TOWARD THEORY-BASED MEASURES
OF CONFLICT MANAGEMENT

EVERT VAN DE VLIERT
University of Groningen
BORIS KABANOFF
University of New South Wales

The theory of the managerial grid, a model of interrelations among styles of management, was used as the criterion for validating the two best-known self-report measures of conflict management styles. We re-analyzed six studies that used those measures and found that both appeared to be moderately valid. However, the measures failed to reflect the underlying theory in a few respects, which suggested specific areas for improving them.

Blake and Mouton's (1964) managerial grid has recently made a striking comeback as a leading thesis in the literature on conflict management (Kabanoff, 1987; Pruitt & Rubin, 1986; Rahim, 1986; Shockley-Zalabak, 1988; Van de Vliert & Prein, 1989). Most authors have treated the managerial grid as a five-category scheme for classifying behavioral styles or modes of handling social conflict. In our view, however, the grid expresses a more basic scientific theory. The reasoning behind this view follows.

First, Blake and Mouton (1964, 1970) theoretically specified the similarities and differences among five styles of conflict management, proposing that the styles varied on two dimensions—concern for people and concern for production. They devised 9-point dimensions, with 1 representing minimum concern and 9, maximum concern (see Figure 1). Other authors have labeled the two dimensions differently (e.g., Rahim, 1983a, 1986; Shockley-Zalabak, 1988; Thomas, 1976), but the basic assumptions have remained similar. People are classified into the five styles on the basis of which of the five two-dimensional locations in the grid they psychologically occupy. Blake and Mouton define the respective styles as follows: avoiding, 1 on people concern, 1 on production concern; accommodating, 9 on people concern, 1 on production concern; compromising, 5 on people concern, 5 on production concern; competing, 1 on people concern, 9 on production concern; and collaborating, 9 on people concern, 9 on production concern. It is important to note that the styles are viewed as specific points defined by the two dimensions and not as areas.

The second reason for viewing the managerial grid as a scientific theory

Theoretical Interrelations Among Five Styles of Conflict Management in Terms of Two Dimensions
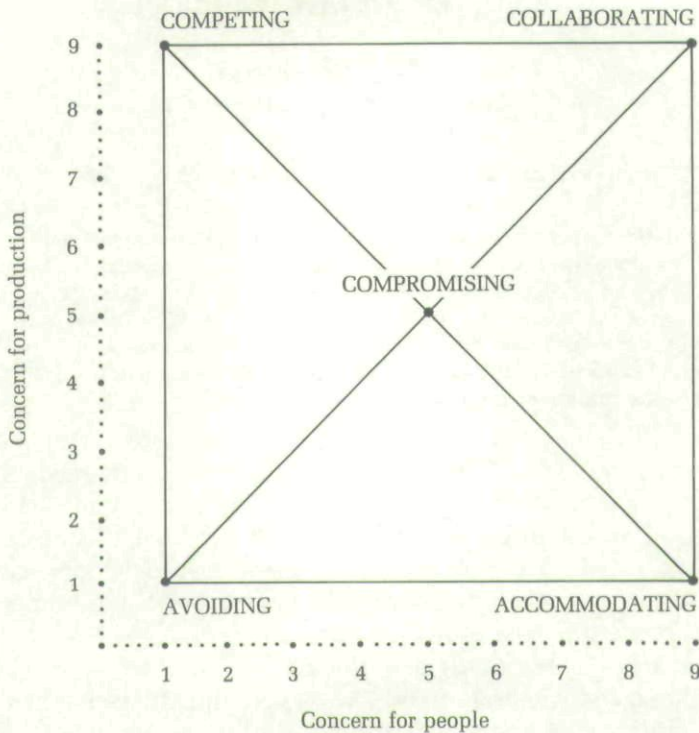
is that its originators conceptualized the two 9-point dimensions as interval rather than ordinal scales. Blake and Mouton called the intervals "units of direction" (1981: 442) and introduced a two-digit coding system in which, for instance, "9, 9" represented nine units of concern for people combined with nine units of concern for production. Other authors have implicitly or explicitly adopted their interval view by adding or subtracting an individual's scores on the two dimensions (e.g., Bobko, 1985; Chanin & Schneer, 1984; Ruble & Thomas, 1976; Van de Vliert & Prein, 1989).

Third, Blake and Mouton (1964, 1970, 1981) did not interpret the styles as simple additive combinations of people and production dimensions. Instead, they viewed each style as a distinctly different compound resulting from an interaction of the two underlying dimensions. Thus, the two dimensions composing a given style cannot be separated (Blake & Mouton, 1981: 441).

Fourth, the theoretical distances among the five behavioral styles are specifiable geometrically. Figure 1 presents the conflict management grid as a square matrix that has sides 8 units long and compromising at its midpoint. There are four distances of 8 units: avoiding to accommodating, accommo-

dating to collaborating, collaborating to competing, and competing to avoiding. Those four styles are equally closely related to compromising in the center, with a theoretical distance of 5.66 in each case. Maximally different relationships occur between avoiding and collaborating and between accommodating and competing, with theoretical distances of 11.31.

Thomas and Kilmann (1974) and Rahim (1983a) have published the two best-known questionnaires that people can use to describe their perceived use of the grid's five styles of conflict management (for a critique of the exhaustiveness and representativeness of the styles measured, see Knapp, Putnam, and Davis, 1988). A number of previous studies have assessed the validity of these instruments by means of empirically derived criteria (Cosier & Ruble, 1981; Kabanoff, 1987; Rahim, 1983a, 1983b; Ruble & Thomas, 1976; Thomas & Kilmann, 1978; Weider-Hatfield, 1988). The next section of this article briefly reviews results of these studies. The study reported here represents a new approach to construct validation of the Thomas and Kilmann (1974) and Rahim (1983a) operational definitions of the conflict management grid. We used the grid's theoretical pattern of ten distances among conflict styles as our validation criterion. Data came from a secondary analysis of six studies that used either Thomas and Kilmann's or Rahim's instrument.

METHODS

Instruments

Thomas and Kilmann's Management Of Differences Exercise (MODE) (1974) is an ipsative[1] questionnaire consisting of 30 sets of paired items, with each item describing one of the five conflict styles included in the managerial grid. A person's score on each style is the number of times he or she selects statements representing that style over other statements. The MODE styles appear to have rather low levels of homogeneity: across studies, Cronbach alphas have ranged from .34 to .91 with a mean of .58. Their stability also appears low, with test–retest reliabilities ranging across studies from .37 to .90 with a mean of .63. However, the level of social desirability bias affecting the measures also appears low (Kilmann & Thomas, 1977; Womack, 1988). Support for the MODE's validity includes demonstrated correlations between the five styles of conflict management and the two underlying dimensions (Ruble & Thomas, 1976) and demonstrated correlations between MODE scores and scores on other, related instruments (Brown, Yelsma, & Keller, 1981; Kilmann & Thomas, 1977). However, Kabanoff (1987), who used peer ratings of conflict behavior as criteria, failed to find evidence of external or predictive validity.

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[1] Ipsative measures cannot vary independently—that is, they systematically affect each other. Womack (1988) has discussed that the MODE's ipsative nature severely limits the type of statistical analyses that researchers can use.

TABLE 1
Characteristics of the Studies Analyzed

Study	N	Instrument Used
O'Reilly and Weitz (1980)	140	MODE
Mills, Robey, and Smith (1985)	199	MODE
Kravitz (1987)	96	MODE
Rahim (1983a)	1,219	ROCI
Kozan (1986)	134	ROCI
Weider-Hatfield and Hatfield (1987)	125	ROCI

The Rahim Organizational Conflict Inventory (ROCI) (Rahim, 1983a) is a series of 28 5-point Likert scales, with high values representing high use of a conflict style. The ROCI styles form an instrument that is internally consistent (α = .50–.95, $\bar{x}$ = .74), stable (test–retest reliability = .60–.83, $\bar{x}$ = .76), and rather insensitive to social desirability response sets (Rahim, 1983b; Weider-Hatfield, 1988). The ROCI's ability to discriminate between groups known to differ in their conflict styles, its meaningful relations with other conflict constructs, and its associations with measures of organizational effectiveness and climate have provided evidence for its validity (Rahim, 1983a, 1983b, 1986; Weider-Hatfield, 1988).

Secondary Analysis

Only six studies satisfied the three requirements we established for inclusion in our reanalysis. These studies (1) used the MODE or ROCI instrument, (2) assessed managers' reports of how they handle organizational conflict, and (3) reported the ten intercorrelations among the five styles of conflict management. Table 1 identifies the six studies analyzed. We decided to use a distance measure based on correlations rather than raw scores or means because the latter are more susceptible to contamination by social desirability factors (cf. Kilmann & Thomas, 1977). Our criterion for judging the validity of each study's pattern of ten intercorrelations was the corresponding pattern of ten theoretical distances shown in Figure 1. If the MODE and ROCI instruments were perfectly valid, the intercorrelations between compromising and the other four styles would have the highest positive (or least negative) values because those correlations represent the shortest distances. Similarly, the two intercorrelations corresponding to the two longest distances (avoiding-collaborating and accommodating-competing) would be the most negative. Finally, the four intercorrelations corresponding to the four intermediate distances (avoiding-accommodating, accommodating-collaborating, collaborating-competing and competing-avoiding) would fall between the other two subsets of correlations.

The reanalysis had two steps. The first was a validity assessment conducted by calculating Spearman rank correlations, corrected for ties of identical values, between the ten intercorrelations among conflict management styles (the MODE or ROCI score in a particular study) and the ten theoretical

distances derived from the conflict management grid (the validation criterion).[2] This analysis indicated how valid each instrument was in terms of the similarity between the pattern of empirical associations among the five styles and the theoretical pattern of associations the grid specifies.

The second step explored how much each of the five different styles contributed to the overall validity of the MODE or ROCI. In this exploration, we used a nonmetric distance-scaling program, called MINISSA, designed by Lingoes and Roskam (1973). The purpose of the procedure is to find a configuration of points whose Euclidean output distances reflect as closely as possible the rank order of the input dissimilarities. Like a Spearman rank correlation analysis, this scaling analysis is a robust procedure that does not rely on the assumption that the conflict management grid provides precise distances on interval scales. Applying Lingoes and Roskam's procedure to a set of ten MODE or ROCI intercorrelations resulted in a two-dimensional representation of the five styles of conflict management. This visual pattern of empirical relationships, based on correlations among styles in the MODE or ROCI instruments, can be compared directly to the pattern of theoretical relationships that provide the validation criterion (Figure 1).

RESULTS

The last column in Table 2 reports the Spearman estimates of the relationship between each study's ten intercorrelations among the conflict styles from the managerial grid and the corresponding ten theoretical distances. The coefficients indicate that MODE predicts 9 to 36 percent of the variance implicated by the theoretical pattern of the conflict management grid and ROCI predicts 24 to 35 percent of the variance implicated. Four coefficients are insignificant, and two reach a .05 level of significance in a one-tailed test. In view of these low levels of significance, it seems important to consider the magnitude of the correlations ($\overline{x} = -.50$), given the small number of degrees of freedom. In interpreting the results, we also took into account that the ten intercorrelations among the styles are not independent. Table 2 shows that an ipsative questionnaire like the MODE produces negative dependence among its correlations, whereas the Likert-type items of the ROCI produce positive dependence among them. Consequently, the validity coefficients may actually underestimate the MODE's true relationship with the conflict management grid and overestimate the ROCI's relationship (cf. Schiffman, Reynolds, & Young, 1981: 258). Therefore, we concluded that overall, the MODE and ROCI are moderately valid measurements of the grid-based managerial conflict styles.

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[2] There were two reasons to apply a Spearman rank correlation rather than a Pearson product-moment correlation. First, because the criterion has only three values or distances— 5.66, 8.00, and 11.31—the Pearson coefficient underestimates the validity of an instrument. Second, the Pearson coefficient requires measurement at an interval level, but the Spearman coefficient does not. The latter would be suitable even if the distances in the conflict management grid did not have strict geometric properties.

TABLE

Intercorrelations Among Five Styles of Conflict Management,

Studies	Avoiding-Accommodating	Avoiding-Compromising	Avoiding-Competing	Avoiding-Collaborating	Accommodating-Compromising
MODE					
O'Reilly & Weitz	.17	−.20	−.47	−.36	−.15
Mills, Robey, & Smith	.05	−.35	−.24	−.41	−.09
Kravitz	.11	−.13	−.48	−.35	−.17
Mean	.11	−.23	−.40	−.37	−.14
ROCI					
Rahim	.33	.16	.01	−.08	.26
Kozan	.31	.27	−.01	−.02	.52
Weider-Hatfield & Hatfield	.42	.08	−.03	−.04	.30
Mean	.35	.17	−.01	−.05	.36

[a] Spearman rank correlations are shown. The more negative the correlation between a study's ten intercorrelations indicate closeness whereas the distances indicate separateness.

† $p < .10$
* $p < .05$

Using Fisher's r to Z transformation, we then computed the mean intercorrelations for the six studies analyzed. The correlation between the resulting two rows of mean intercorrelations (Table 2; $r_S = .41$, n.s.) can be considered an indication of the concurrent validity of the MODE and ROCI. Results suggest that the concurrent validity does not exceed the mean theory-based validity: for MODE, $r_S = .52$, n.s.; for ROCI, $r_S = .62$, $p < .05$.

The exploratory two-dimensional representations of the mean intercorrelations among the five conflict styles provided by each instrument fit the data very well; in both cases, stress was low ($\hat{d} < .001$). The relationships shown in Figure 2 suggest four main conclusions: (1) the MODE and ROCI patterns of empirical relationships are topologically equivalent and generally similar to the theoretical configuration shown in Figure 1; (2) both instruments produce a relatively short distance between avoiding and accommodating and therefore do not clearly discriminate between these two nonconfronting ways of handling conflict; (3) compromising does not occupy a midpoint position; and (4) the MODE does not discriminate as clearly between competing and collaborating as the ROCI does.

DISCUSSION

In this research, we reinterpreted Blake and Mouton's (1964, 1970) grid for assessing conflict management styles as a theoretical model of quantitatively specified interrelations among five styles of conflict management: avoiding, accommodating, compromising, competing, and collaborating.

2
Validated Against Theory-Based Distances

Management					
Accommodating-Competing	Accommodating-Collaborating	Compromising-Competing	Compromising-Collaborating	Competing-Collaborating	Validity[a]
−.53	−.25	−.27	−.34	.00	−.48†
−.53	−.38	−.28	−.03	−.12	−.60*
−.34	−.28	−.41	−.31	−.06	−.30
−.47	−.30	−.32	−.23	−.06	−.52†
.11	.14	.07	.23	−.04	−.59*
.05	.12	−.04	.52	−.07	−.52†
−.07	.15	−.14	.44	−.03	−.49†
.03	.14	−.03	.40	−.05	−.62*

and the ten theoretical distances shown in Figure 1, the higher the degree of validity because the intercorrelations

FIGURE 2
Empirical Interrelations Among Five Styles of Conflict Management for Two Instruments
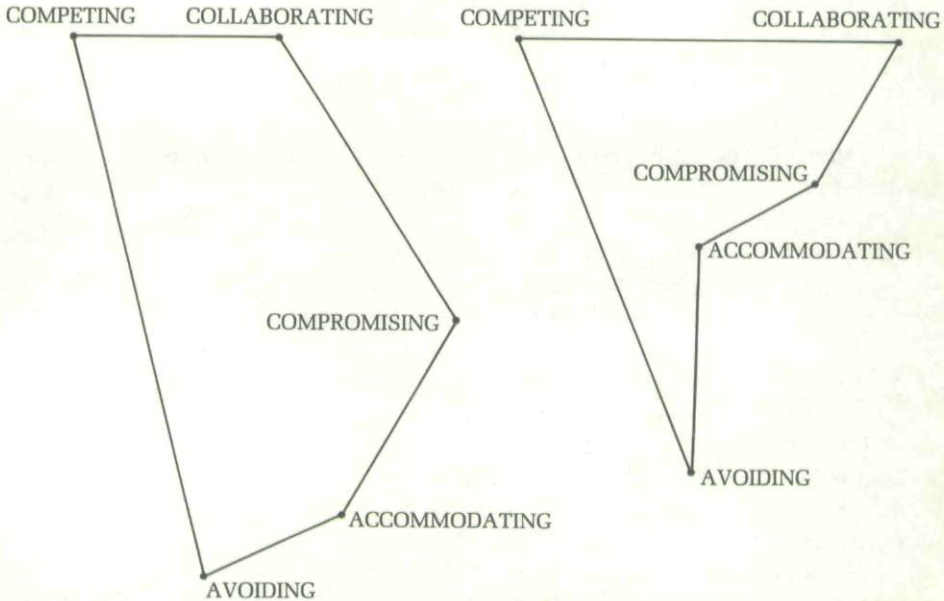
MODE (Thomas & Kilmann, 1974)   ROCI (Rahim, 1983a)

Consequently, we were able to validate measurements of the styles in a straightforward manner by comparing the pattern of intercorrelations each measurement produced with the pattern specified by the conflict grid. The approach taken here differed from that of earlier validation studies in several ways. Our criterion of validity, which was theoretically derived rather than purely empirical, was complex, composed of ten subcriteria. Moreover, the criterion embraced a pattern of ten components rather than a series of single points, and each part of the criterion pattern referred to the relationship between two behavioral styles rather than to a value on a single dimension of a behavioral style: we examined correlations instead of means. This validation approach may have additional applications in situations in which complex interrelated criteria have to be used.

By reanalyzing data from six studies of managers, we assessed the theory-based construct validity of the two best-known self-report instruments for measuring the five conflict styles originally defined in Blake and Mouton's (1964) managerial grid (Rahim, 1983a; Thomas & Kilmann, 1974). We concluded that both instruments showed a moderately strong relationship with the theory on which they are based. The patterns shown in Figure 2 represent slightly distorted versions of the square matrix described by the grid in Figure 1. These results may be interpreted as suggesting that either the theory of the conflict management grid or the measuring instruments lack high validity. It is relevant to note that both instruments appear to have a relatively low degree of concurrent validity. Thus, we suggest that Figure 2 indicates that the two instruments, the MODE and the ROCI, lack high validity. What are their specific deficits?

A shortcoming of Thomas and Kilmann's (1974) MODE is that it discriminates poorly between the theoretically and practically important styles of competing and collaborating. By contrast, Rahim's (1983a) ROCI discriminates extremely well between these two conflict styles. Inspection of individual items suggests that competing rather than collaborating is responsible for the greater discriminative power of the ROCI. The ROCI emphasizes the use of power in an individual's style of competing, but the MODE items for competing fail to mention power at all.

Users of the ROCI, however, must pay greater attention to differentiating between compromising and collaborating. We disagree with Pruitt (1983: 173), who described compromising as merely "lazy" or "half-hearted" problem solving that is therefore indistinguishable from collaborating (cf. Pruitt & Rubin, 1986). A more useful explanation of the association between the two styles might be that although specific compromising and collaborating behaviors differ, their respective outcomes—a settlement and a resolution— have some common features, and their final social-psychological consequences tend to be the same (Van de Vliert & Hordijk, 1989). If that hypothesis is valid, items referring to compromising and collaborating should focus on distinct behavioral characteristics of the two styles rather than on their direct or indirect consequences. For example, the instruments might be improved by contrasting distrustful negotiating with trusting exchange of opin-

ions and problem solving, and sudden impasses with continuous exploration.

Both instruments more or less failed to discriminate between avoiding and accommodating. A perusal of items suggests that avoiding and accommodating share a common theme: in both, an individual complies with an opponent's wishes. It may be possible to increase the distance between these nonconfronting strategies by contrasting the covert and uncooperative character of avoiding with the overt and cooperative character of accommodating. Sternberg and Dobson provided a good illustration of the difference involved in the following items from a questionnaire they devised: "I tried to avoid the conflict whenever possible, especially any discussion or open confrontation with the other person" versus "I attempted to defuse the conflict either by apologizing to the other person or by giving in to the person's demands" (1987: 797).

In conclusion, we suggest that the MODE and ROCI instruments are moderately valid measurements of the conflict management theory underlying their construction. Both instruments also measure some of the theoretical interrelations more adequately than they measure others. Therefore, although both are promising approaches, considerable room for improvement remains.

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Evert van de Vliert earned his Ph.D. degree in the social sciences from the Free University in Amsterdam. He is currently a professor of organizational and applied social psychology at the University of Groningen, the Netherlands. His research interests include organization consultancy, conflict management, and negotiation.

Boris Kabanoff obtained his Ph.D. degree in industrial-organizational psychology from the Flinders University of South Australia. He is currently a senior lecturer in organizational behavior at the Australian Graduate School of Management at the University of New South Wales. His research interests include interpersonal conflict, power, influence, and work and leisure relations.