CULTURAL CONGRUENCE, STRENGTH, AND TYPE:
RELATIONSHIPS TO EFFECTIVENESS

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ABSTRACT

This study investigates the relationship between congruence, strength, and type of organizational cultures and organizational effectiveness. Past literature is filled with propositions that strength and congruence of an organization's culture are associated with high levels of performance. A comparison of the cultures of 334 institutions of higher education revealed that no significant differences in organizational effectiveness exist between those with congruent cultures and those with incongruent cultures, or between those with strong cultures versus those with weak cultures. The study did point out, however, that the type of culture possessed by institutions—clan, adhocracy, hierarchy, or market—has an important relationship with effectiveness as well as with other organizational attributes. Cultural type appears to be more important in accounting for effectiveness than were congruence or strength. Support is provided for the validity of this model of cultural type. Implications for organizational change and further research on organizational culture are discussed.

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INTRODUCTION

A substantial amount of attention has been paid to the concept of organizational culture in the past several years. Conferences, symposia, special issues of journals, and a host of research reports have appeared focusing on culture and its relationship to organizational performance. The conventional wisdom asserts that a culture that is strong, congruent, and supports the structure and strategies of the organization is more effective than a weak, incongruent, or disconnected culture (Sathe, 1983; Schall, 1983; Schein, 1984). For example, Peters and Waterman (1982), Deal and Kennedy (1982), Arnold and Capella (1985), and Ashforth (1985) have asserted that a strong culture is associated with organizational excellence. "A strong culture has almost always been the driving force behind continuing success in American business" (Deal & Kennedy, 1982, p. 5). Nadler (1980), Tichy (1982), Salmans (1983), Broms and Gahmberg (1983), Wilkins and Ouchi (1983), Denison (1984), Ernest (1985), and others argue that a culture supportive of organizational strategies leads to high performance. "To be successful, a company's culture needs to support the kind of business the organization is in and its strategy for handling that business' (Tichy, 1982, p. 71).

Cultural "fit" or congruence is a theme espoused by Nadler and Tushman (1980), Quinn and Hall (1983), Kotter (1980), Schein (1984), Albert and Whetten (1985), and others who suggest that a variety of cultural attributes must be aligned to produce effectiveness. "Other things being equal, the greater the total degree of congruence or fit between the various components, the more effective will be organizational behavior at multiple levels" (Nadler & Tushman, 1980, p. 275).

Despite the pervasiveness of this conventional wisdom, almost no empirical investigations have analyzed the linkage between these cultural dimensions and effectiveness across multiple organizations. Many case studies of the culture-performance relationship exist, but no study attempting to generalize such linkages in a broad sample of organizations has been produced. This gap in the literature is significant from both a theoretical and a practical viewpoint. For example, in the organizational development literature, most change agents now recognize the importance of changing culture along with changes in structure, job design, reward systems, and so on. Without accompanying culture change, most organizational changes fail or remain temporary. The trouble is, unless there is a way to assess and identify the relevant dimensions of organizational culture, it is very difficult to identify in what ways culture needs to change to improve effectiveness. Similarly, change efforts aimed at "strengthening" an organization's culture without the ability to assess "strength" or without empirical evidence linking it to an organization's effectiveness leaves OD practitioners and theorists without an adequate understanding of the means or the benefits to be expected. Likewise, cultural

congruence or fit is expected to bring about effectiveness and improve organizational performance, but unless it is measured and empirically investigated, it is unclear by what mechanisms this is to be accomplished. Assertions regarding the importance of cultural congruence and strength have been accepted as truisms by most OD practitioners and theorists who then must set about trying to improve organizational performance. Verification and amplification of these assertions is needed from studies that compare multiple organizations. By taking a broad sample of organizations, the relationships among type, congruence, and strength of organizational cultures and the effectiveness of those organizations can be investigated. Efforts to change organizations and their cultures can also be undertaken with more confidence.

The purpose of this study is to investigate in a large sample of organizations the relationships among the cultural type, congruence, and strength and organizational effectiveness. Our intent is to explore the linkages between culture and effectiveness in a variety of organizations to determine the extent to which the assumptions of previous authors are supported. To do so, it is first necessary to discuss the concept of culture and to introduce a model for categorizing different culture types. We begin by discussing the underlying basis of culture types; then we discuss the concepts of cultural congruence and culture strength as they related to organizational effectiveness.

THE UNDERSTRUCTURE OF CULTURE TYPE

The culture of an organization is difficult to assess objectively because it is grounded in the taken-for-granted, shared assumptions of individuals in the organization. These shared assumptions and understandings lie beneath the conscious level for individuals. They generally are identified through stories, special language, artifacts, and norms that emerge from individual and organizational behavior (see Adler & Jelinek, 1986; ASQ, 1983; Bate, 1984; Deal & Kennedy, 1982; Ouchi & Wilkins, 1985; Sathe, 1983; Schein, 1983, 1985; Trice & Beyer, 1984; Wilkins & Ouchi, 1983). The nature of these preconscious, shared assumptions has been the focus of investigations by a number of psychologists who assert that "axes of bias" (Jones, 1961) or "psychological archetypes" (Jung, 1973) organize individuals' interpretations of reality into a limited number of categories. These categories identify the different frames used by individuals to organize underlying values, assumptions, and interpretations. Consequently, these categories can also be used to identify certain types of cultures in organizations because cultures are based on, and defined by, these values, assumptions and interpretations (see Jaynes, 1976; Mitroff, 1983; Neumann, 1955, 1970).

One finding that has emerged from research on psychological archetypes is the commonality of the underlying axes of bias used to interpret and

categorize information. That is, similar categorical schemas have been found to exist in the minds of individuals across a wide variety of circumstances.

> The more that one examines the great diversity of world cultures, the more one finds that at the symbolic level there is an astounding amount of agreement between various archetypal images. People may disagree and fight one another by day, but at night they show the most profound similarity in their dreams and myths. The agreement is too profound to be produced by chance alone. It is, therefore, attributed to a similarity of the psyche at the deepest layers of the unconscious. These similar appearing symbolic images are termed archetypes. (Mitroff, 1983, p. 85)

Simply stated, psychological archetypes serve to organize the underlying assumptions and understandings that emerge among individuals in organizations and that become labelled cultures. They establish "patterns of vision in the unconsciousness, ordering the psychic material into symbolic images" (Neumann, 1955, p. 6).

One of the best known, and most widely researched, models of psychological archetypes was developed by Jung (1923). Although the Jungian framework has been widely used to identify personality types, "the Jungian framework can be used to shed light on organizational and institutional differences [as well]" (Mitroff, 1983, p. 59). Mitroff and Kilmann (1976) found, for example, that organizational cultures are described by people in a manner consistent with the Jungian typology. This is reasonable because cultural information in organizations is interpreted by individuals in the context of their underlying archetypes, and the manner in which culture is experienced and transmitted is likely to be consistent with those Jungian dimensions.

These categories also serve as the basis for a recently developed model of organizationally-related values—the competing values model of organizational effectiveness. This model was developed empirically by Quinn and Rohrbaugh (1981) as they analyzed the values that knowledgeable individuals held regarding desirable organizational performance. Using a list of effectiveness criteria that was claimed by Campbell (1977) to be comprehensive in scope, Quinn and Rohrbaugh discovered that those criteria clustered together (via multidimensional scaling) in a way that reproduced almost perfectly the Jungian framework (Jung, 1923). That is, the dimensions of the competing values model matched precisely the dimensions that Jung had developed for psychological archetypes (Quinn, 1988; Quinn & Rohrbaugh, 1983). Because the Jungian framework has been applied mainly at the individual or cognitive level of analysis, its consistency with the competing values model lends support to the proposition that organizational attributes can be organized on these same dimensions.

The Jungian framework and the competing values model are discussed here because the dimensions underlying these models organize the different patterns of shared values, assumptions, and interpretations that typify organizations.

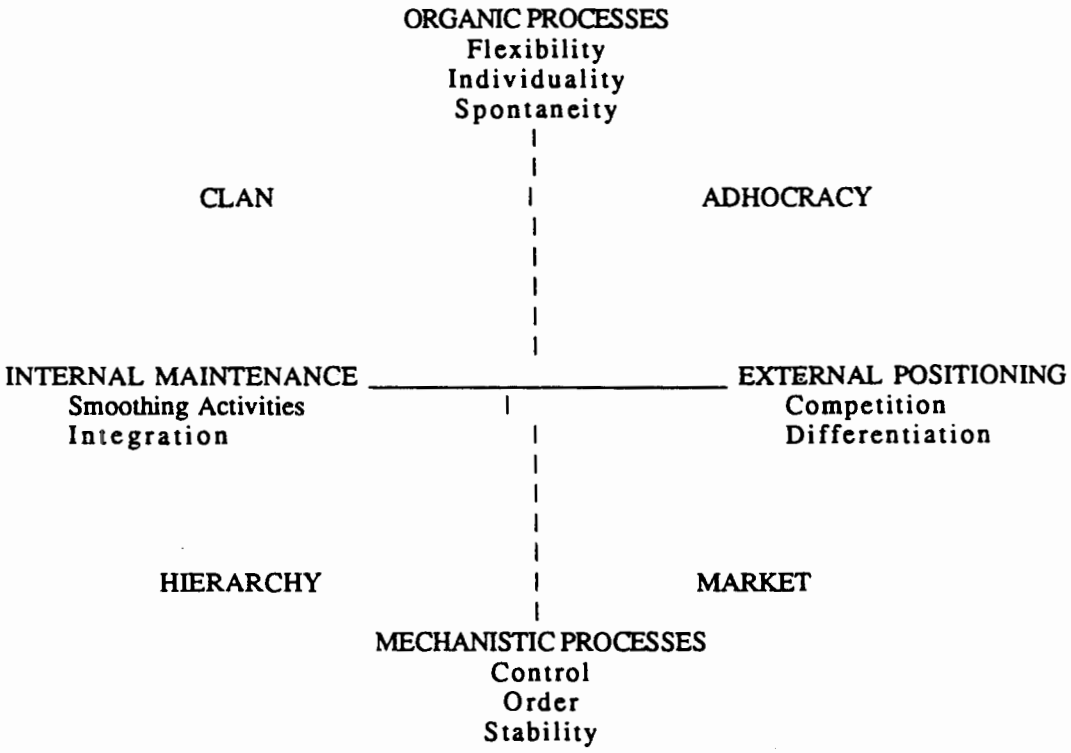

Figure 1. A Model of Culture Types for Organizations

They form the basis, therefore, of a typology of organizational cultures. Because cultures are defined by the values, assumptions, and interpretations of organization members, and because a common set of dimensions organizes these factors on both psychological and organizational levels, a model of culture types can be derived. Just as four psychological archetypes exist using the Jungian framework (Mitroff & Kilmann, 1976), so do four organizational culture types exist using the competing values model. Figure 1 summarizes the four culture types.

The usefulness of a typology of cultural attributes is its ability to empirically examine the extent to which elements of a culture are congruent. For example, if different attributes of a culture fall within the same quadrant (or culture type), this provides evidence of cultural congruence. Identifying a typology of cultures also makes it possible to determine if organizations are dominated by one type or have attributes of several types. Authors have hypothesized that strength of culture and congruence or fit among its elements leads to smooth functioning and an absence of conflict (Quinn & McGrath, 1984), and to high effectiveness and excellence (Deal & Kennedy, 1982; Peters & Waterman, 1982; Sathe, 1983). Theories of congruence have thus been espoused by several authors.

CULTURAL CONGRUENCE AND STRENGTH

Figure 2 identifies some major characteristics of each of the four culture types that appear in the literature. Specifically, the work of Mason and Mitroff (1973), Mitroff and Kilmann (1975), Deal and Kennedy (1982), Quinn and Cameron (1983), Quinn and Hall (1983), Sathe (1983), Smircich (1983), Wilkins and Ouchi (1983), Lundberg (1984), Quinn and McGrath (1984), Cameron (1988), and Quinn (1988) was used to identify key attributes that represent congruence or fit within each culture.

Congruence is defined here as consistency among organizational systems and components. It is congruence within a culture, rather than homogeneity among organizational subcultures or agreement among organizational respondents. Four sets of attributes were chosen: (1) the dominant characteristics or values, (2) the dominant style of leadership, (3) the bases for bonding or coupling, and (4) the strategic emphases present in the organization. These domains were selected for consideration because of their centrality in the literature on organizational culture (see Cameron & Ettington, 1988). They are not intended to be comprehensive in scope, but represent core attributes of different forms of organizational culture.

Specifically, each culture type is characterized by a particular style of leadership that reinforces and shares its values. The research of Mitroff and Kilmann (1975, 1976) for example, found that certain types of managers are reinforced by and share the values of certain types of organizations. Quinn (1984) hypothesized a fit between leader style and culture type in a review of the leadership literature. In brief, he proposed that the coordinator, organizer, and administrator roles are most consistent with the characteristics of the hierarchy culture. The opposite type of leader, the entrepreneur, innovator, or risk taker is most consistent with the adhocracy form because this culture emphasizes change and growth. A leader style that emphasizes decisiveness, production, and achievement fits best with the market form, whereas the clan is consistent with a participative mentor, facilitator and parent-figure style. Other authors also have hypothesized that the presence of the appropriate leadership style in a particular organization leads to low conflict and strain as well as high productivity and efficiency (Fiedler, 1977; Hershey & Blanchard, 1977). Therefore, one indication of a congruent culture is the fit between leader style and the dominant attributes of the culture. Incongruent cultures are characterized by a lack of fit between leader style and dominant cultural attributes.

Other cultural characteristics shown in Figure 2 refer to the nature of bonding or coupling in each culture and the strategic emphases that characterize the pursuit of effectiveness (Denison, 1984). Bonding or coupling mechanisms refer to the set of shared, underlying values and understandings that characterize the organization and act as a "glue" for members (Schein,

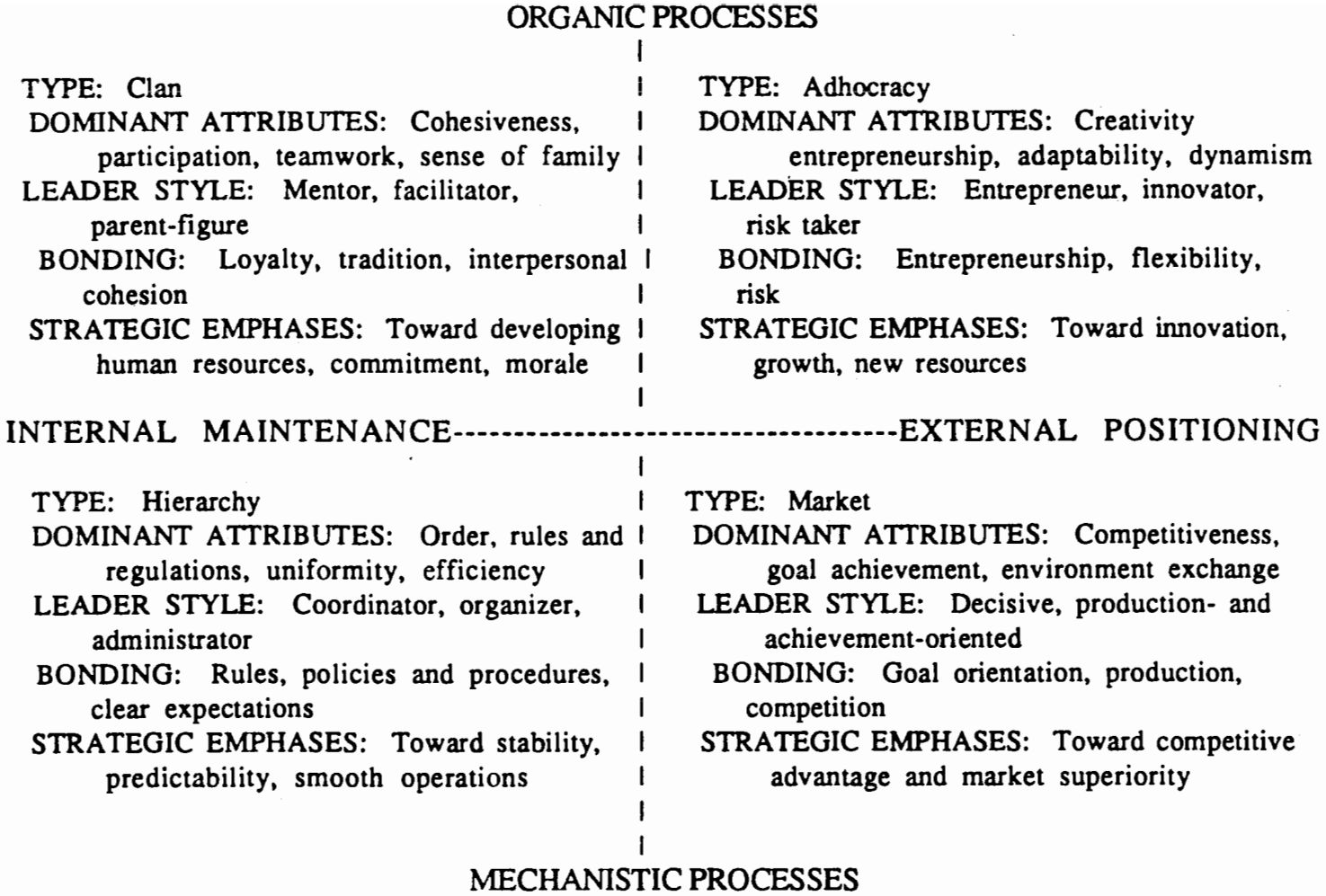

Figure 2. A Model of Cultural Congruence for Organizations

1985). Strategic emphases are the general approaches or orientations used to achieve organizational effectiveness (Miles & Cameron, 1982). They do not refer to a specific strategy or sequence of decisions made by top managers (Mintzberg, 1983; Porter, 1980).

Bonding occurs in hierarchies because of rules, policies, and procedures, and clear expectations and assignments. This contrasts with the bonding in adhocracies, which emphasizes a shared commitment to entrepreneurship, flexibility, and risk. Bonding in markets is based on goal orientation, production, and competition, whereas in clans the bonding occurs because of loyalty, tradition, and interpersonal cohesion (Cameron, 1988; Quinn, 1988). Strategic emphases in hierarchies focus mainly on achieving stability, predictability, and smooth operations; in adhocracies, on innovating, growing, and acquiring new resources; in markets, on achieving competitive advantage and market superiority; and in clans on developing human resources and maintaining high commitment and morale (Cameron & Whetton, 1983; Miles & Snow, 1978; Quinn and Cameron, 1983).

Cultural congruence is present in an organization when the dominant characteristics, leadership style, organizational glue, and strategic emphases all are consistent with one another; for example, they may all be indicative of a clan culture type. Incongruent cultures are indicated when these attributes of culture are not consistent with a single type of culture.

The strength of a culture is indicated by the dominance of certain cultural attributes within each quadrant. "Strength" applies to the dominance of a given type within congruent cultures. That is, it is possible to have a weak congruent culture, but is not possible to have a strong incongruent culture.

In sum, many authors have assumed that both congruence and strength among these major elements of organizational culture are associated with effective organizational performance. No empirical studies have confirmed these assumptions in a large sample of organizations, however, since their investigation depends on identifying a typology of cultures around which different attributes cluster. A major purpose of this study is to investigate these assumptions empirically. Specifically, two research questions form the basis of this study:

1. Are organizations with congruent cultures more effective than those with incongruent cultures?
2. Is a strong culture more effective than a weak culture?

METHODOLOGY

Culture is often difficult to identify because shared assumptions and values go unnoticed unless they are challenged. Many researchers have tried to assess

culture by observing patterns of behavior, listening to organizational stories and myths, or conducting in-depth interviews (see Schein, 1985; Wilkins, 1983). The main drawback of these methodologies is that only a very limited number of organizations can be included in an investigation. Time and expense constrain the sample size. On the other hand, as one turns to other methods to include more organizations in an assessment of culture, one sacrifices depth and richness in favor of breadth. The investigation of cultural congruence and strength demands the examination of more than a single case study inasmuch as the hypothesized relationship is a comparative one, untestable unless the performance of multiple organizations can be compared. It was decided in this study, therefore, to try to assess a large number of organizations, and to sacrifice analytic depth for comparative breadth. (This choice is similar to that made in other assessments of culture via questionnaires by Ouchi and Johnson [1978], O'Reilly [1983], Meyer [1982], and Denison [1984].)

Because culture is defined by underlying values and assumptions, individuals have a difficult time identifying or articulating them without some stimulus. The old proverb, "Fish discover water last" illustrates the problem of trying to assess culture among those immersed in it. Hence, qualitative methodologies such as analyzing organizational stories or myths are often used to assess culture (Bate, 1984; Martin et al., 1983; Trice & Beyer, 1984; Wilkins, 1983). A key ingredient in these methods, however, is the requirement for the researcher to provide a stimulus to organization members which encourages them to interpret their organization's culture. This stimulation can be in the form of requests for stories and jokes, probing interview questions, or scenarios on a questionnaire. In this study we used a scenario methodology in order to obtain data on a large sample of organizations. We describe this process in more detail in the next section.

Sample

Three hundred thirty-four colleges and universities in the United States were selected for inclusion in this study based on three control variables: enrollment size (between 200 and 20,000 full-time equivalent studies), institutional control (public or private), and the presence of graduate programs (bachelors, masters, and doctorate). These control variables were selected because they are often the basis for classifying different types of institutions (see Carnegie Commission on Higher Education, 1976; Huff & Chandler, 1970; Makowski & Wulfsberg, 1982). This sample of 334 is representative of the entire population of four-year higher education institutions in America relative to the three control variables. Public institutions constituted 38 percent of the sample ($n = 127$), private schools made up 62 percent ($n = 207$). Using the NCHEMS classification system (Makowski & Wulfsberg, 1982), twenty-nine (9 percent) of the schools are major doctoral, 127 (38 percent) are comprehensive schools,

157 (47 percent) are four-year liberal arts institutions, and 21 (6 percent) are specialized schools (i.e., business, health or military). One hundred eighty schools (54 percent) were classified as small (200 to 2,500 full-time equivalent students), 120 (36 percent) were medium in size (2,500 to 10,000 FTE), and 34 (10 percent) were large (10,000 to 20,000 FTE).

At each of the 334 schools, individuals were identified who could provide an overall institutional perspective, that is, who had a view of the overall institution's culture. These respondents constitute the dominant internal coalition for each institution and consist of presidents; chief academic, finance, student affairs, external affairs, and institutional research officers; selected faculty department heads; and selected members of the board of trustees. The number of respondents contacted at each institution ranged from 12 to 20. (The modal number of respondents contacted per institution was 18—six administrators, six faculty department heads, and six trustees. Six of each were sought to be able to break responses down by type of respondent, allowing for non-response.) In all, 3,406 individuals participated in the study (55 percent of the total receiving a questionnaire)—1,317 administrations, (39 percent of the sample), 1,162 faculty department heads (34 percent of the sample), and 927 trustees (27 percent of the sample).

Assessing Culture and Other Variables

A questionnaire was mailed to each respondent. Because anonymity was promised to both respondents and institutions, no names of institutions are used in this paper. All questions addressed the organizational level of analysis and asked respondents to rate the extent to which certain characteristics were present at their schools. Specifically, questions assessed organizational effectiveness on nine dimensions; various structural, strategic, decision making, and environmental dimensions; and four components of culture listed in Figure 2.[1] Table 1 lists the dimensions of organizational effectiveness that were assessed.

Brief scenarios were constructed to describe the dominant characteristics of each of the four culture types. Table 2 contains the scenarios. All four culture types were presented as alternatives in each question. Respondents divided 100 points among the four scenarios in the questions, depending on how similar they thought each scenario was to their own organization. This approach gave respondents the opportunity to indicate both the type of culture(s) that characterized the organization and the strength of the culture (i.e., the more points given, the stronger, or more dominant, the culture type). The rationale for this type of question is that underlying assumptions related to organizational culture are more likely to emerge from questions that ask respondents to react to already-constructed descriptions of organizations than from questions asking respondents to generate the descriptions themselves

Table 1. Dimensions of Organizational Effectiveness

1. Student educational satisfaction
2. Student academic development
3. Student career development
4. Student personal development
5. Faculty and administrator employment satisfaction
6. Professional interaction
7. System openness and community interaction
8. Ability to acquire resources
9. Organizational health

Source: Adapted from Cameron (1978, 1986).

(Beck & Moore, 1985; Martin & Powers, 1983). The questions were intended to serve as mirrors, where respondents rated the familiarity of each different reflection.[2]

As shown in Table 2, one question assessed the institution's general cultural characteristics, a second assessed leader style, a third assessed institutional bonding, and a fourth assessed strategic emphases. When respondents gave the highest number of points on each of the four questions to cultural attributes representing the same quadrant of Figure 2, the culture was labeled congruent. For example, if a respondent gave the most points to the scenario indicating a clan type culture, identified the leader as a facilitator or mentor, indicated that bonding occurred on the basis of loyalty, and that strategic emphases focus on human resources (all upper left quadrant attributes), then the organization was identified as having a congruent culture.

On the other hand, it was also possible to identify incongruent cultures when the highest number of points given to each question/cultural attribute represented a different quadrant. For example, incongruence would be present when a clan (upper left) was led by an entrepreneur (upper right), bonded together by formal rules (lower left), and strategically emphasized competitive actions (lower right). Different amounts of congruence were represented by having two or three of the quadrants receive the highest number of points, so that a continuum of congruence could be derived from the instrument, ranging from complete incongruence (a different quadrant was dominant in each question) to complete congruence of the culture (the same quadrant was dominant in each of the four questions).

In addition, it was possible to determine the strength of the culture based on the number of points given to the attributes. When respondents gave, say, 70 points to an attribute rather than, say, 40 points, that attribute was considered to be stronger, or more dominant, in the culture.

Type of culture was also determined from the responses by examining organizations with congruent cultures and determining which of the four types of culture was dominant (based on Figure 2). A clan culture was indicated

Table 2. Questions that Assessed Four Types of Cultures in Institutions

These questions relate to the type of organization that your institution is most like. Each of these items contains four descriptions of institutions of higher education. Please distribute 100 points among the four descriptions depending on how *similar* the description is to your school. None of the descriptions is any better than the others; they are just different. *For each question, please use all 100 points.*

FOR EXAMPLE:
In question 1, if institution A seems very similar to mine, B seems somewhat similar, and C and D do not seem similar at all, I might give 70 points to A and the remaining 30 points to B.

1. Institutional Characteristics (Please distribute 100 points)

_____ points for A — Institution A is a very **personal** place. It is like an extended family. People see to share a lot of themselves.	_____ points for B — Institution B is a very **dynamic** and entrepreneurial place. People are willing to stick their necks out and take risks.
_____ points for C — Institution C is a very **formalized and structured** place. Bureaucratic procedures generally govern what people do.	_____ points for D — Institution D is very **production oriented.** A major concern is with getting the job done. People aren't very personally involved.

2. Institutional Leader (Please distribute 100 points)

_____ points for A — The head of institution A is generally considered to be a **mentor,** a **sage,** or a **father** or **mother figure**.	_____ points for B — The head of institution B is generally considered to be an **entrepreneur**, an **innovator**, or a **risk taker**.
_____ points for C — The head of institution C is generally considered to be a **coordinator**, an **organizer**, or an **administrator**.	_____ points for D — The head of institution D is generally considered to be a **producer**, a **technician**, or a **hard-driver**.

3. Institutional "Glue" (Please distribute 100 points)

_____ points for A — The glue that holds institution A together is **loyalty and tradition.** Commitment to this school runs high.

_____ points for B — The glue that holds institution B together is a **commitment to innovation and development**. There is an emphasis on being first.

_____ points for C — The glue that holds institution C together is **formal rules and policies.** Maintaining a smooth-running institution is important here.

_____ points for D — The glue that holds institution D together is the emphasis on **tasks and goal accomplishment.** A production orientation is commonly shared.

4. Institutional Emphases (Please distribute 100 points)

_____ points for A — Institution A emphasizes **human resources.** High cohesion and morale in the school are important.

_____ points for B — Institution B emphasizes **growth** and **acquiring new resources.** Readiness to meet new challenges is important.

_____ points for C — Institution C emphasizes **permanence and stability.** Efficient, smooth operations are important.

_____ points for D — Institution D emphasizes **competitive actions and achievement.** Measurable goals are important.

by congruence among the four attributes in the upper left quadrant (i.e., a personal place; led by a mentor, facilitator or parent-figure; bonded together by loyalty and tradition; emphasizing human resources). An adhocracy was indicated by congruence among the four attributes in the upper right quadrant (i.e., a dynamic, entrepreneurial place; led by an entrepreneur or innovator; held together by a commitment to innovation and development; emphasizing growth and acquisition of new resources). A hierarchy was indicated by congruence in the lower left quadrant (i.e., a formalized, structured place; led by a coordinator or organizer; held together by formal rules and policies; emphasizing stability). A market was indicated by congruence in the lower right quadrant (i.e., a production-oriented place; led by a hard driver or producer; held together by an emphasis on task and goal accomplishment; emphasizing competitive actions and achievement).

The effectiveness of these institutions was assessed using the nine dimensions of organizational effectiveness developed by Cameron (1978, 1981, 1986). These dimensions have been found to be both valid and reliable indicators of effectiveness in colleges and universities. The nine dimensions are listed in Table 1, and are explained in detail in the references noted above.

Analyses

Data analyses focused first on identifying which institutions possessed congruent cultures, the strength of those cultures, and the types of cultures present in the organizations. This was done by averaging the points given by respondents to each attribute in each institution. An organization score was produced for each attribute in each culture type (e.g., a leader style score was produced for each of the four cultural types). Second, the psychometric properties of the nine effectiveness dimensions were investigated to determine their reliability and validity. Institutional effectiveness scores were computed by averaging all respondents' scores in each school on each of the nine dimensions. Analysis of variance was then used to compare the organizational effectiveness of congruent and incongruent cultures, strong and weak cultures, and the different types of cultures. Other organizational characteristics such as structure and strategy also were compared among the various groups using ANOVA. Finally, discriminant analyses were conducted to determine on what organizational characteristics the various institution groups different from one another. The results of these analyses are presented in the following section.

RESULTS

Identification of Cultures

Table 3 presents a summary of the descriptive data analyses. No institution was characterized totally by only one culture (i.e., none gave all 100 points

Table 3. Description of the Cultures of 334 Colleges and Universities

Number of Congruent Quadrants	*Number of Organizations*
4	47
4 with ties	11
3	124
3 with ties	55
2	66
1	32

Type of Culture	*Congruent*	*Incongruent*	*Strong Culture*
Clan	24		21
Adhocracy	9		4
Hierarchy	12		3
Market	1		0
Total	47	32	28

to the same quadrant on all questions), but dominant cultures were clearly evident in some of the schools. For example, 47 institutions (14 percent) were classified as having congruent cultures, with 11 more added (3 percent) if tie scores were included. (That is, 11 organizations gave equal points to at least two different quadrants, one of which was the congruent quadrant.) Thirty-two organizations (10 percent) had completely incongruent cultures. The largest number of organizations (124, or 37 percent) had congruence in three of the attributes, with 55 more added (16 percent) if those with one tie were included. Sixty-six organizations (20 percent) were congruent in only two of the quadrants.

In comparisons of congruent and incongruent cultures, the 47 completely congruent organizations (no ties) were used along with the 32 organizations with completely incongruent cultures. Organizations with mixed congruence were not used in these comparisons.

Clans were the most numerous type of culture among the congruent cultures present in the sample. Twenty-five of the organizations were clans (53 percent of the congruent cultures), 9 were adhocracies (19 percent), 12 were hierarchies (26 percent), and only 1 was a market. Strong culture was defined by at least 50 points (a majority) being given to a particular attribute. If an organization was a congruent clan, for example, and all four of the clan attributes received at least 50 points, it was classified as a strong culture. Twenty-eight of the congruent organizations (57 percent) had strong cultures—21 were clans, 4 were adhocracies, and 3 were hierarchies.

Comparisons Among Cultures

Mean scores on each of the effectiveness dimensions were computed for each institution, and comparisons were made between congruent and incongruent

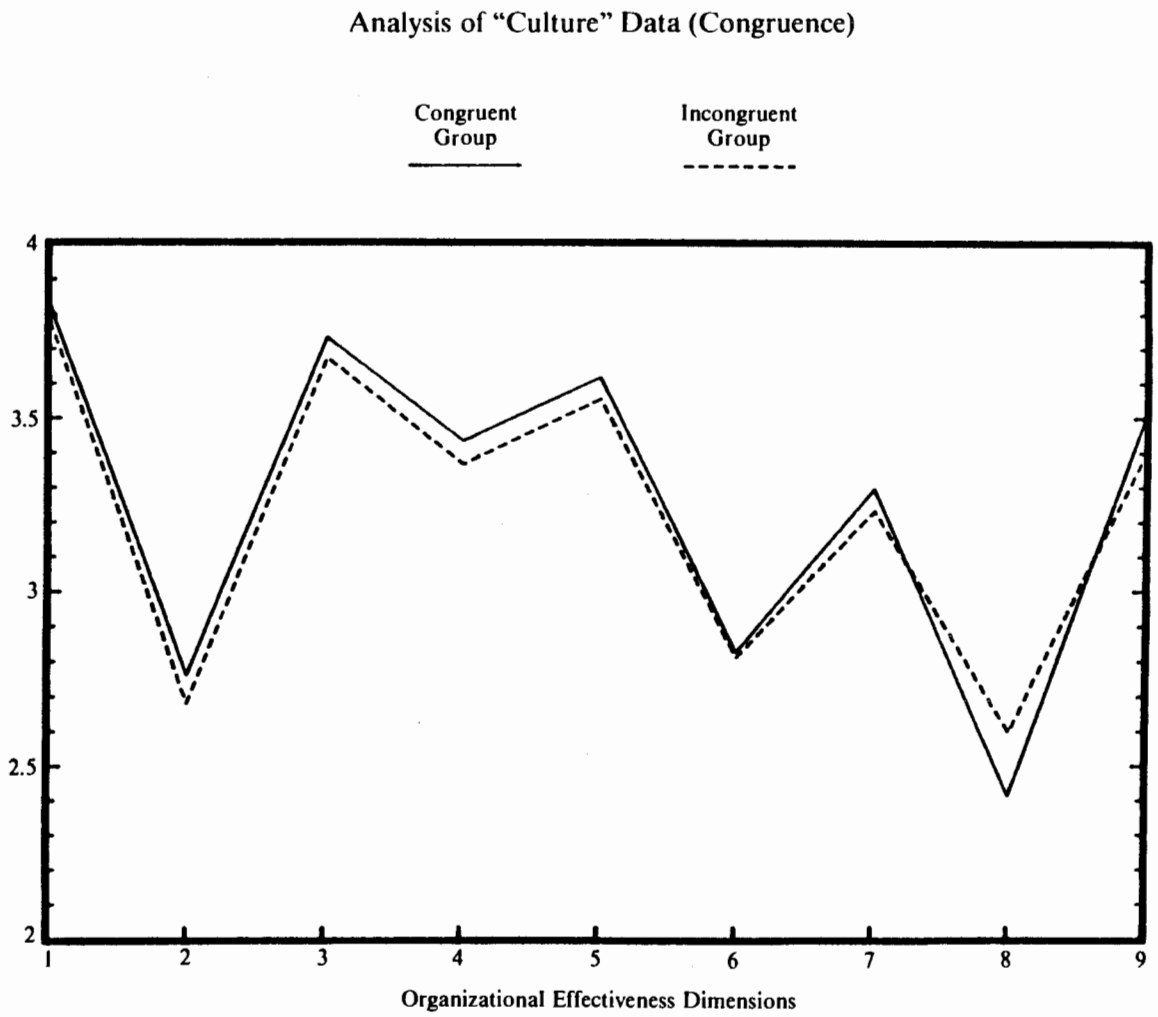

Figure 3. A Comparison of Congruent and Incongruent Cultures

cultures using analysis of variance. Figure 3 reports the results. No significant differences were found between the means of organizations possessing congruent cultures and those possessing incongruent cultures on any dimension of effectiveness. The hypothesized relationship between effectiveness and congruence of culture proposed by various authors was not supported in these organizations.

Using five different levels of congruence provides a more fine-grained comparison, but ANOVA again failed to support the congruence hypothesis. Figure 4 plots the mean effectiveness scores for institutions possessing five levels of cultural congruence, ranging from high congruence (4 congruent attributes) to very low congruence (no congruent attributes). Only on dimension 4 (Student personal development) does a significant difference appear, but here it is the institutions with moderately high congruence (three congruent attributes including ties) that scored significantly higher than the incongruent (very low) organizations ($p < .05$). Institutions with highly congruent cultures scored the same as those with low congruence. Again, the congruence model is not supported by these more refined comparisons.

Some authors have argued that culture "strength" is a more powerful attribute of organizational culture than congruence (Arnold & Capella, 1985; Ashforth, 1985; Deal & Kennedy, 1982). Therefore, comparisons also were made between strong and weak cultures. As shown in Figure 5, no significant differences exist between institutions with strong cultures (i.e., 50 or more points given to congruent attributes) and those with weak cultures. Aggregating across culture types, however, may mask important differences between weak and strong cultures, so comparisons were also made after breaking out each type of culture separately. These comparisons resulted in mixed but interesting findings.

Figure 6 plots the mean scores of the strong clan, adhocracy, and hierarchy cultures on the organizational effectiveness dimensions along with those of the incongruent weak cultures. (No strong market culture existed in this sample.) Analysis of variance revealed that significant differences exist among the means of the groups on four dimensions of effectiveness. Strong clan cultures scored significantly higher ($p < .05$) than incongruent weak cultures on three of the nine dimensions, but strength was not a factor in comparing the other two culture types to weak cultures. That is, strong clan cultures were more effective than incongruent weak cultures on dimensions (4) Student personal development, (5) Faculty and administrator employment satisfaction, and (9) Organizational health, but no significant differences existed in pairwise contrasts between adhocracies and weak cultures on these dimensions. Moreover, strong hierarchy cultures scored lower than the other groups on every dimension except one. It appears, from this comparison, that observed differences in effectiveness were due to the type of culture present (i.e., clan) as opposed to the strength of the culture.

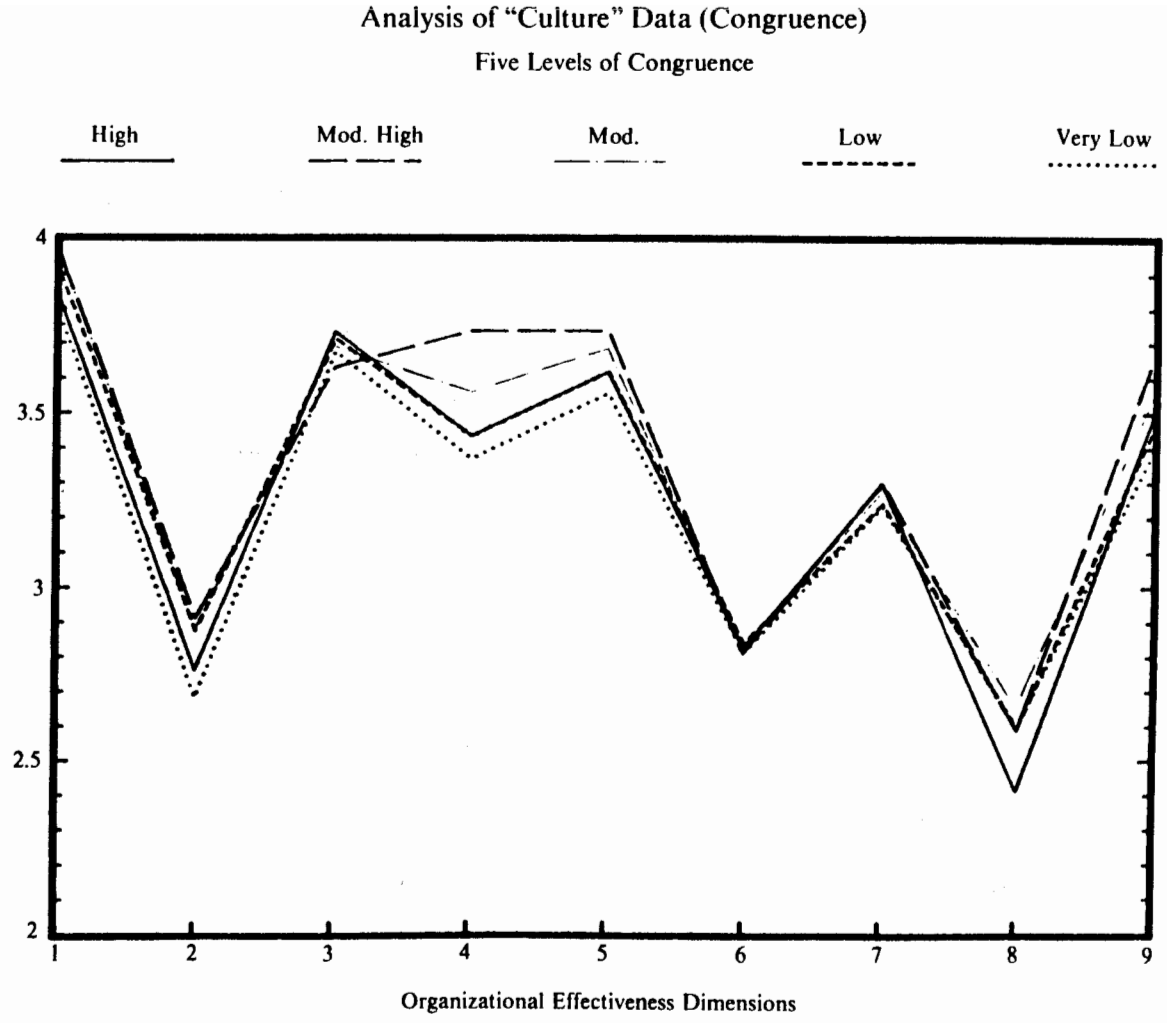

Figure 4. A Comparison of Five Levels of Cultural Congruence

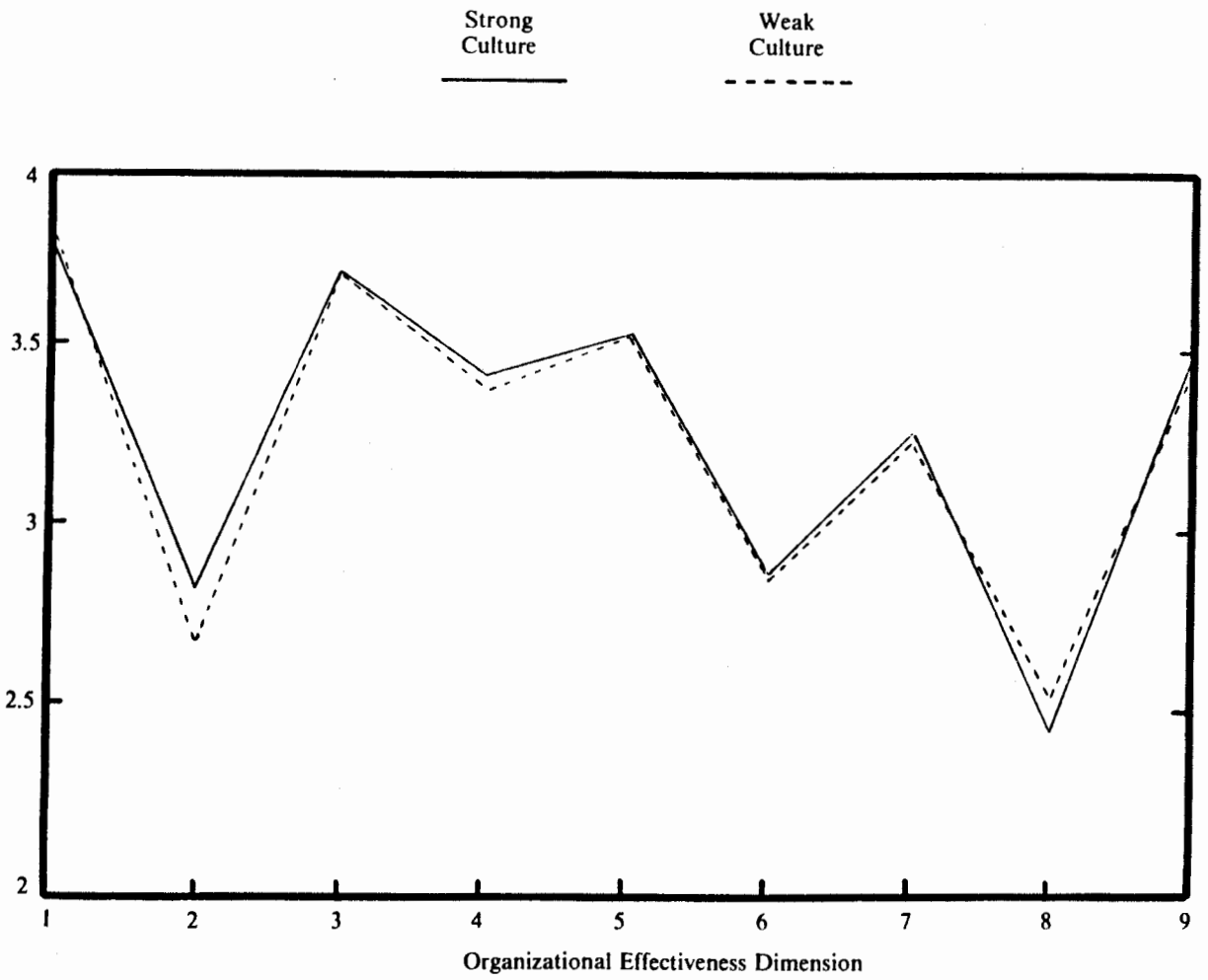

Figure 5. Comparisons Between Strong Cultures and Weak Cultures

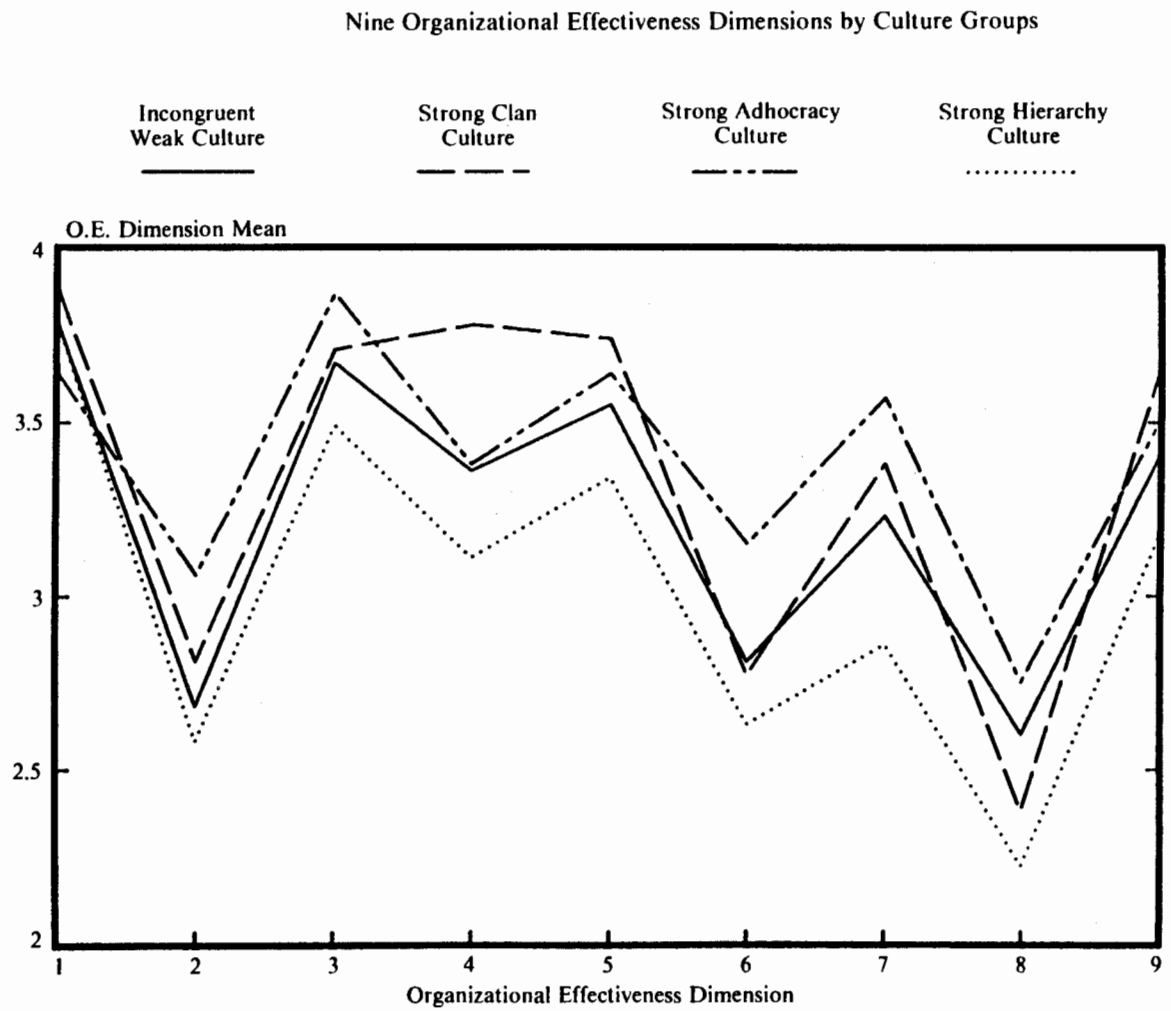

Figure 6. Comparisons Among Three Types of Strong Cultures and Weak Culture

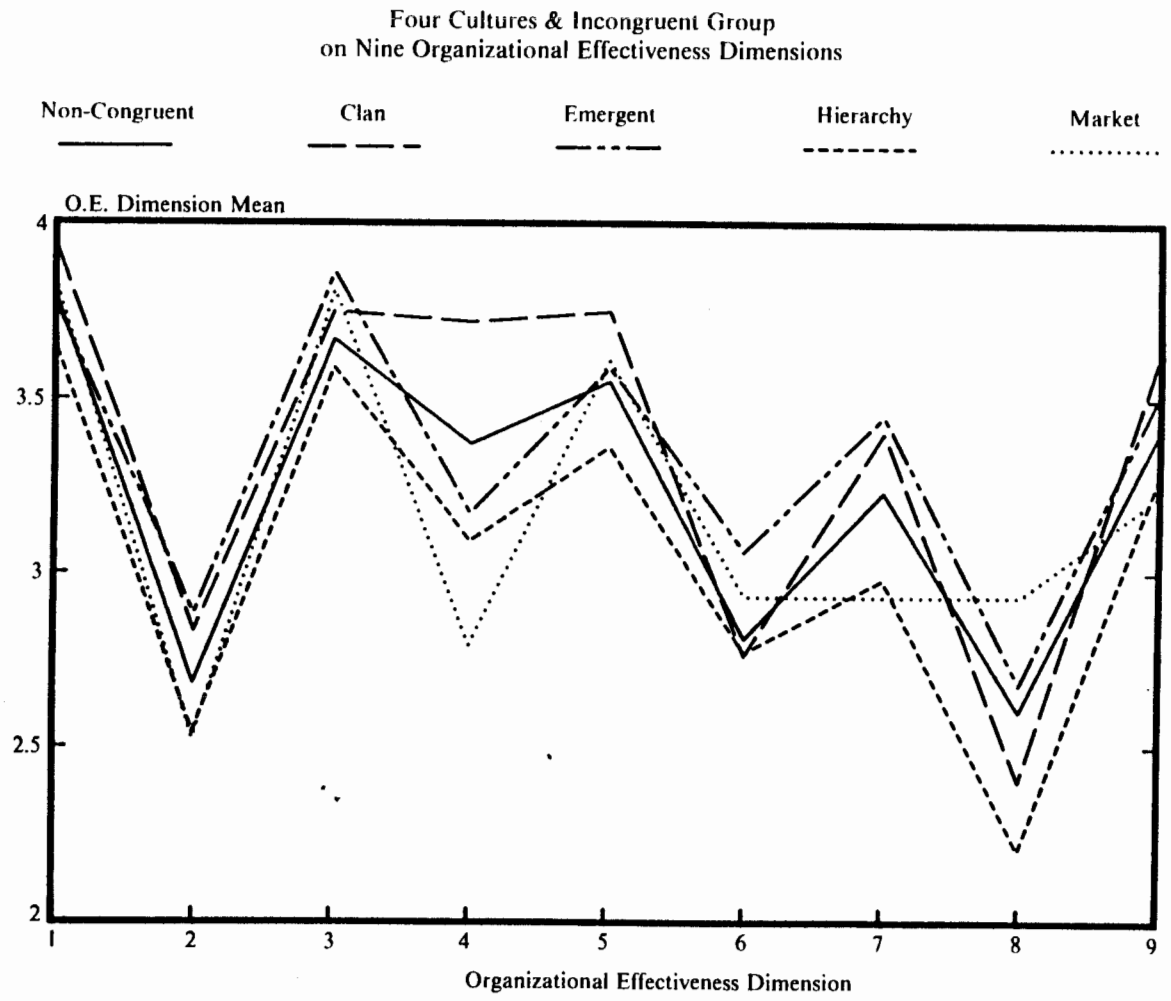

Figure 7. Comparisons Among Four Types of Cultures and Incongruent Culture

To investigate this proposition—that type is a more important attribute of culture than strength—comparisons on the nine dimensions of effectiveness were made among the four types of culture—clan, adhocracy, hierarchy and market—along with incongruent cultures. Figure 7 presents a plot of the mean effectiveness scores for the five groups. (Note that institutions classified as one of the four types of cultures in Figure 7 all had congruent cultures, but not necessarily strong cultures.)

Analysis of variance revealed significant differences among the groups' mean effectiveness scores on five of the nine dimensions. Clan cultures scored highest on four of the dimensions, adhocracy cultures scored highest on four of the nine dimensions, and the market culture scored highest on the remaining dimension. On no dimension did the incongruent group score lowest. At least one congruent culture group scored lowest on each of the effectiveness dimensions.

Post hoc pairwise contrasts revealed that clans scored significantly higher on dimension 4 (Student personal development) than the other three congruent cultures but not the incongruent cultures. On dimension 5 (Faculty and administrator employment satisfaction) clans scored significantly higher than hierarchies but not the incongruent group. Clans and adhocracies scored significantly higher than hierarchies and markets on dimension 7 (System openness and community interaction) but not significantly higher than the incongruent group. On dimension 8 (Ability to acquire resources) markets and incongruent cultures scored significantly higher than hierarchies. And on dimension 9 (Organizational health) clans scored significantly higher than all groups except adhocracies.

What these results point out is that cultural congruence and cultural strength did not predict higher effectiveness in these organizations. Rather, the type of culture present had a much stronger association with effectiveness on certain dimensions than did the other two attributes of culture. In fact, the most interesting finding in these ANOVAs is the consistency between the dimensions of effectiveness on which the various cultures scored highest and their primary attributes.

Effectiveness Domain and Culture Type

Past research has found that the nine dimensions of effectiveness used in this study are associated with three major domains of activity in colleges and universities (see Cameron, 1981). They are the academic domain, the morale domain, and the external adaptation domain. Each of the nine dimensions of effectiveness assessed falls into one of these three domains. Table 4 shows the domains with which each effectiveness dimension is associated and matches each dimension and domain with the culture that scored highest.

Table 4. A Summary of Which Culture Scored Highest on Each Dimension of Organizational Effectiveness

Dimension of Effectiveness	*Domain (Cameron, 1981)*	*Culture Scoring Highest**
1. Student educational satisfaction	Morale	Clan
2. Student academic development	Academic	Adhocracy
3. Student career development	External Adaptation	Adhocracy
4. Student personal development	Morale	Clan
5. Faculty and administrator employment satisfaction	Morale	Clan
6. Professional development and quality of the faculty	Academic	Adhocracy
7. System openness and community interaction	External Adaptation	Adhocracy
8. Ability to acquire resources	Academic	Market
9. Organizational health	Morale	Clan

Note: * The highest scoring culture was significantly higher ($p < .05$) than at least one other culture on each dimension of effectiveness.

Table 4 reveals that clans scored highest on the four dimensions associated with the morale domain in colleges and universities. This is consistent with the attributes of the clan culture, with its emphasis on participativeness, consensus and cohesion. The adhocracy culture, with its emphasis on innovation, creativity and entrepreneurship, scored highest on the two dimensions comprising the external adaptation domain (i.e., flexibility and adaptability seem to be strong attributes of adhocracies, so this type of culture may be expected to be effective in the external adaptation domain), and on two dimensions comprising the academic domain. That is, institutions with adhocracy cultures scored higher than other types of cultures on Student academic development and on Professional development and quality of the faculty. These two dimensions are also consistent with the emphases present in an adhocracy—freedom and individual discretion, creativity, growth and development—all of which form the core of the values of scholarship and academics. The market culture scored highest on the Ability to acquire resources, which, again, is consistent with the criterion of market organizations. With an emphasis on competitive actions and achievements, and an orientation toward external (rather than internal) resources, it is not surprising that the market culture was most effective in acquiring resources

from the environment. (Adhocracies scored second highest, also consistent with expectations.)

These analyses reveal, then, that the effectiveness of institutions is more closely associated with the type of culture present than with the internal congruence or strength of that culture. The major attributes and emphases of a culture tend to be associated with high effectiveness in comparable domains. For example, clans are more highly effective in human resource areas than are hierarchies. While this is not surprising, it is nevertheless enlightening in view of the emphasis on strength and congruence in the culture literature up to now (e.g., Ashforth, 1985; Deal & Kennedy, 1982).

DISCRIMINATING AMONG CULTURES

Although culture type appears to be more influential than strength or congruence in accounting for effectiveness, it has not been included as a variable in past culture literature. Moreover, some skepticism about the validity of the culture types model may persist among some readers because the model has a conceptual, rather than an empirical, foundation. The competing values model, upon which these culture types are based, has not been applied to organizational culture nor has it been tested empirically. Therefore, we conducted follow-up analyses to examine what other organizational attributes were associated with culture types. These analyses were designed to determine if culture type was a strong enough variable to distinguish among other organizational attributes. That is, if culture type has legitimacy as a variable, it would be expected that other organizational attributes such as structure, decision making processes, strategy, and so on, would be manifested differently in each culture type. Discriminating power would lend support to the importance of culture type in organizational analysis, whereas low discriminating ability would suggest that culture type is not an important variable. The organizational attributes assessed are listed in Note 1.

Discriminant analyses were performed first between institutions with congruent cultures and those with incongruent cultures. Then discriminations were made among the four types of cultures. Because degrees of freedom limitations prohibited including all variables in a single analysis, separate stepwise discriminations were run for the environmental variables, the structure and process variables, the decision-making variables, and the effectiveness dimensions. The most powerful discriminators from each of these groups of variables were then combined into a final discriminant run, making the resulting discriminating variables the most powerful in separating the groups.

Table 5 presents the results of the discriminant analysis between the institutions with congruent cultures and those with incongruent cultures. Consistent with results reported above, major differences do not exist between

Table 5. Most Powerful Discriminators Between the Congruent and the Incongruent Groups

Eigenvalue	*Canonical Correlation*	*Wilks' Lambda*	*Chi Square*	*D.F.*	*Significance*
.869	.682	.535	44.702	11	.0000

Variables	*Discriminant Coefficients*	*Correlation with Discriminant Score*
Neglected long-term planning	-.282	-.223**
High leader credibility	-.642	-.230**
Boundary spanning activity	.470	.377***
Bureaucratic decision making	-.621	-.261**
Rational decision making	.715	-.098
Organized anarchy decision making	-.628	-.087
Bureaucratic decision making	.533	.071
Autocratic decision making	.515	.460***
Political decision making	-.343	-.259**
Student Academic Development	-.642	-.129
Ability to Acquire Resources	1.056	.317***

Groups	*Centroid*	*Percent Correctly Classified*
Incongruent cultures	1.115	84.8
Congruent cultures	-.759	

Notes: * $p < .05$
** $p < .01$
*** $p < .001$

the congruent and incongruent groups. Seven variables significantly discriminate between them, but the discriminant functions are neither strong nor easily interpreted. Institutions with congruent cultures are characterized by a lack of long-term planning, high leader credibility, and decision making that is both bureaucratic and political.

These characteristics are somewhat paradoxical in that leaders are highly respected and have high credibility with institution members, but at the same time the decision-making process relies on coalitions, power, and formalized rules (the opposite of relying on leader respect and credibility). Political and bureaucratic decision making are generally required when leadership is neither strong nor respected. Yet these apparently contradictory attributes exist simultaneously with highly credible leaders in organizations with congruent cultures.

Institutions with incongruent cultures are characterized by autocratic decision making, an increase in boundary spanning activities, and effectiveness in acquiring needed resources. A paradox also is present in these characteristics. While institutions with incongruent cultures are expanding linkages with external constituencies, they also are maintaining a tight lock on internal decision making. There seem to be both expansion and contraction at the same time. The discriminant functions are difficult to interpret for these two groups, but this is consistent with our earlier observation that congruent and incongruent cultures do not perform in significantly different ways. The differences between the two groups based on organizational attributes are not intuitively obvious or easily explained.

On the other hand, the discriminant analyses conducted on the four different types of cultures—clans, adhocracies, hierarchies and markets—uncovered differences that are stronger and more interpretable. Table 6 summarizes the results of three significant discriminant functions. Note that 100 percent of the institutions can be classified correctly in the appropriate culture by knowing their scores on the organizational attributes, indicating that the variables are very powerful discriminators, and that the cultures are quite different from one another in their characteristics.

The first discriminant function separates the top two cultures (clans and adhocracies) from the bottom two cultures (hierarchies and markets). That is, the function discriminates along the horizontal axis of Figure 2. Clans and adhocracies are characterized by a strong saga, innovation, high morale, boundary spanning activities, collegial decision making, high quality leaders, and effectiveness in student personal development and system openness. In brief, these cultures are characterized by a strong sense of mission and operate like a family, with high cohesion and collegiality. They also are proactive and expansive in their strategies. Hierarchies and markets, in contrast, are characterized by a lack of slack resources, that is, by tightness and efficiency. In general, this discriminant function separates organic-type institutions from

Table 6. The Most Powerful Discriminators Among the Four Organizational Cultures

Function	*Eigenvalue*	*Canonical Correlation*	*Wilks' Lambda*	*Chi Square*	*D.F.*	*Significance*
1	8.999	.949	.013	157.760	45	.0000
2	2.994	.866	.133	73.717	28	.0000
3	.887	.686	.530	23.174	13	.0396

	I		*II*		*III*	
Variables	*Discriminant Coefficient*	*Correlation with the Discriminant Score*	*Discriminant Coefficient*	*Correlation with the Discriminant Score*	*Discriminant Coefficient*	*Correlation with the Discriminant Score*
Distinctive purpose (Saga)	.754	.524***	-.558	-.012	-.148	-.171
Mission agreement (Saga)	.057	.449***	.930	.337**	.274	-.142
Increasing innovation	-.413	.438***	-.840	-.447	-.686	.080
Increasing morale	.101	.349**	.289	-.037	.735	.204
Absence of slack	-.386	-.437***	.205	.156	.316	.135
High leader credibility	-.911	.210	-.592	-.193	-1.028	-.291*
Increasing boundary spanning	.524	.586***	.027	-.169	.305	.111
Prospector strategy	.377	.370**	-.304	-.619***	.942	.590***
Increasing administrator quality	.716	.552***	.187	-.074	-.306	.061
Emphasizing revenue initiatives	.364	.414***	-.455	-.459***	-.155	-.054
Anarchy (Decision style)	1.533	.150	.178	.012	-.343	-.171
Collegial (Decision style)	.374	.385***	.548	.302**	-.136	.008
Rational (Decision style)	1.474	.365**	.406	.064	.192	.063
Student Personal Development	.222	.391***	.388	.456***	.086	-.258*
System Openness	.667	.490***	.022	-.031	.010	.031

Group	*Centroid 1*	*Centroid 2*	*Centroid 3*	*Percent Correctly Classified*
Clan Culture	1.617	.949	-.435	
Adhocracy Culture	2.179	-2.565	1.004	100
Hierarchy Culture	-4.513	.499	.534	
Market Culture	-5.873	-6.636	-4.569	

Notes: * $p < .05$ ** $p < .01$ *** $p < .001$

mechanistic-type institutions. Organic schools are likely to have clan cultures or adhocracy cultures, and mechanistic schools are likely to have hierarchy cultures or market cultures. (This is consistent with the description of the different quadrants in Figure 1.)

The second discriminant function separates the cultures along the vertical axis of Figure 2. Clans and hierarchies are separated from adhocracies and markets. Clans and hierarchies are characterized by strong institutional saga and collegiality in decision making. Adhocracies and markets are characterized by proactivity and initiative in their strategies. The division is essentially between institutions emphasizing their own core mission and a status quo orientation (clans and hierarchies), and institutions emphasizing growth and innovation (adhocracies and markets). (This also is consistent with the description of the different quadrants in Figure 1.)

The third discriminant function separates clans and markets from adhocracies and hierarchies. According to the configuration in Figure 2, these groupings put diagonally opposite cultures together. That is, clans and markets are opposites, and adhocracies and hierarchies are opposites in terms of their emphases on the two dimensions in Figure 2. Predictably, the discriminant function is a weak one and contains only three significant variables. Clans and markets are characterized by high leader credibility, and adhocracies and hierarchies are characterized by a prospector strategy and effectiveness in student personal development. The fact that these cultures are opposites explains the difficulty in separating the groups from one another. The prospector strategy is clearly consistent with the adhocracy culture, but it is difficult to find important variables that group these opposite cultures together.

In summary, this discriminant analysis of the four types of culture shows that each culture type has certain organizational characteristics that are consistent with the model shown in Figure 2. Clans are characterized by high cohesion, collegiality in decision making and saga. Adhocracies are characterized by innovation and aggressive strategies, increasing boundary spanning, and initiative. Hierarchies are characterized by absence of slack (tight fiscal control) and leader credibility. Markets are characterized by aggressiveness and prospector strategies.

In addition, the characteristics that the different cultures share with one another are also consistent with the discriminant results. Figure 2 points out that clans and adhocracies share an emphasis on flexibility, while hierarchies and markets emphasize control. The discriminators in the first function are consistent with those emphases. Similarly, clans and hierarchies emphasize internal factors, while adhocracies and markets emphasize external factors. The results of the second discriminant function are consistent with these commonalities. Hence, the discriminant analyses both confirm the relationships portrayed in Figure 2 and provide evidence that culture type is

an important dimension of organizational culture that should be taken into account in future research. Guidelines are suggested in the section that follows.

It is also important to point out at least one factor that did not enter the discriminant function and did not have an important relationship with any culture type. No environmental attribute or dimension was associated uniquely with any of the four cultures. No environmental condition fostered the development and perpetuation of any one culture type more than others. This is contrary to the hypothesis of Wilkins and Ouchi (1983) that clans have a higher performing (i.e., more efficient) culture in turbulent environments than markets or hierarchies. In the organizations studied here, no such relationship emerges and, by implication, one environmental condition is no more likely to foster a particular culture type than any other environmental condition.

SUMMARY AND CONCLUSIONS

This study set out to investigate the relationship between cultural congruence and strength of culture with the effectiveness of organizations. Past literature is filled with propositions that strength and congruence of culture are associated with high levels of effectiveness. Formal models of cultural congruence or "fit" have been proposed for organizations, and, as a result of some recent best-selling management books, it is fashionable to speak with pride about an organization's "strong" culture, equating this with excellence.

In this study, institutions of higher education with highly congruent cultures were compared to those with highly incongruent cultures on nine dimensions of organizational effectiveness. No significant differences were found on any of the dimensions. Moreover, when comparing these two groups of institutions on the basis of other organizational characteristics such as structure, strategy, decision processes, and demographic factors using analysis of variance (not reported above), significant differences exist on only two variables: centralization and boundary spanning activities. Congruent institutions are lower on both variables. What is noteworthy, however, is that no differences exist on the other structural dimensions, institutional strategies, decision-making processes, characteristics of leaders, demographic factors such as size, age and institutional control, or attributes of the external environment. This supports the claim of this study that it is culture (i.e., underlying assumptions and interpretations) that is being assessed, rather than more obvious organizational attributes, and that congruence of culture is not the distinguishing attribute that should dominate future research as it has in the past.

Nor did strength of culture explain the relationship between culture and effectiveness (no significant differences exist between strong cultures and weak cultures relative to effectiveness). In addition, no significant differences were found between institutions with strong cultures and those with weak cultures

on other organizational characteristics such as structure, strategy, environment, and demographics. (These latter analyses also were not reported above but are available from the first author.) The common assumptions about congruence and strength of culture leading to high performance were simply not confirmed.

The study does point out, however, an important, but heretofore neglected, attribute of culture that does have a relationship with effectiveness—culture type. A typology of organizational cultures was described, consisting of four forms—clan, adhocracy, hierarchy and market. It was discovered that all institutions process attributes of several of these cultures (i.e., no institutions were characterized by only one culture type), but several of the institutions had a clearly dominant culture. Of these organizations, clans turned out to be the most frequent type, followed by hierarchies, adhocracies, and markets.

Significant differences on dimensions of organizational effectiveness were present among these four types of cultures. Each culture type was highest in effectiveness in domains of activity that were consistent with their dominant characteristics. The clan culture, for example, was more effective than any other on dimensions relating to morale and human resource concerns. The adhocracy culture was more effective than the other cultures on dimensions relating the external environment and academic quality. The market culture scored highest on the ability to acquire resources from the external environment. The hierarchy culture did not score highest on any of the nine effectiveness dimensions, but that may be because none of the dimensions of effectiveness assesses the efficiency and control functions of the organizations (i.e., those areas emphasized by hierarchies). One implication of these findings is that it may be possible to predict in what area an institution will excel based on the type of culture that it possesses.

The different types of culture also were found to be associated with markedly different organizational traits. Not only did discriminant analyses find groups of variables that significantly discriminated among the cultures, but comparisons among the four cultures using analysis of variance found significant differences on institutional saga, centralization, morale, pluralism, and political decision making, various types of strategies (e.g., diversification, proactivity, expansion), and size. In sum, the most important cultural differences among the institutions in this study were related to type, rather than to strength or congruence.

This suggests at least three implications for managers who are interested in diagnosing and managing their organizations' cultures so as to enhance effectiveness or undertake organizational change. We admit these implications are speculative due to the exploratory nature of the study and the lack of depth in the cultural measurements. Moreover, no causal associations were tested, so attributions of causality cannot be made. On the other hand, findings from this study do make these propositions plausible:

1. *Managers should be sensitive to the variety of cultures that exist in their organizations. Cultural paradoxes frequently exist.* In most organizations, attributes of several cultures are present, some of which may have opposing values and emphases. For example, attributes of a clan and a market may exist in the same organization although these cultures are opposite in emphasis. Different cultures also may characterize different parts of the organization, so sensitivity to subcultures is required of managers. The most important consequence of multiple cultures in organizations, however, is the presence of paradox. Peters and Waterman (1982), Quinn and McGrath (1984) and Cameron (1986b) have pointed out that "the excellent companies have learned to manage paradoxes" (Peters & Waterman, 1982, p. 100). Successful managers should not emphasize cultural congruence so much as they should manage the contradictions and incongruencies in their organizations. Clarity regarding which culture types are present is more important than forcing congruence and consistency.

2. *Managers can use this typology of organizational cultures as a useful diagnostic tool.* Diagnosis using the framework presented in Figure 2 is especially valuable when the organization is faced with a crisis, when merger or acquisition occurs, when major change is required, when leadership succession occurs, or when other major disruptions lead to ambiguity and resistance. It is important that managers have a good sense of their organization's culture, particularly its dominant culture. Instituting change that contradicts culture, such as merger or expansion, can lead to high degrees of resistance and subversion. Culture types become dominant due to the emphasis placed on certain attributes and values to which organization members are exposed. Accurately diagnosing an organization's culture can be a critical factor in helping managers facilitate change and manage the symbolic aspects of organizational action. To articulate a vision, for example, that contradicts current organizational culture may lead to resistance and lack of direction that can doom desired changes.

3. *Managers may want to capitalize on criteria of effectiveness that are consistent with their dominant cultures.* Conversely, the appropriate culture type depends on what dimensions of effectiveness are important and relevant to the organization. Researchers have found that as the characteristics of organizations changed over time, so did the criteria of effectiveness that were most important for long-term survival (Cameron & Whetten, 1981; Quinn & Cameron, 1983). This requires that managers be sensitive to the dominant culture types that exist in their organizations at various stages of the organizational life cycle and capitalize on organizational strengths. When organizations have dominant cultures, they are high performers in domains consistent with these cultures. Managers should address these issues when embarking upon organizational change efforts.

Some caution is due in interpretation of these findings. First, the organizations in this study were all educational institutions. Thus, generalizability of these findings to other organizations, such as businesses, needs to be tested empirically. In addition, different dimensions of effectiveness will be relevant for other kinds of organizations.

Second, the measures of culture used here were deliberately broad. As noted earlier, the authors felt this approach was necessary in order to test the proposed relationships in a large sample of organizations. In addition, each organization's culture was assessed only from an overall, institutional perspective. Although, as we found, a mix of culture types may be apparent in this approach, we did not specifically address subcultures that may exist in organizational subunits, across functions, and so on. However, the same approach could be used, for both diagnostic and change purposes, to assess subcultures within an organization.

Finally, we have used cross-sectional data to address relationships that are essentially dynamic in nature. Longitudinal data are necessary to investigate these relationships and their dynamics more fully.

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NOTES

1. The organizational attributes assessed on this questionnaire were measured as part of a larger study of organization design and effectiveness in a national sample of colleges and universities. In each case, the variables selected for measurement were based on literature in which the variable has been associated with organizational performance or was identified as an important moderator variable. The variable categories were:

1. Organizational effectiveness (Cameron, 1978, 1981, 1986);
2. Organizational structure (Mintzberg, 1979; Weick, 1976);
3. Student career development;
4. Organizational strategic orientations (Miles & Cameron, 1982; Miles & Snow, 1978);
5. Decision-making processes (Nutt, 1976); and
6. Organizational saga and mission (Clark, 1970), and environmental conditions (Wilkins & Ouchi, 1983).

The nine dimensions of organizational effectiveness assessed in the questionnaire were:

1. Student educational satisfaction;
2. Student academic development;
3. Student career development;

4. Student personal development;
5. Faculty and administrator employment satisfaction;
6. Professional interaction;
7. System openness and community interaction;
8. Ability to acquire resources; and
9. Organizational health.

Structural variables assessed included specialization, formalization, centralization, and loose coupling. Organizational processes associated with the presence of decline included lack of planning and innovation, scapegoating of leaders, resistance to change, turnover, low morale, lack of slack resources, pluralism, low leader credibility, conflict, internal succession, and locus of control. Organizational strategic orientations included defender, analyzer, and prospector orientations; domain defense, domain offense, and domain creation; diversification, boundary spanning, and proactive initiatives. The presence of organizational saga, or a special sense of uniqueness, mission and purpose in the institution was assessed. The assessment of bureaucratic, autocratic, collegial, rational, political and organized anarchy decision processes was included in the questionnaire. An assessment of the predictability, turbulence, competitiveness, potency, and munificence of the external environment was also included.

2. A study by Zammuto and Krakower (1987) used this same instrument to assess culture in organizations, and they produced several analyses of its construct validity. Their analyses combined with those reported in this paper provide support for the usefulness of this instrument in measuring culture type.

REFERENCES

Adler, N.J., & Jelinek, M. (1986). Is "organizational culture" culture bound? *Human Resource Management, 25,* 73-90.

Administrative Science Quarterly (1983). Special issue on Organizational Culture, *28,* 331-502.

Albert, S., & Whetten, D.A. (1985). Organizational identity. In L.L. Cummings & B.M. Staw (Eds.), *Research in organizational behavior* (Vol. 7). Greenwich, CT: JAI Press.

Arnold, D.R., & Capella, L.M. (1985). Corporate culture and the marketing concept: A diagnostic instrument for the utilities. *Public Utilities Fortnightly, 116*(8), 32-38.

Ashforth, B.E. (1985). Climate formation: Issues and extensions. *Academy of Management Review, 10,* 387-847.

Bate, P. (1984). The impact of organizational culture on approaches to organizational problem-solving. *Organization Studies, 5,* 43-66.

Beck, B., & Moore, L. (1985). Linking the host culture to organizational variables. In P.J. Frost, M.R. Louis, C.C. Lundberg, L.F. Moore, & J. Martin (Eds.), *Organizational culture.* Beverly Hills, CA: Sage.

Broms, H., & Gahmberg, H. (1983). Communication to self in organizations and cultures. *Administrative Science Quarterly, 28,* 482-495.

Cameron, K.S. (1978). Measuring organizational effectiveness in institutions of higher education. *Administrative Science Quarterly, 23,* 604-632.

_____. (1981). Domains of organizational effectiveness in colleges and universities. *Academy of Management Journal, 24,* 25-47.

_____. (1986a). A study of organizational effectiveness and its predictors. *Management Science, 32,* 87-112

_____. (1986b). Effectiveness as paradox. *Management Science, 32,* 533-553.

_____. (1988). *Organizational design and redesign* (Working paper). School of Business Administration, University of Michigan.

Cameron, K.S., & Ettington, D.R. (1988). The conceptual foundations of organizational culture. In J.C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. 4). New York: Agathon.

Cameron, K.S., Kim, M.U., & Whetton, D.A. (1987). Organizational effects of decline and turbulence. *Administrative Science Quarterly, 32,* 222-240.

Cameron, K.S., & Whetton, D.A. (1981). Perceptions of organizational effectiveness across organizational life cycles. *Administrative Science Quarterly, 26,* 525-544.

_____. (1983). Models of organizational life cycle: Applications to higher education. *Review of Higher Education, 6,* 269-299.

Campbell, J.P. (1977). On the nature of organizational effectiveness. In P.S. Goodman & J.M. Pennings (Eds.), *New perspectives on organizational effectiveness.* San Francisco: Jossey-Bass.

Carnegie Commission on Higher Education. (1976). *A classification of institutions of higher education.* Berkeley, CA: Author.

Clark, B.R. (1970). *The distinctive college: Anitoch, Reed and Swarthmore.* Chicago: Aldine.

Deal, T.E., & Kennedy, A.A. (1982). *Corporate cultures: The rights and rituals of corporate life.* Reading, MA: Addison-Wesley.

Denison, D.R. (1984). Bringing corporate culture to the bottom line. *Organizational Dynamics, 13*(2), 4-22.

Ernest, R.C. (1985). Corporate cultures and effective planning: An introduction to the organizational culture grid. *Personnel Administrator, 30*(3), 49-60.

Fiedler, F.E. (1977). Validation and extension of the contingency model of leadership effectiveness: A review of the empirical findings. *Psychological Bulletin, 26,* 128-148.

Hershey, P., & Blanchard, K.H. (1977). *Management of organizational behavior* (3rd ed.). Englewood Cliffs, NJ: Prentice-Hall.

Huff, R.A., & Chandler, M.O. (1970). *A taxonomy of instruction programs in higher education.* Washington, DC: U.S. Government Printing Office.

Jaynes, J. (1976). *The origin of consciousness in the breakdown of the bicameral mind.* Boston: Houghton Mifflin.

Jones, W.T. (1961).*The romantic syndrome: Toward a new method in cultural anthropology and the history of ideas.* The Hague: Martinus Wijhaff.

Jung, C.G. (1923). *Psychological types.* London: Routledge & Kegan Paul.

_____. (1973). *Four archetypes: Mother/Rebirth/Spirit/Trickster.* Princeton, NJ: Princeton University Press.

Kotter, J.P. (1980). An integrative model of organizational dynamics. In E.E. Lalwer, D.A. Nadler, & C. Cammann (Eds.), *Organizational assessment: Perspectives on the measurement of organizational behavior and the quality of working life.* New York: Wiley.

Lundberg, C. (1984). Strategies for organizational transitions. In J.R. Kimberly & R.E. Quinn (Eds.), *The challenge of managing of organizational transitions.* Homewood, IL: Dow Jones-Irwin.

Makowski, D., & Wulfsberg, R.M. (1982). *An imporoved taxonomy of postsecondary institutions.* Boulder, CO: National Center for Higher Education Management Systems.

Martin, J., Feldman, M.S., Hatch, M., & Sitkin, S.B. (1983). The uniqueness paradox in organizational stories. *Administrative Science Quarterly, 28,* 438-453.

Martin, J., & Powers, M. (1983). Truth or corporate propaganda: The value of a good war story. In L. Pondy et al. (Eds.), *Organizational symbolism.* Greenwich, CT: JAI Press.

Mason, R.O., & Mitroff, I.I. (1973). A program for research in management. *Management Science, 19,* 475-487.

Meyer, A. (1982). How ideologies supplant formal stories and shape responses to environments. *Journal of Management Studies, 19*(1), 45-61.

Miles, R.H., & Cameron, K.S. (1982). *Coffin nails and corporate strategy.* Englewood Cliffs, NJ: Prentice-Hall.

Miles, R.E., & Snow, C.C. (1978). *Organizational strategy, structure and process.* New York: McGraw-Hill.

Mintzberg, H. (1979). *The structuring of organizations.* Englewood Cliffs, NJ: Prentice-Hall.

_____. (1983). *Power in and around organizations.* Englewood Cliffs, NJ: Prentice-Hall.

Mitroff, I.I. (1983). *Stakeholders of the organizational mind.* San Francisco: Jossey-Bass.

Mitroff, I.I., & Kilmann, R.H. (1975). Stories managers tell: A new tool for organizational problem solving. *Management Review, 64*(7), 18-28.

_____. (1976). On organizational stories: An approach to the design and analysis of organizations through myths and stories. In R. Kilmann, L.R. Pondy, & D. Slevin (Eds.), *The management of organization design.* New York: Elsevier North Holland.

Nadler, D.A. (1980). Organizational frame bonding. In R.H. Kilmann & J. Covin (Eds.), *Corporate transformation.* San Francisco: Jossey Bass.

Nadler, D.A., & Tushman, M.L. (1980). A congruence model for organizational assessment. In E.E. Lawler, D.A. Nadler, & C. Camman (Eds.), *Organizational assessment: Perspectives on the measurement of organizational behavior and the quality of working life.* New York: Wiley.

Neumann, E. (1955). *The great mother: An analysis of archetype.* Princeton, NJ: Princeton University Press.

_____. (1970). *The origins and history of consciousness* (R.F.C. Hull, Trans.). Princeton, NJ: Princeton University Press.

Nutt, P.C. (1976). Models for decision making in organizations. *Academy of Management Review, 2,* 84-98.

O'Reilly, C. (1983). *Corporations, culture and organizational culture: Lessons from Silicon Valley firms.* Paper presented at the Academy of Management meetings, Dallas, Texas.

O'Reilly, C., & Moses, M. (1984). *Corporations, cults, and organizational culture: Lessons from Silicon Valley companies.* Paper presented at the Conference of Organizational Culture and Meaning of Life in the Workplace, Vancouver.

Ouchi, W.G., & Johnson, J. (1978). Types of organizational control and their relationship to emotional well-being. *Administrative Science Quarterly, 23,* 293-317.

Ouchi, W.G., & Wilkins, A.L. (1985). Organizational culture. *Annual Review of Sociology, 11,* 457-483.

Peters, T.J., & Waterman, R.H. (1982). *In search of excellence: Lessons from America's best-run companies.* New York: Harper & Row.

Porter, M.E. (1980). *Competitive strategy.* New York: Free Press.

Quinn, R.E. (1984). Applying the competing values approach to leadership. In J.G. Hunt, R. Stewart, C.A. Schriesheim, & D. Hosking (Eds.), *Managerial work and leadership: International perspectives.* New York: Pergamon.

_____. (1988). *Beyond rational management.* San Francisco: Jossey-Bass.

Quinn, R.E., & Cameron, K.S. (1983). Organizational life cycles and shifting criteria of effectiveness: Some preliminary evidence. *Management Science, 29,* 33-51.

Quinn, R.E., & Hall, R.H. (1983). Environments, organizations, and policymakers: Toward an integrative framework. In R.H. Hall & R.E. Quinn (Eds.), *Organizational theory and public policy.* Beverly Hills, CA: Sage.

Quinn, R.E., & McGrath, M.R. (1984). The transformation of organizational cultures: A competing values perspective. In P.J. Frost, M.R. Louis, C.C. Lundberg, L.F. Moore, & J. Martin (Eds.), *Organizational culture.* Beverly Hills, CA: Sage.

Quinn, R.E., & Rohrbaugh, J. (1981). A competing values approach to organizational effectiveness. *Public Productivity Review, 5,* 122-140.

———. (1983). A spatial model of effectiveness criteria: Toward a competing values approach to organizational analysis. *Management Science, 29,* 363-377.

Salmans, S. (1983, January 9). New vogue: Corporate culture. *New York Times,* pp. D1, D3.

Sathe, V. (1983). Implications of corporate culture: A manager's guide to action. *Organizational Dynamics, 12*(4), 4-23.

Schall, M.S. (1983). A communication-rules approach to organizational culture. *Administrative Science Quarterly, 28,* 557-581.

Schein, E.H. (1983). Organizational culture. *Organizational Dynamics, 12*(3), 13-28.

———. (1984). Coming to a new awareness of organizational culture. *Sloan Management Review, 25*(2), 3-16.

———. (1985). *Organizational culture and leadership.* San Francisco: Jossey-Bass.

Smircich, L. (1983). Concepts of culture and organizational analysis. *Administrative Science Quarterly, 28,* 339-358.

Tichy, N.M. (1982). Managing change strategically: The technical, political and cultural keys. *Organizational Dynamics, 11*(4), 59-80.

Trice, H.M., & Beyer, J.M. (1984). Studying organizational cultures through rites and ceremonials. *Academy of Management Review, 9,* 653-669.

Weick, K.E. (1976). Educational organizations as loosely coupled systems. *Administrative Science Quarterly, 21,* 1-19.

Wilkins, A.L. (1983). The culture audit: A tool for understanding organizations. *Organizational Dynamics, 12*(2), 24-38.

Wilkins, A.L., & Ouchi, W.G. (1983). Efficient cultures: Exploring the relationship between culture and organizational performance. *Administrative Science Quarterly, 28,* 468-481.

Zammuto, R.F., & Krakower, J.Y. (1987). *Quantitative and qualitative studies of organizational culture* (Working paper).