELMAN (1970) "Patterns of political violence in comparative historical perspective." *Comparative Politics* 3: 1-20.
- GURR, T. R. and R. DUVALL (1973) "Civil conflict in the 1960s: a reciprocal theoretical system with parameter estimates." *Comparative Political Studies* 6: 133-169.
- HAAS, M. (1965) "Societal approaches to the study of war." *J. of Peace Research* 2: 307-323.
- HARMAN, H. (1967) *Modern Factor Analysis*. Chicago: Univ. of Chicago Press.
- HAZELWOOD, L. A. (1975) "Diversion mechanisms and encapsulation processes: the domestic conflict-foreign conflict hypothesis reconsidered," in P. J. McGowan (ed.) *Sage International Yearbook of Foreign Policy Studies*, 3. Beverly Hills: Sage Publications.
- (1973) "Externalizing system stresses: international conflict as adaptive behavior," in J. Wilkenfeld (ed.) *Conflict Behavior and Linkage Politics*. New York: McKay.
- and G. T. WEST (1974) "Bivariate associations, factor structures and substantive impact: the 'source coverage' problem revisited." *Int. Studies Q.* 18: 317-337.
- HEISE, D. R. (1970) "Causal inference from panel data," in E. F. Borgatta (ed.) *Sociological Methodology*. San Francisco: Jossey-Bass.
- HIBBS, D. A. (1973) *Mass Political Violence*. New York: John Wiley.
- HOGGARD, G. D. (1975) "An analysis of the "real" data: reflections on the uses and validity of international interaction data," in E. E. Azar and J. D. Ben-Dak (eds.) *Theory and Practice of Events Research*. New York: Gordon & Breach.
- JÖRESKOG, K. G. (1969) "A general approach to confirmatory maximum likelihood factor analysis." *Psychometrika* 34: 108-202.
- and D. SORDOM (1976) LISREL III, Estimation of Linear Structural Equation Systems by Maximum Likelihood Methods. A FORTRAN IV Program. Manuscript, University of Uppsala.
- JÖRESKOG, K. G., G. T. GRUVAEUS, and M. VAN THILLO (1970) "A general computer program for analysis of covariance structures." *Research Bull., Educational Testing Service*, Princeton, NJ.

- LIAO, K. (1976) "Linkage politics in China: internal mobilization and articulated external hostility in the Cultural Revolution 1967-69." *World Politics* 28: 590-610.
- MACK, A. (1975) "Numbers are not enough." *Comparative Politics* 7: 597-618.
- McCLELLAND, C. A. (1972) "Some effects on theory from the international event analysis movement," in E. E. Azar, R. A. Brody, C. A. McClelland, *International Events-Interaction Analysis*. Sage Professional Papers in International Studies 02-001. Beverly Hills: Sage Publications.
- and G. D. HOGGARD (1969) "Conflict patterns in the interactions among nations," in J. N. Rosenau (ed.) *International Politics and Foreign Policy*. New York: Free Press.
- McGOWAN, P. J. and H. B. SHAPIRO (1973) *The Comparative Study of Foreign Policy: A Survey of Scientific Findings*. Beverly Hills: Sage Publications.
- MULAİK, S. A. (1972) *The Foundations of Factor Analysis*. New York: McGraw-Hill.
- ODELL, J. S. (1974) "Correlates of U.S. military assistance and military intervention," in S. J. Rosen and J. R. Kurth (eds.) *Testing Theories of Economic Imperialism*. Lexington, MA: D. C. Heath.
- PEARSON, F. S. (1974) "Foreign military interventions and domestic disputes." *Int. Studies Q.* 18: 259-290.
- PLOETZ (1973) *Weltgeschehen unserer Zeit, 4: 1965-1970*. Würzburg: Ploetz-Verlag.
- POPPER, K. R. (1969) *Logik der Forschung*. Tübingen: Mohr.
- RICHARDSON, L. F. (1960) *Arms and Insecurity*. Chicago: Boxwood and Quadrangle.
- ROSECRANCE, R. N. (1963) *Action and Reaction in World Politics*. Boston: Little, Brown.
- RUMMEL, R. J. (1970) *Applied Factor Analysis*. Evanston, IL: Northwestern Univ. Press.
- (1963) *Dimensions of Conflict Behavior Within and Between Nations*. *General Systems Yearbook* 8: 1-50.
- SIGLER, J. H. (1972) "Reliability problems in the measurement of international events in the elite press," in J. H. Sigler, J. O. Field, and A. L. Adelman (eds.) *Applications of Events Data Analysis: Cases, Issues and Programs in International Interactions*. Sage Professional Papers in International Studies 02-002. Beverly Hills: Sage Publications.
- SINGER, J. D. and M. SMALL (1972) *The Wages of War: A Statistical Handbook*. New York: John Wiley.
- TANTER, R. (1966) "Dimensions of conflict behavior within and between nations, 1958-60." *J. of Conflict Resolution* 10: 41-64.
- TAYLOR, C. L. and M. C. HUDSON (1972) *World Handbook of Political and Societal Indicators*. New Haven, CT: Yale Univ. Press.
- WALTZ, K. N. (1959) *Man, the State and War*. New York: Columbia Univ. Press.
- WEEDE, E. (1978) "US support of foreign governments or domestic disorder and imperial intervention 1958-1965." *Comparative Pol. Studies* 10: 497-527.
- (1977) *Hypothesen, Gleichungen und Daten*. Kronberg: Athenäum.
- (1975a) *Weltpolitik und Kriegsursachen im 20. Jahrhundert: Eine quantitativ-empirische Studie*. München: Oldenbourg.
- (1975b) "Unzufriedenheit, Protest und Gewalt: Kritik an einem makropolitischen Forschungsprogramm." *Politische Vierteljahresschrift* 16, 409-428.
- (1973) "The myth of random measurement error in international conflict data analysis." *Quality and Quantity* 7: 107-130.

- and W. JAGODZINSKI (1977) "Einführung in die konfirmatorische Faktorenanalyse." *Zeitschrift für Soziologie* 6: 315-333.
- WERTS, C. E., R. LINN, and K. G. JORESKOG (1974) "Quantifying unmeasured variables," in H. M. Blalock (ed.) *Measurement in the Social Sciences*. Chicago: Aldine.
- WILKENFELD, J. (1972) "Models for the analysis of foreign conflict behavior of states," in B. M. Russett (ed.) *Peace, War, and Numbers*. Beverly Hills: Sage Publications.
- (1969) "Some further findings regarding the domestic and foreign conflict behavior of nations." *J. of Peace Research* 6: 147-156.
- (1968) "Domestic and foreign conflict behavior of nations." *J. of Peace Research* 5: 56-59.
- WRIGHT, Q. (1965) *A Study of War*. Chicago: Univ. of Chicago Press.
- ZIMMERMAN, E. (1976) "Factor analysis of conflict within and between nations: a critical evaluation." *Quality and Quantity* 10: 267-296.
- (1975) "Dimensionen von Konflikten innerhalb und zwischen Nationen: Eine kritische Bestandsaufnahme des faktorenanalytischen Ansatzes in der Makro-Konfliktforschung." *Politische Vierteljahresschrift* 16: 343-408.
- ZINNES, D. A. (1975) "Research frontiers in the study of international politics," in F. I. Greenstein and N. N. Polsby (eds.) *Handbook of Political Science*, 8: International Politics. Reading, MA: Addison-Wesley.