

April 1978

## Correlates of International Alignment

Richard A. Skinner

Charles W. Kegley Jr.

Follow this and additional works at: <https://digitalcommons.coastal.edu/jops>



Part of the [Political Science Commons](#)

---

### Recommended Citation

Skinner, Richard A. and Kegley, Charles W. Jr. (1978) "Correlates of International Alignment," *Journal of Political Science*: Vol. 5 : No. 2 , Article 4.

Available at: <https://digitalcommons.coastal.edu/jops/vol5/iss2/4>

This Article is brought to you for free and open access by the Politics at CCU Digital Commons. It has been accepted for inclusion in Journal of Political Science by an authorized editor of CCU Digital Commons. For more information, please contact [commons@coastal.edu](mailto:commons@coastal.edu).

## Correlates of International Alignment\*

RICHARD A. SKINNER  
*Old Dominion University*  
and

CHARLES W. KEGLEY, JR.  
*University of South Carolina*

The configurations formed from the interactions of political units have been traditional subjects of research. In recent years the tools of empirical analysis have dealt with political association at the individual level (e.g., party membership, legislative roll-call analysis), the group level (e.g., electoral coalitions of political parties), and the national-international level (e.g., regional communities, alliances). Little, however, has been done to assess the applicability of the numerous concepts, models, and theories of one area of research for designs in other fields, despite some apparent parallels.<sup>1</sup> Moreover, studies of cooperative associations at the international level have focused upon *formal* arrangements such as alliances and regional integrative groupings almost to the exclusion of informal alignments of nation-states, although the latter appear to be equally important entities in interstate relations.

This study seeks to address one such aspect of association formation at the international level, namely, the factors which account for the creation of informal alignments whose members are nation-states. The objective is to identify those characteristics shared by partners to a cooperative dyad which are associated with, and presumably are promotive of, the formation of informal, voluntary associations. In the absence of an existing general theory of the dyadic determinants of international alignments, we have elected to address this topic in an inductive, exploratory fashion by examining empirical data in order to generate some suggestive propositions about the sources of alignment behavior. Thus, while the analysis is guided by the insights of several pre-theoretical inquiries into political association, it is based on no single theoretical perspective.<sup>2</sup>

The most generic concept of interstate associative formation, under which other variants may be subsumed, is "alignment." As Teune and Synnestvedt suggest, alignment ". . . denotes some aggregative stance of a country with respect to at least one other country"<sup>3</sup> and refers to all types of cooperation on the international level, including "diverse but often related phenomena such as military commitments (alliances), common United Nations (or other international organization) voting patterns, patterns of diplomatic recognition and visits, and joint diplomatic efforts."<sup>4</sup>

\* An earlier version of this study was presented at the Annual Meeting of the Public Choice Society, New Haven, Connecticut, March 21, 1974.

<sup>1</sup> William H. Riker, *The Theory of Political Coalitions* (New Haven: Yale University Press, 1962); Dina A. Zimmes, "Coalition Theories and the Balance of Power," in Sven Groennings, et al. (eds.) *The Study of Coalition Behavior* (New York: Holt, Rinehart & Winston, 1970), pp. 351-68; and Brian Healy and Arthur Stein, "The Balance of Power in International History: Theory and Reality," *Journal of Conflict Resolution*, XVII (March, 1973), 33-61.

<sup>2</sup> This posture is based on the conviction that there currently exists no one theory of political association of sufficient breadth or cogency to inform us of the major characteristics of international alignment formation or to permit assertions of the relative potencies of particular factors influencing that behavior.

<sup>3</sup> Henry Teune and Sig Synnestvedt, "Measuring International Alignment," *Orbis*, IX (Spring, 1965), 175.

<sup>4</sup> Robert M. Rood, "Nations in Combination: A Probability Analysis of Balance-of-Power Alliances," paper delivered at the Annual Meeting of the International Studies Association, New York, 1973, p. 12.

Following from this general conceptualization, an interstate alignment is defined as the configuration formed from the predominantly cooperative political actions of states toward one another, spanning a wide range of issues and extending across time.<sup>5</sup> Hence, we propose to study the determinants of alignment formation by identifying an international alignment as the product of mutually cooperative behavior between two nations.

Several elements of this definition require elaboration. First, the degree of cooperation obtaining between two states is regarded to be reflective of, and a consequence of, their official foreign policy behavior toward one another: cooperation is inferred from the type of acts initiated by states. To measure conflict and cooperation in foreign policy behavior, international events data are employed because the event is a unit of analysis serving as an indicator of the acts initiated by national governments on behalf of their societies, and pursued beyond national boundaries, to affect changes in the behavior of other nation-states and international actors in the international system.<sup>6</sup> Conceptually, by virtue of the coding procedures and nature of the data sources from which they are derived, events data report the efforts of national actors to exert control over others; they are essentially political actions, goal-directed in the Weberian sense of that term, for the purpose of exerting influence.<sup>7</sup> Accordingly, international events are useful indicators of alignment behavior because they tap the strategic calculations of national decision-makers in their search for security. An alignment defined in these terms is thus a product of deliberate cooperative efforts to achieve a friendly relationship with another state.

A second element of the definition of international alignment concerns measurement of the extent to which the interactions between two states manifest a predominant mode of cooperative behavior. How one measures the degree of cooperation between dyadic partners is, to a large extent, conditioned by the dimensionality of cooperation and conflict. In general, most researchers accept the assertion that "any social manifestation . . . invariably turns out to be multidimensional and complex rather than unidimensional and simple."<sup>8</sup> Still unresolved are the questions of the number of dimensions accounting for a significant percentage of the variation and the conceptual labels applied to those dimensions. A recent review of some of the major taxonomic works dealing with interstate behavior does report evidence indicating that the behavior is highly structured and relatively invariant over time. Moreover, factor analytic solutions support the conclusion that conflictual and cooperative foreign policy behavior appear to be mutually independent and distinct forms of behavior.<sup>9</sup> This should not be taken to mean that nations manifest a singular mode of behavior — either conflictual or cooperative — across targets or time or even within a particular dyad; except in extreme cases, we find nation-pairs demonstrating a behavioral mix of conflict and cooperation.

<sup>5</sup> Further distinctions between types of cooperative behavior among nations are suggested by Sullivan and include "formal alliances," "Coalitions," "informal alignments," and "behavioral alignments"; John D. Sullivan, "International Alliances," in Michael Haas (ed.), *International Systems* (New York: Chandler Publishing Co., 1974), pp. 99-122.

<sup>6</sup> Charles W. Kegley, Jr., et al. (eds.) *International Events and the Comparative Analysis of Foreign Policy* (Columbia: University of South Carolina Press, 1975).

<sup>7</sup> *Ibid.*

<sup>8</sup> Charles A. McClelland, "Some Effects on Theory from the International Event Analysis Movement," in Edward E. Azar, Charles A. McClelland, and Richard A. Brody, *International Events Interaction Analysis* (Beverly Hills: Sage Publications, 1972), p. 32.

<sup>9</sup> Charles W. Kegley, Stephen A. Salmore, and David Rosen, "Convergences in the Measurement of Interstate Behavior," in Patrick J. McGowan (ed.), *Sage International Yearbook of Foreign Policy Studies*, Vol. II (Beverly Hills: Sage Publications, 1974), pp. 309-39.

The operational directives of these findings are clear: interstate behavior requires examination in a dyadic context<sup>10</sup> in order 1) to ascertain its dimensionality and 2) to uncover the predominant mode of behavior within any particular dyad. In this way, behavior is classified in an empirical, parsimonious, and manageable set of categories, and a first step is taken toward identifying the class of nation-pairs typifying alignment status. With this research and reasoning to guide us, an operational measure of interstate alignment can be unequivocally defined, so as to empirically derive a class of such alignment configurations operative in the international system.

To this end, the international events data of the World Event/Interaction Survey (WEIS) are employed. The WEIS data were collected on the basis of sixty-three mutually exclusive categories, which segregate the kinds of foreign policy acts states initiate. The sixty-three categories were then collapsed under major categories representing the basic types of foreign policy acts.<sup>11</sup> To ensure a meaningful volume of interaction between nations, the decision was made to include only those dyads in which a national actor was observed to interact at least five times with another national actor in the period January, 1966, to August, 1969 (44 months). This decision produced a sample of 452 directed dyads, possessing a total of 11,007 acts or 81 percent of all acts

TABLE I. Factor Solution of Dyadic Foreign Policy Behavior

Variable	Factor		<i>h</i> <sub>2</sub>
	I	II	
1. Yield	.43	.41	.35
2. Comment	.70	.45	.69
3. Explain	.68	.41	.64
4. Meet	.59	.65	.77
5. Visit	.01	.76	.58
6. Host	.06	.68	.46
7. Approve	.29	.80	.73
8. Promise	.04	.65	.43
9. Grant	.71	.17	.53
10. Reward	.09	.55	.31
11. Substantive Agree	.43	.62	.57
12. Agree to Meet	.59	.59	.70
13. Request	.58	.48	.57
14. Offer	.76	.17	.61
15. Urge	.69	.45	.68
16. Reject	.85	.12	.74
17. Charge	.85	.10	.74
18. Protest	.83	.05	.68
19. Deny	.71	.08	.51
20. Issue Warning	.89	.01	.79
21. Threatening Display	.58	.05	.35
22. Reduce Relationship	.40	.12	.18
23. Expel-Seize	.68	.04	.46
24. Force	.32	.26	.18
% of Total Variance	.42	.13	.55
% of Common Variance	.76	.24	

<sup>10</sup> Charles W. Kegley and Richard A. Skinner, "The Case-for-Analysis Problem in the Comparative Study of Interstate Behavior," in James N. Rosenau (ed.), *In Search of Global Patterns* (New York: Free Press, 1976), forthcoming.

<sup>11</sup> Charles A. McClelland and Ann Ancoli, "An Interaction Survey of the Middle East," mimeographed (Los Angeles: University of Southern California, 1970).

in the WEIS data set. Further criteria relating to the WEIS typology<sup>12</sup> produced a revised category system of twenty-four classes (See Table I).

Factor analysis<sup>13</sup> was applied to this data set in order to probe the interactions occurring between these nations (Table I). Despite some ambiguities in the loadings, the rotated solution identified two dimensions representative of conflict (Factor I) and cooperation (Factor II). The delineation of these dimensions allows us to identify, when summed dyads are used as cases-for-analysis,<sup>14</sup> which dyadic relationships demonstrated an unusually high level of cooperation. Those nation-pairs which achieve highly cooperative exchanges are regarded as informal alignments. The class of alignments in the international system was identified by specifying that each aligned dyad meet the following criteria for inclusion:

- 1) Each directed dyad must be "active," initiating at least five acts.
- 2) Each summed dyad must demonstrate reciprocity in the number of acts sent and received; that is, each directed dyad must be "active."
- 3) Each summed dyad must demonstrate a symmetrical relationship; that is, both parties must give evidence of a cooperative disposition toward each other.<sup>15</sup>

When these criteria were met between two nations, a mean disposition score was computed for each summed dyad to reveal the level of political collaboration in the alignment. The resultant class of alignments and their respective disposition score are presented in Table II.

As can be observed, this operational procedure produced a sample of twenty-one interstate alignments active in the temporal span under investigation. Several features of this sample are noteworthy. First, the very small number of nation-pairs derived is itself surprising, constituting less than five percent of the original data source, and suggests that the criteria used for operationalizing alignment are sufficiently strict to ensure a selective sample of cases. Indeed, the sample is intriguing because of the absence of several nation-pairs that intuitive judgement would include in the class of alignments, such as the Soviet Union and several of the East European countries, Great Britain-Canada, and the smaller West European states of Belgium and the Netherlands with their larger neighbors. While our indicators may not be tapping the full range of cooperative exchanges among aligning states,<sup>16</sup> the general impression remains that the sample is representative of the class of behavior that the concept was intended to embody. Nor is it particularly disturbing to find that the number of active political alignments is relatively small; such a finding is consistent with previous

<sup>12</sup> Charles W. Kegley, *A General Empirical Typology of Foreign Policy Behavior* (Beverly Hills: Sage Publications, 1973), pp. 28-30.

<sup>13</sup> The technique employed was the principle component variation of factor analysis, orthogonal rotation with unity values in the diagonal, and two dimensions specified.

<sup>14</sup> Kegley and Skinner, "The Case-for-Analysis Problem in the Comparative Study of Interstate Behavior." The two variants of the dyadic "case for analysis" are the *directed dyad* and the *summed dyad*. The former details the nonrecursive flow of behavior between two states ( $A \rightarrow B$ ,  $B \rightarrow A$ ), whereas the summed dyad aggregates dyadic behavior without specifying direction ( $A \leftrightarrow B$ ).

<sup>15</sup> The disposition index was calculated for each directed dyad according to the following formula:

$$\text{Disp}A \rightarrow B = \frac{\text{cooperation} - \text{conflict}}{\text{cooperation}}$$

where cooperation is the factor score obtained for each directed dyad on the cooperation dimension (Factor I) of the rotated factor score obtained for each directed dyad on the conflict dimension (Factor II). For a discussion of the use and interpretation of factor scores, see R. J. Rummel, *Applied Factor Analysis* (Evanston, Illinois: Northwestern University Press, 1970), p. 152.

<sup>16</sup> For example, transaction indicators might serve as additional measures of cooperative interaction. See, Cal Clark, "Foreign Trade as an Indicator of Political Integration in the Soviet Bloc," *International Studies Quarterly*, XV (September, 1971), 259-95.

TABLE II. Sample of International Alignments

---

1.	United States-Canada (.88)
2.	United States-United Kingdom (.97)
3.	United States-West Germany (.87)
4.	United States-Jordan (.70)
5.	United States-Israel (.90)
6.	United States-South Korea (.77)
7.	United States-Japan (.75)
8.	United States-Thailand (.65)
9.	United States-South Vietnam (.84)
10.	United States-Philippines (.77)
11.	United States-Australia (.72)
12.	Honduras-El Salvador (.91)
13.	United Kingdom-West Germany (.89)
14.	Netherlands-Peoples' Republic of China (.96)
15.	France-West Germany (.90)
16.	France-Soviet Union (.76)
17.	Czechoslovakia-Soviet Union (.79)
18.	Soviet Union-United Arab Republic (.65)
19.	Soviet Union-North Vietnam (.59)
20.	Zambia-Rhodesia (.94)
21.	Lebanon-Israel (.89)

---

evidence that nations are highly selective in the attention they direct to other states in the international system.<sup>17</sup>

A second characteristic of the sample is the extent to which it is dominated by dyads comprised of the more powerful, industrialized states of the international system, most conspicuously the United States. This finding conforms to theoretical images of the system as a hierarchical, highly stratified political system,<sup>18</sup> in which a few great powers are responsible for initiating much of the behavior crossing national boundaries. It "fits" as well with previous evidence that activity in the international system is highly concentrated, such that 22 percent of the 153 countries examined produced over 80 percent of international events.<sup>19</sup> Hence, it stands to reason that international alignments would be composed primarily of these active types of national actors.

More specifically, the dominant presence of the United States in the sample attests to the pervasive American involvement in international affairs, as well as the behavioral residuals of U. S. "pactomania" in the 1950's. American preoccupation with Vietnam in the 1966-1969 period is also clearly demonstrated by the sample, with six of the twelve alignments the United States was a party to involving East or Southeast Asian states.<sup>20</sup> Similarly, the period for which data were analyzed indicates the early signs of deterioration of American-West European cooperation by the absence of a U. S.-France alignment.

<sup>17</sup> Kegley, *A General Empirical Typology of Foreign Policy Behavior*, p. 28.

<sup>18</sup> Johan Galtung, "A Structural Theory of Aggression," *Journal of Peace Research*, II (1964), 95-119 and Gustav Lagos, *International Stratification and Underdeveloped Countries* (Chapel Hill: University of North Carolina Press, 1964).

<sup>19</sup> Charles A. McClelland and Gary D. Hoggard, "Conflict Patterns in the Interactions Among Nations," in James N. Rosenau (ed.), *International Politics and Foreign Policy*, rev. ed. (New York: Free Press, 1969), p. 716.

<sup>20</sup> It should be noted that the skewedness of the sample toward the developed nations, and especially the United States, may be an artifact of the WEIS date source. *The New York Times*. Azar et al. have documented the extent to which the *Times* reports a greater volume of news about North American and European nations. See, Edward E. Azar et al., "The Problem of Source Coverage in the Use International Events Data," *International Studies Quarterly*, XVI (September, 1972), 373-88.

Third, the geographical range of the sample includes each of the major regional subsystems of international politics. The presence of Middle Eastern and Southeast Asian nations suggests that a sense of threat from a third party may be a key factor in states' cooperative orientations toward one another. However, the inclusion of the Zambia-Rhodesia and Honduras-El Salvador alignments in the sample partially vitiates the apparent salience of external threat as a general correlate of alignment behavior.

A fourth feature of the sample is signified by the two cases mentioned above and the Netherlands-China coalition: namely, that a potentially wide breadth of issue areas is encompassed by the sample. Questions of trade and commerce, ideology, and, perhaps, race are possible correlates of the cooperative interactions between these states.

Fifth, special mention should be made of several nation-pairs which appear in the sample. The Czechoslovakia-Soviet Union and U.S.S.R.-U.A.R. alignments are products of the time period for which data were analyzed. The high level of collaboration between Czechoslovakia and the Soviet Union, for example, is a partial artifact of the kind of behavior transpiring between the two states in the aftermath of the 1968 intervention. In both instances, an extension of the data or the interpolation of breaks in the serial aggregation would provide some additional descriptive precision. For purposes of this analysis, however, these alignments were retained.

Finally, our original argument that alignment behavior is a mix of cooperative and conflictual interactions is substantiated. As the disposition index values reported in Table I indicate, a nation's behavior is characterized by cooperation in its relations with an alignment partner, but not to the exclusion of episodic conflict. This interpretation conforms to the repeated findings that, in general, conflict and cooperation tend to covary.<sup>21</sup>

Although no validation tests were performed, these features of the derived sample suggest that the intuitive notions expressed in our definition of international alignment have a close conceptual-operational congruence and tap a specific class of interstate behavior distinct for its cooperative intensity.

At the same time, this perusal demonstrates the need for multivariate analysis of potential correlates of alignment behavior. The sample itself is suggestive of a large number of factors influencing such behavior. The next step in this direction is to examine theoretical literature on political association, note hypothesized statements regarding the determinants of alignment formation, and incorporate them into a design for empirical testing.

#### IDENTIFYING THE CORRELATES OF ALIGNMENTS

A review of the major theoretical and empirical studies of associative behavior among political units suggests the absence of reliable generalizations relating preconditional and precipient factors to that behavior. Thus, there is a large body of research dealing with international alliances<sup>22</sup> and regional communities,<sup>23</sup> emphasizing vari-

<sup>21</sup> Kegley, Salmore, and Rosen, "Convergences in the Measurement of Interstate Behavior," and Richard A. Brody, "Problems in the Measurement and Analysis of International Events," in Kegley, *et al.* (eds.), *International Events and the Comparative Analysis of Foreign Policy*, pp. 120-31.

<sup>22</sup> Julian R. Friedman, Christopher Bladen, and Steven Rosen (eds.), *Alliance in International Politics* (Boston: Allyn & Bacon, 1970); Philip M. Burgess and David W. Moore, "Inter-nation Alliances: An Inventory and Appraisal of Propositions," in James A. Robinson (ed.), *Political Science Annual*, III (Indianapolis: Bobbs-Merrill Co., 1972); and Ole R. Holsti, P. Terrence Hopmann, and John D. Sullivan, *Unity and Disintegration in International Alliances* (New York: Wiley-Interscience, 1973).

<sup>23</sup> Roger W. Cobb and Charles Elder, *International Community* (New York: Rinehart & Winston, 1970); James A. Caporaso, *Functionalism and Regional Integration* (Beverly Hills: Sage Publications, 1972); and

ous stages of their formation, maintenance, and disintegration. Holsti *et. al.* concluded their review of existing theories of alliances with the comment that "general theories of alliance may actually have only limited validity," noting that "the most striking result is the consistency of low correlations" obtained from an analysis of 130 alliances against numerous independent variables.<sup>24</sup> Nor have efforts of researchers to identify strong relations in the integrative process met with success.

Several factors may account for these poor results. In the analysis of international economic and political integration, scholars lack cases on which investigation can proceed. The number of integrating communities is small, and only one such community has established a level of integration which might permit assessment of maintenance activities.

Studies of alliances, on the other hand, are hampered by the lack of behavioral data covering the tenure and intensity of most alliances. As a result, most studies utilize frequency counts of the number of alliances in force at particular periods and relate such aggregate systemic characteristics to other systemic conditions.<sup>25</sup> While such a focus may be revealing, it fails to allow one to investigate the impact which the attributes of alliance partners may exert on the formation and/or dissolution of their relationships.

A second source of hypotheses are the deductive theories of political coalitions. Kelley has outlined some communalities of research on coalitions:

All are concerned with decision-making in situations in which no single actor can specify an outcome and bind all other actors to it. In most of the studies the actors clearly benefit by successfully trying to induce others to form coalitions with them. In most of the studies the actors accept rules exogenously provided. These rules specify relevant resources, the extent of resources necessary to win, and what can be won (or lost). Yet actors in the same and different studies are differently motivated and the rules are recognized with varying degrees of specificity. The coalitions formed may be continuous (that is, governing coalitions), episodic (most legislative and electoral coalitions), or terminal (one-shot specification of benefits to involved actors).<sup>26</sup>

Riker and Gamson have developed two models of coalitions based upon the "size principle."<sup>27</sup> Both models are attractive for research on the international level — especially in analyzing balance-of-power theories<sup>28</sup> — although there is reason to believe that the "situational conditions" required by the models limit their applicability.<sup>29</sup>

The more general problems associated with transferring models and theories of coalition studies and alliance research to the specific design formulated here include —

William R. Thompson, "The Regional Subsystem: A Conceptual Explication and Propositional Inventory," *International Studies Quarterly*, XVII (March, 1973), 89-117.

<sup>24</sup> Holsti, Hopmann, and Sullivan, *Unity and Disintegration in International Alliances*, p. 219.

<sup>25</sup> See, for example, J. David Singer and Melvin Small, "Alliance Aggregation and the Onset of War, 1815-1945," in J. David Singer (ed.), *Quantitative International Politics* (New York: Free Press, 1968), pp. 247-86.

<sup>26</sup> E. W. Kelley, "Theory and the Study of Coalitions," in Sven Groennings et al. (eds.), *The Study of Coalition Behavior* (New York: Holt, Rinehart & Winston, 1970), p. 482.

<sup>27</sup> Riker, "The Theory of Political Coalitions and William A. Gamson, "An Experimental Test of a Theory of Coalition Formation," *American Sociological Review*, XXVI (August, 1961), 565-73; "A Theory of Coalition Formation," *American Sociological Review*, XXVI (June, 1961), 373-82.

<sup>28</sup> Zinnes, "Coalition Theories and the Balance of Power."

<sup>29</sup> Burgess and Moore, "Inter-nation Alliances," pp. 346-48.



- 1) the general absence of international situations in which a winning position is readily apparent;
- 2) the difficulties in determining on a comparative basis decision-makers' motivations and objectives in entering an international alignment;
- 3) consequently, the inability to identify unequivocally the benefits accruing from alignment participation; and
- 4) since this study is removed from the institutionalized foci of alliances, legislatures, or elections in which there are codified procedures, the problems of ascertaining in a rigorous manner the extent to which rules or norms are important parameters of alignment participants' actions.

Rather than attempt any wholesale adoptions of models or theories from coalition or alliance research and thereby incur the risk of making unwarranted distortions of the assumptions of these constructs, we have elected to identify some general propositions common to both fields of study and incorporate them into a framework for analysis. The framework is a simplified variation of Vincent's "distance theory" of international relations.

Distance theory . . . works with the basic concepts of attributes, attribute distances and behavior . . . Attribute distances are determined by computing the difference (i-j) from the factor scores of nations (i and j) generated from a factor analysis of the attributes.<sup>30</sup>

For each nation-pair an absolute — as opposed to a signed — value is computed.

The principle modifications of this theory are 1) the dependent variable — alignment behavior — is a subclass of the universe of foreign policy employed by Vincent; 2) the distance values computed from the dimensions of attribute indicators are not summed but retained as independent measures; and 3) a measure of third-party threat to an alignment is incorporated as an independent variable.

The central contention embodied by this framework is that the behavior of nation-pairs forming alignments is a function of their distances on dimensions of national attributes and their distances on an index of third-party threat.<sup>31</sup> In the first instance, it is hypothesized that as the asymmetry of national attributes increases, alignment formation will result. This hypothesis contrasts with the "compatibility theory" of alliances, which predicts that nations align with those nations with which they share common or similar attributes.<sup>32</sup> Although coalition studies vary in specifying the direction of actor resources and behavior, this hypothesis is similar to the general issue of uncovering what, if any regularities in the bargaining process are attendant to alignment formation.<sup>33</sup>

In order to derive attribute-distance measures for the twenty alignments,<sup>34</sup> nineteen variables were selected from the *World Handbook of Social and Political Indicators*<sup>35</sup> and the entire sample of 136 countries was factor analyzed by the principal

<sup>30</sup> Jack E. Vincent, "New Models of Conflict and Cooperation for International Relations Scholars," paper delivered at the Annual Meeting of the International Studies Association, New York, 1973, p. 33.

<sup>31</sup> The threat index was computed with the formula described earlier (footnote 15) for all of the 452 nation-pairs of the original factor solution. The value of the threat index for each of the twenty-one alignments was derived by identifying the third-party nation with which both members of an alignment shared the highest level of conflict respectively.

<sup>32</sup> Bruce M. Russett, "Components of an Operational Theory of International Alliance Formation," *Journal of Conflict Resolution*, XII (September, 1968), 285-301; Burgess and Moore, "Inter-nation Alliances," p. 346.

<sup>33</sup> Kelley, "Theory and the Study of Coalitions," p. 483.

<sup>34</sup> Attribute indicators for the Zambia-Rhodesia dyad were not available.

component technique. Six significant dimensions of national attributes were discerned from the rotated solution accounting for 75.3 percent of total variance, and these were labeled in the following manner (presented in descending order of percent of variance accounted for):

- Factor I — *Development* — energy consumption, GNP per capita
- Factor II — *Militarization* — total military manpower, total defense expenditure
- Factor III — *Political Performance* — party fractionalization, electoral regularity
- Factor IV — *Cosmopolitanism* — urbanization, trade
- Factor V — *Culture* — percent Christian population, percent Moslem population
- Factor VI — *Dependence* — concentration of exports, U. S. economic aid

External threat was included as a possible correlate of alignment behavior.<sup>35</sup> The hypothesis that threat precipitates entry into cooperative associations is replete throughout the literature on alliances. Liska has argued this position forcefully, claiming that, "Alliances are against, only derivatively for, someone or something. The sense of community may consolidate alliances; it rarely brings them about."<sup>36</sup>

As this position indicates, the inclusion of threat represents a contending hypothesis to that presented by the measures of national attributes.

#### ANALYSIS

The six measures of attribute distances and the threat index were regressed against the disposition scores of the twenty alignments using the maximum R-square improvement variant of stepwise multiple regression.<sup>37</sup> Analysis results are reported in Table III.

The model producing the highest R<sup>2</sup> was a three-variable model composed of Development, Militarization, and Dependence. Before turning to the interpretation of this model, some mention needs to be made of the alternative models calculated by the regression technique. In light of the model ultimately derived, the best one-variable model was especially interesting. The index of threat was calculated to be the best one-variable model, although the R<sup>2</sup> produced was only .05. The calculation of more complex models showed that threat did not contribute significantly to the accounting of variation until a five-variable model was generated, and, even here, produced an increase in R<sup>2</sup> of only one percent. Similarly, the decision to employ the

TABLE III. "Best Model" of Correlates of Alignments

1	2	3	R <sup>2</sup>	F
<i>Development</i>	<i>Militarization</i>	<i>Dependence</i>		
b = 0.79	b = - 0.80	b = - 1.11	.66	9.91
t = 5.29	t = - 5.28	t = - 2.10		

<sup>35</sup> Michael C. Hudson and Charles L. Taylor, *World Handbook of Social and Political Indicators*, II (New Haven: Yale University Press, 1972).

<sup>36</sup> George Liska, *Nations in Alliance* (Baltimore: Johns Hopkins Press, 1962), p. 12.

<sup>37</sup> This technique defines the "best model" for producing the highest R<sup>2</sup> by analyzing every one-, two- . . . k-variable combination. Once a model is obtained, each of the variables in the model is subsequently compared to each variable not in the model. "For each comparison, the procedure determines if removing the variable in the model and replacing it with the presently excluded variable would increase R<sup>2</sup>. After all the possible comparisons have been made, the switch which produces the largest increase in R<sup>2</sup> is made. Comparisons are made again, and the process continues until the procedure finds that no switch would increase R<sup>2</sup>"; Anthony J. Barr and James H. Goodnight, *Statistical Analysis Systems* (Raleigh: University of North Carolina State Press, 1972), p. 128.

three-variable model was predicated on the finding that a four-variable model which included a distance measure of Political Performance accounted for 68 percent of variation — an increase of only two percent in  $R^2$ . Indeed, the entire set of seven correlates produced an improvement of only three percent over the three-variable model. The three-variable model represents a parsimonious solution, and, at the same time, reaffirms our intuitive position that bivariate analyses of interstate behavior are generally insufficient for dealing with the complexity of that behavior.

### INTERPRETATION

The three-variable model relating distance scores on the Development, Militarization, and Dependence attribute dimensions provides, at once, partial support for *both* the compatibility and distance theories and a challenge to the assertion that external threat is a key correlate of international alignment. As noted above, the index of threat failed to demonstrate any degree of potency in accounting for alignment behavior. This may reflect the overall patterns of international interaction outlined by McClelland and Hoggard. Their analysis of the WEIS data indicated that interstate relations "are not quite as conflict-ridden as some have supposed."<sup>38</sup> Hence, the formation of cooperative associations among nations seems to be motivated less by decision-makers' perceptions of clear-and-present threats, than by implicit recognitions of the hierarchical configuration of states and the skewed distribution of capabilities within the international system.

At the same time, it seems probable that alignments are products of processes, requiring longitudinal observations and analysis. This conceptualization suggests that threat may indeed serve as a precipitant factor for states' initial associative actions. Subsequent developments in the alignment process resemble learning models in which member behavior is conditioned by learned expectations of the actions/reactions of other alignment members.<sup>39</sup> A cross-sectional design such as ours cannot test for these dynamic processes, and we heartily endorse further research embodying longitudinal analyses of cooperative interactions.

Turning to the confirmatory aspects of this analysis, we find an intermix of results regarding the compatibility and distance theories of international political association. Recalling that our independent variables are measured in terms of attribute distances between alignment partners, the sign of the respective regression coefficients ( $b$ ) is readily interpretable. A negative sign for  $b$ , as in the case of the Militarization and Dependence correlates, signifies that the greater the distance between two aligning states, the less the intensity of cooperative behavior. Conversely, a positive value for  $b$ , as with the Development measure, signifies that the greater the distance between two nations on this attribute dimension, the higher the intensity of alignment. It is the pattern of positive and negative regression coefficients that guides our interpretation of the regression model.

The distance theory is rendered plausible by the Development variable's presence and its positive  $b$ -value in the three-variable model. But in light of the negative  $b$ -value associated with the Dependence measure, we are led to conclude that the asymmetry the distance predicts for alignments is largely one of economic inequality between alignment partners, rather than a client-patron relationship. Further credence is afforded this interpretation by the negative  $b$ -value of the Militarization variable: aligning states generally share commensurate (albeit, relative) levels of military capability. Alignments thus represent a strategy for smaller states whereby resources are

<sup>38</sup> McClelland and Hoggard, "Conflict Patterns in the Interactions Among Nations," p. 716.

<sup>39</sup> Sullivan, "International Alliances," p. 101.

indirectly augmented through cooperative association with larger, more developed nations.

For more developed countries, alignments offer means for enhancing status or prestige. Moreover, since national decision-makers contend with an uncertain environment in which a winning margin is usually indeterminate, alignment formation, even with less-developed partners, provides a strategy for aggrandizement of national power.

The primary contention of the compatibility theory is that states will align with those nations with which they share common characteristics such as culture, language, or political institutions. Although our analysis does not incorporate all of the representative indicators of the theory, the one measure — Culture — which is analyzed does not constitute a potent correlate in any of our results. Still, the raw data for this dimension were primarily measures of religious affiliation within nations, and it therefore remains unclear whether this particular aspect of the compatibility theory is upheld by our results.

Alternatively and to the extent that the compatibility theory is intended to embody similarities of national attributes as correlates of international alignments, our findings offer only partial support for this contention. The negative *b*-values of the Militarization and Dependence dimensions conform to the notion of states that 1) share relatively similar levels of military capability and 2) are not dependent upon other nations *via* aid or trade acting to form cooperative associations.

In retrospect, the partial support afforded both the distance and the compatibility theories by this analysis is not especially contradictory. A review of the twenty-one aligning dyads identified earlier reveals that a crude dichotomy may resolve the apparent conundrum. Many of the alignments to which the United States and the Soviet Union are partners are representative of the asymmetric relationships described by the distance theory. American alignment with Jordan, Thailand, and South Vietnam, as well as Soviet cooperation with the U.A.R. and North Vietnam, typify a developed/less developed alignment.

The second group of alignments includes the Honduras-El Salvador, United Kingdom-West Germany, France-West Germany, and Zambia-Rhodesia dyads, and provides a substantive example of the type of symmetric relationship predicted by the compatibility theory.

The dichotomization of the original twenty-one alignments also gives rise to a reconsideration of the role of threat in alignment formation. Although our findings cast doubt on the importance of threat for dyadic cooperation, other situational variables such as the war experience of an alignment member may serve to more fully test the potency of a nation's conflictual milieu for its cooperative actions.

A final note of interpretation concerns the issue of systemic influences upon alignment behavior. The large number of alignments involving either the United States or the Soviet Union suggests that future research in this field might well benefit from Galtung's theory of rank and social status. His concepts of "top dog" and "underdog" seem well-suited to analyses of dyadic patterns of cooperation.<sup>40</sup>

Problems specific to this study (e.g., the small number of alignments, our reliance upon one type of data for measuring alignment behavior) as well as the more persistent difficulties of empirical research (e.g., random and systematic measurement errors) place obvious limitations on the scope of our findings. Further refinement of concepts

<sup>40</sup> Johan Galtung, "Rank and Social Integration: A Multidimensional Approach," in Joseph Berger, Morris Zelditch, Jr., and Bo Anderson (eds.), *Sociological Theories in Progress* (Boston: Houghton Mifflin, 1966), pp. 145-98.

and methods and a more extensive explication of the "pretheory" of international alignments are in order.

Despite these problems, we are sufficiently encouraged by our findings to urge an extension and expansion of the model of international alignment formation presented here. We perceive our results as both a challenge and a complement to existing theories of international political association and the research strategies each entails. This conclusion suggests that some revision of the conventional wisdom regarding the relative potencies of particular factors in contributing to the formation of international alignments should be considered.