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ABSTRACT

This study researched how the characteristics of higher learning institutions affect the persistence and learning of college students. The author examined the extent to which perceptions of students' academic, personal, and career development and their satisfaction with their educational experiences in the two-year college are related to measures reflecting their campus cultures, campus missions, and managerial behaviors of campus leaders. The study was based on information obtained from a survey of full-time faculty and administrators in a statewide system of 14 community colleges. The institutions enrolled a total of 111,602 students, with enrollments by campus ranging from 2,967 to 14,052. Completed surveys were received from 1,423 (52%) of the total 2,716 full-time faculty and administrative staff. The typical respondent was white (82%) and female (55%), with a mean of 11.21 years professional experience at the college. The survey instrument was made up of four sets of variables designed to measure organizational effectiveness, assess organizational cultures, measure managerial role types, and assess campus missions. The collective results across the four equations clearly supported the central importance of a high level of agreement regarding the missions of community colleges and consistency between the actions of campus leaders and those espoused missions. (Contains 37 references.) (NB)

Enhancing the Educational Effectiveness of Two-Year Colleges: New Perspectives and Evidence of the Role of Institutional Characteristics

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Enhancing the Educational Effectiveness of Two-Year Colleges: New Perspectives and Evidence of the Role of Institutional Characteristics

The contributions of Berger and Milem (2000) and Laden, Milem, and Crowson (2000) are examples of renewed interest in the study of how the characteristics of institutions of higher education affect the persistence and learning of college students. This renewed interest might seem surprising in the context of Pascarella and Terenzini's (1991) conclusion, based on the findings of approximately 2,600 studies conducted from the late-1960s through the 1980s, that institutional characteristics such as size, type of control, curricular emphasis, and selectivity "are simply not linked with major differences in net impacts on students" (p. 589, emphasis in original). What distinguishes the more recent interest in the potential of institutional characteristics to contribute to our understanding of college students' persistence and learning from the earlier studies reviewed by Pascarella and Terenzini is that the former is grounded in and guided by salient constructs from organizational theory, which Baird (1988) suggested have great potential to improve our understanding of how college environments affect students. For example, the more recent genre of studies focus on the organizational structure and behavior of colleges and universities as manifested in their campus cultures, campus missions, and the managerial behaviors of campus leaders, as opposed to the previous emphasis on such institutional characteristics as size, selectivity, and type of control (see, for example, Cameron & Ettington, 1988; Ewell, 1989; Smart, Kuh, & Tierney, 1997).

The primary purpose of this study is to contribute to the newer genre of studies by examining the extent to which perceptions of students' academic, personal, and career development and their satisfaction with their educational experiences in two-year colleges are related to measures reflecting their campus cultures, campus missions, and managerial behaviors of campus leaders. While this study is within the mainline focus of the new genre, it differs from most prior studies in terms of the measures typically used to assess how aspects of the organizational structure and behavior of colleges and universities are related to traditional outcomes associated with the undergraduate experiences of college students and its inclusion of measures for all three salient organizational theory constructs -- culture, mission, managerial behaviors -- which are not present in any of the earlier studies.

Berger and Milem (2000) provide a thorough review of the empirical evidence concerning the extent to which attributes of the organizational structure and behaviors of colleges and universities are related to students' persistence and learning. Their review is based on the accumulated findings from two sectors of the higher education research literature: traditional studies of "college effects on students" and more recent studies of the "organizational effectiveness" of institutions of higher learning. While studies in the organizational effectiveness domain tend to use faculty and administrator perceptions of student outcomes, as opposed to the more common use of student self-reports of learning in the college effects sector, these professional perceptions are important because they serve "as indicators of the priority and commitment accorded to these outcomes in particular organizational settings" (Ewell, 1989).

As noted above, the distinctive feature of the more recent genre of studies examining the relationship between institutional characteristics and student persistence and learning is that they focus primarily on salient constructs from the organizational theory literature, such as campus cultures, campus missions, and the managerial behaviors of campus leaders. The following review is structured according to these three primary attributes of the organizational structure and behavior of colleges and universities.

Managerial Behaviors of Campus Leaders. Most studies in this domain have focused on efforts to explain students' voluntary departure from college and are based on information obtained from students. Collectively, they show that students' decisions to stay or leave are related to a diverse array of managerial behaviors. They further illustrate that the relationships vary in terms of the attributes of both students and institutions. Three studies have examined the extent to which the communication, enforcement, and decision making behaviors of campus leaders were related to students' persistence. Braxton and Brier (1989), in a study of students in an urban commuter university, found that the extent to which campus leaders successfully communicated campus rules and regulations to students had a positive effect on students' social integration, and the degree to which campus leaders were fair in enforcing campus rules and regulations and utilized a participative decision making style had positive effects on students' academic integration. None of these measures, however, had either a direct or indirect effect on student persistence as expected. Berger and Braxton (1998) reported much stronger effects for these same three organizational behavior measures in their study of students at a highly selective

residential university. While the extent to which campus leaders successfully communicated campus rules and regulations to students was the only one with a significant (and positive) direct effect on student persistence, all three measures had significant and positive indirect effects on persistence. The indirect effects of these three measures were mediated primarily through increasing students' institutional commitment. Finally, Bean (1980) found that relationships among students' departure decisions and the managerial behaviors of campus leaders differed considerably for males and females in his sample of students in a large doctoral research university. For males, the degree to which campus leaders successfully communicated and were fair in enforcing college rules and regulations had positive indirect effects, mediated through institutional commitment, on persistence. For females, however, none of the three measures of managerial behavior had significant direct or indirect effects on their persistence decisions. The collective findings of these three studies suggest a complex relationship between students' decision to continue or withdraw from college and the managerial behaviors of campus leaders, and that this relationship may differ as a consequence of the type of institution at which studies are conducted (e.g., urban commuter, selective residential) and the nature of students included (e.g., males, females).

In addition to the three studies above, Astin and Scherrei (1980) found a clear relationship between the likelihood of students persisting in college and the managerial style of campus leaders. Their findings showed a positive relationship between student persistence and the extent to which students characterized the managerial behaviors of campus leaders as being humanistic or collegial, and a negative relationship with the degree to which such behaviors were regarded by students as being bureaucratic or hierarchical in nature.

Campus Cultures. A number of studies have been conducted in the past decade that examine the relationship between perceptions of multiple aspects of student learning and the nature of campus cultures. Most of these studies are grounded in the organizational effectiveness sector of the higher education research literature and utilize the fourfold typology of campus cultures proposed by Cameron and Ettington (1988). Three studies have focused on this relationship in four-year college settings. Cameron and Freeman (1991) found that institutions with a dominant clan culture had significantly higher scores on scales measuring perceptions of students' personal development and satisfaction with their overall undergraduate experience,

while institutions with a dominant adhocracy culture had significantly higher scores on scales measuring perceptions of students' academic and career development. The more effective clan and adhocracy cultures share a common emphasis on flexibility, individuality, and spontaneity, while the less effective market and hierarchy cultures share a common orientation toward stability, control, and predictability. Smart and St. John (1996) found a significant interactive effect between the dominant type and the overall strength of campus cultures. Their findings are generally similar to those of Cameron and Freeman with the important exception that the primary differences between the types of campus cultures (i.e., clan, adhocracy, market, hierarchy) were true only if the campus cultures were "strong." Differences among the four "weak" dominant culture types were generally nonexistent, with the exception that those with a "weak" dominant clan type culture had higher scores on students' satisfaction with their undergraduate experience than the three remaining "weak" culture types. Finally, Ewell (1989) generally found a weaker relationship between campus cultures and student learning than either of the two preceding studies, and, in some instances, his findings contradicted those of Cameron and Freeman and of Smart and St. John. The most striking contradictory finding of Ewell concerned the positive effect of the extent to which colleges had a hierarchy culture on students' satisfaction with their undergraduate experiences. The generally weaker effects of campus culture measures in Ewell's study and some of his atypical findings may be due to unacceptably high levels of collinearity among his predictor variables, his use of single item indicators of constructs, and his use of stepwise regression procedures without any theoretical basis for the use of those procedures (Ethington, Thomas, & Pike, in press).

Only one study has examined the relationships among campus culture types and perceptions of multiple aspects of student learning in two-year colleges, and the findings of that study suggest that the relationships are somewhat different in these types of institutions. For example, Smart and Hamm (1993) found that two-year colleges with a dominant adhocracy culture had significantly higher scores on perceptions of students' career and personal development and their overall satisfaction with educational experiences, while those two-year colleges that had a dominant market culture type had a significantly higher score on perceptions of students' academic development. The more effective adhocracy and market culture types in two-year colleges share a common emphasis on external positioning, short-term time frame, and

achievement-oriented activities, while the less effective clan and hierarchy culture types share a more internal emphasis, longer-term orientation, and attention to smoothing activities.

Campus Missions. There is a general consensus in the organizational theory that mission agreement (i.e., consensus) and the consistency in carrying out activities inherent in that mission (i.e., fidelity) are important contributors to enhancing organizational performance. That consensus is evident in Drucker's (1973) contention that a clearly defined mission is essential to the well-being of organizations and Perrow's (1970) suggestion that organizations that lack clearly defined missions and goals are more vulnerable to transitory pressures from both internal and external constituencies.

There is, however, far less than unanimous agreement that a high level of mission agreement will systematically foster more effective performance in institutions of higher learning given the turbulent and unpredictable nature of their external environments (Zammuto, 1986). In fact, there are many who have suggested that a high level of mission agreement may be an inhibiting factor in successfully adapting to the changing conditions of institutions' external environments. For example, Birnbaum (1989) suggested that institutions facing environmental constraints may be more effective because of inconsistent goals, reflecting lack of mission agreement. In addition, Chait (1979) and Davies (1986) both advised against precise mission statements on the basis of strategic considerations. Chait suggested that "the more one seeks specificity, the more various constituencies resist. In the end, vague and vapid goals able to attract consensus are preferable to precise aims that force choices and provoke serious disagreement" (p. 36). Davies noted that "institutions do not appear to engage in rigorous definition of their missions because the prevailing incentives are to do otherwise," and concluded that "no statement of institutional mission should ever limit access to resources" (pp. 88-89).

The sheer number of studies exploring the relationship between campus missions and student learning is less than that pertaining to managerial behaviors and campus cultures discussed above. The cumulative evidence from those studies, however, presents a rather consistent pattern suggesting that mission agreement and fidelity is an important contributor to improving institutional performance in general, and student learning in particular. For instance, Peck (1984) found that successful small colleges tended to have a high level of mission agreement which permitted institutional values to be clearly articulated and maintained through

self-conscious decisions throughout many levels of the institutions and Chaffee (1984) similarly reported that mission agreement was an essential component in the successful turnaround strategies in liberal arts colleges facing serious enrollment and financial decline.

Ewell (1989) specifically explored the relationship between various elements of campus missions in four-year institutions and perceptions of the academic, personal, and career development of their students, and, in general, found mission variables to be among the strongest predictors included in his study. In particular, he found that the distinctiveness of campus missions had a strong and consistent positive effect on students' personal development and satisfaction with their undergraduate experiences, while the level of mission agreement had a strong and consistent positive effect on students' academic and career development. Ewell concluded that "institutions that lack focus in their missions, regardless of the mission content, may thus be at a disadvantage in delivering effective student performance" (p. 133).

The preceding review thus provides general support for the contention of Baird (1988), Berger and Milem (2000), and Laden, Milem, and Crowson (2000) that how colleges and universities are structured and operated have potentially important influences on both the persistence decisions and learning patterns of college students. The evidence, however, is far from being either overwhelming or uniform. The vast majority of the evidence is based on studies conducted in four-year institutions. In addition, there are inconsistencies in some of the findings based on the nature of the institutions in which the studies were conducted (e.g., four-year versus two-year) and characteristics of students included in those studies (e.g., females versus males). We sought to contribute to this emerging area of inquiry by examining the extent to which perceptions of students' academic, personal, and career development and their satisfaction with their educational experiences in a sample of two-year colleges were related to measures reflecting their campus cultures, campus missions, and managerial behaviors of campus leaders.

Research Procedures

Sample

This study was based on information obtained from a survey of all full-time faculty and administrators in statewide system of fourteen community colleges. The institutions enrolled a total of 111,602 students, with enrollments by campus ranging from 2,967 to 14,052. Completed

surveys were obtained from 1,423 (52%) of the 2,716 full-time faculty and administrative staff of the fourteen institutions, with response rates for individual campuses ranging a low of 36 percent to a high of 87 percent.

The typical respondent was a white (81.6%) female (55%) with a mean of 11.21 years of professional experience at the college, and this average level of experience varied from a low of 1 year to a high of 34 years. The majority of respondents held a masters degree (56%) as their highest academic degree, while 15 percent held the doctorate, and the remainder (29%) held a bachelors degree or less (e.g., associate degree). There was a fairly even distribution of respondents in terms of whether they held administrative (54.1%) or faculty (45.9%) positions at the institutions.

Variables

The survey instrument contained four sets of variables pertinent to the purposes of this study. The first set was comprised of 36 items designed to measure the nine dimensions of organizational effectiveness of colleges and universities proposed initially by Cameron (1978). The second set was comprised of 16 items designed to assess the four types of organizational culture proposed by Cameron and Ettington (1988). The third set was comprised of 32 items designed to measure the four general managerial roles incorporated in the competing values framework proposed by Quinn (1988) and Hart and Quinn (1983). The fourth set consisted of 12 items proposed by Krakower and Niwa (1985) and Ewell (1989) to assess the clarity, distinctiveness, and level of agreement of campus missions. The following is a description of these respective sets of scales.

Organizational Effectiveness. Cameron (1978) initially proposed nine dimensions of the organizational effectiveness of four-year colleges and developed a 58-item survey instrument to obtain the perceptions of "dominant coalition" members about the effectiveness of their institutions on these nine dimensions. Subsequent refinements by Cameron and associates (Cameron, 1986; Cameron & Freeman, 1991; Cameron & Tschirhart, 1992) led to a 36-item instrument used to assess the perceptions of various campus constituencies regarding the effectiveness of their institutions. Numerous studies have reported that the scales measuring the nine dimensions of organizational effectiveness have acceptable levels of reliability and validity

in both four-year (e.g., Cameron, 1986; Cameron & Freeman, 1991) and two-year (Smart & Hamm, 1993a) institutions.

We focus in this study on four of the nine dimensions that pertain to the educational effectiveness of two-year colleges; that is, student academic development, student personal development, student career development, and student educational satisfaction. Table 1 presents definitions of these four effectiveness dimensions and the reliability estimates of the analogous scales.

(Insert Table 1 about here)

Campus Cultures. Cameron and Ettington (1988) used 16 written descriptions of cultural scenarios to assess the relative presence of the four types of organizational cultures on college and university campuses. The scenarios serve as "word pictures" that "help respondents convey not just the extent to which they are satisfied or dissatisfied with their organization (its climate) but the core values and orientations that characterize it (its culture)" (p. 375). Respondents indicated the extent to which their institutions evidenced attributes associated with the four ideal culture types along four dimensions: institutional character, institutional leader, institutional cohesion, and institutional emphases. A number of studies have reported that the scales measuring the four organizational culture types have acceptable levels of reliability and validity in both four-year (e.g., Cameron & Ettington, 1988; Cameron & Quinn, 1999) and two-year (e.g., Smart, Kuh, & Tierney, 1997) institutions. Table 1 presents definitions of the four culture types and the reliability estimates of the analogous scales.

Managerial Behaviors of Campus Leaders. Based on the competing values framework proposed by Quinn and Rohrbaugh (1983) and Quinn (1988), Hart and Quinn (1983) identified four general roles that leaders must perform if they and their organizations are to function in an effective manner. In addition, Quinn (1988) provided a 32-item survey instrument to assess managers' performance on each of these four managerial roles (Motivator, Vision Setter, Task Master, Analyzer). Each of the four roles is associated with a specific set of effectiveness criteria and organizational culture type incorporated in the competing values framework developed by Quinn and Rohrbaugh (1983) and Quinn (1988).

Unlike the measures described above to assess the organizational effectiveness and cultures of the institutions, the 32 items used in this study to examine the managerial behaviors of campus leaders have not been used in previous research in higher education settings; thus there was a need to examine the construct validity of these measures. Factor analytic procedures were used with an oblimin rotation to assess the construct validity of the four managerial roles. The factor analytic results, available from the author upon request, provided strong support for the construct validity of the four managerial dimensions in that the loadings for 27 of the 32 items (84%) "loaded" on the proper factor. Thus, the four factor scores, one representing each of the four managerial roles proposed by Hart and Quinn (1993), were saved and used in this study. These managerial factors are described in Table 1.

Elements of Campus Missions. The missions of colleges and universities vary in a variety of ways. Among these are their levels of clarity, distinctiveness, and the extent to which their is agreement on them. The survey instrument contained twelve items developed by Krakower and Niwa (1985) and Ewell (1989) intended to measure perceptions of faculty and administrators concerning the level of mission clarity, distinctiveness, and agreement on their campuses. In addition, we obtained information from respondents about the proportion of students enrolled on their respective campuses in (1) transfer-university parallel, (2) technical-career, and (3) adult-continuing programs to assess the programmatic emphases of the respective campuses. Table 1 provides definitions of these components of campus missions and reliability estimates, where appropriate, of analogous scales.

Analyses

Two sets of analyses were performed. We initially conducted a series of preliminary analyses to determine if administrators and faculty members differed in terms of the relative importance of factors they perceived to influence the effectiveness of the institutions in terms of the academic, personal, and career development of students and students' satisfaction with their educational experiences. This was accomplished by regressing each of the respective effectiveness scales on all predictor variables in the equation plus a set of interaction terms that were the cross-products of employment status (i.e., administrator, faculty member) and each predictor variable. None of the results from this initial series of analyses was statistically

significant, indicating that the influence of the predictor variables was comparable for both administrators and faculty members.

Ordinary least squares regression procedures were used in the second set of analyses, with a separate analysis conducted for each of the four dependent variables (i.e., student academic development, student personal development, student career development, and student educational satisfaction). The independent variables in each analysis were the four culture scales, four managerial factors, and six campus mission variables defined in Table 1.

Results

The correlations among all variables in the regression analyses are presented in Table 2. Table 3 presents the standardized coefficients (i.e., beta weights) obtained from each of the four regression analyses. Inspection of the R^2 values in Table 3 shows that the institutional characteristics collectively account for a significant portion of the variance in each of the four dependent variables, indicating that the nature of the campus cultures, attributes of their missions, and the managerial behaviors of senior campus leaders contribute to our understanding of students' development during and their satisfaction with their undergraduate experiences. The R^2 values, however, differ considerably, ranging from a high of 36 percent for Student Personal Development to a low of 11 percent for Student Career Development. The following describes the important variables in each equation and concludes with an overview of the relative importance of the campus culture, institutional mission, and managerial behavior variables included in the analyses.

(Insert Tables 2 and 3 about here)

Student Academic Development. The extent to which faculty and administrators perceive that students have grown in terms of their academic interests and skills while at the community college is related primarily to the extent to which the campus culture is characterized as a clan culture and there is high agreement about the institutional mission and a perception that the mission is distinctive (all significant at the .001 level). To a lesser extent, the degree to which the campus culture is considered to have adhocracy and hierarchy qualities and the behaviors of

senior campus officials manifest the analyzer role also foster the level of students' academic development.

Student Personal Development. The degree to which the campus culture is characterized as a clan culture is clearly the most important contributor to positive perceptions regarding the extent to which students develop socially, emotionally, and culturally. These perceptions of students' personal development are also enhanced by the presence of adhocracy elements in the campus culture and the degree to which there is agreement about the institutional mission.

Student Career Development. The institutional mission variables are clearly the dominant contributors to faculty and administrator perceptions that students acquire the necessary career skills at the community colleges. The degree to which the institutions' missions are regarded as distinctive and the extent to which there is a high level of agreement about the missions have positive influences on students' career development, while the proportion of students enrolled in transfer and continuing education programs have decided negative effects. In addition to the institutional mission variables, the degree to which senior campus officials perform their roles in a task master manner has a positive effect on student career development, while the extent to which the campus cultures exhibit attributes of a hierarchy culture has a negative effect on this outcome.

Student Educational Satisfaction. The most powerful influences on the extent to which students are perceived to be satisfied with their educational experiences are the degree to which there is agreement regarding the institutional missions and characterizations of the campus cultures as reflecting the elements of a clan culture (both significant at the .001 level). To a lesser extent, the degree to which the behaviors of senior campus officials are characterized as being consistent with the task master role has a positive influence on the educational satisfaction of students, while the presence of the attributes of a market culture has a negative influence.

Summary of Results. The collective results across the four equations clearly support the central importance of a high level of agreement regarding the missions of community colleges and consistency between the actions of campus leaders and those espoused missions (see definition of mission agreement scale in Table 1). This is the only variable that makes a strong positive contribution in all four equations. In addition, the degree to which the campus culture is

perceived to be of a clan nature makes a strong positive contribution in all equations except that for student career development.

While mission agreement and fidelity and clan culture have a rather pervasive influence on most or all student educational outcomes included in this study, the relative influence of other elements of the campus culture, institutional missions, and managerial behaviors appear to be more "outcome specific." That is to say, they are related to but one or two student outcomes, and that relationship is generally weaker (i.e., .05 or .01 levels) than is the case for mission agreement and fidelity and clan culture.

Discussion

Pascarella (1985) and Pascarella and Terenzini (1991) noted that a possible reason for the general tendency of institutional and environmental characteristics to not be strongly associated with student outcome measures in the research literature is a function of the way in which such characteristics are operationally defined. That is, measures of such commonly used institutional characteristics as enrollment size, selectivity, and control are simply too remote or distal from the types of experiences which might be expected to directly influence student learning and other important college outcomes. Baird (1988), Berger and Milem (2000), Laden, Milem, and Crowson (2000) have suggested that the organizational theory and assessment literature has the potential to provide useful ideas, constructs, and insights in efforts to investigate how institutional characteristics and components of institutional environments may contribute to understanding of student growth and development.

The present study represents an effort to examine how important constructs in the organizational theory and assessment literature are related to perceptions of students' academic, personal, and career development and their educational satisfaction in a statewide community college system. The findings of this study clearly suggest that the substantive nature of campus cultures, elements of campus missions, and the managerial behaviors of senior campus leaders are related to different aspects of students' educational development and their satisfaction in two-year colleges, and these relationships are equally applicable for both faculty members and administrators in these institutions. The magnitude of the relationships vary considerably, however, being much stronger in terms of students' personal and academic development (R^2=.36. and .32, respectively) than students' career development (R^2=.11). Furthermore, the relative

importance of these constructs derived from the organizational theory and assessment literature also vary across the four student outcomes explored. In general, the relationships between the campus culture and mission variables and student educational outcomes tend to be stronger than those between managerial behaviors of campus leaders and student educational outcomes.

Within this context, two variables have strong and pervasive influences on all or most of the student outcomes investigated. First and foremost is the extent to which there is a strong consensus (mission agreement) about the mission of the institutions and the extent to which the academic programs and the day-to-day operational processes and procedures of the institutions are consistent with the espoused mission (mission fidelity). This is the only variable that is significantly related to all four student educational outcomes. In addition, the extent to which the campus culture is perceived to exhibit elements of a Clan culture has a strong positive relationship ($p. < .001$) with perceptions of the academic and personal development of students and their level of educational satisfaction. In general, the extent to which institutions are perceived to exhibit other campus cultures, mission, and managerial traits tend to be more outcome specific. That is, they tend to be related to but one or two student educational outcomes, and the magnitude of those relationships tends to be somewhat weaker than those of Mission Agreement and Fidelity and Clan Culture.

There has been decidedly less empirical research on dimensions of institutional missions than on either campus cultures or the managerial behaviors of campus leaders. This may be the result of a lack of conceptual consensus among those who have discussed the relative merits of clear and consistent missions statements. For example, Peck (1984) and Chaffee (1984) suggest that clearly articulated mission statements that are maintained through conscious decision making throughout institutions are vital components in promoting and preserving institutional vitality, while Birnbaum (1989), Chait (1979), and Davies (1986) contend institutions may well benefit from imprecise and inconsistent mission statements that permit greater flexibility in seeking necessary resources from alternative sources. The findings of the present study clearly support the perspectives of Peck and Chaffee, and suggest that mission agreement and fidelity is an absolutely vital component in an overall campus strategy designed to promote and facilitate the educational development and satisfaction of students. These findings suggest that scholars should devote greater attention to the role that campus missions play in their overall efforts to

discern the influences of institutions in promoting the educational development and satisfaction of their students.

The strong positive influence of the extent to which the overall campus culture reflects the attributes of a Clan culture in this sample of two-year institutions parallels the findings from research on four-year institutions in which students whose campuses were characterized as having a dominant Clan culture were found to have higher scores on multiple measures of their growth and development (Cameron & Freeman, 1991; Smart & St. John, 1996; Smart, Kuh, & Tierney, 1997). The consistency of such findings in both two- and four-year institutions clearly suggest the merits of campus cultures as a primary construct in the organizational theory and assessment literature that has great potential in efforts to discern how characteristics of institutions and elements of their campus environments are related to the growth and development of college students.

The findings of the present study are based solely on the *direct* effects of campus cultures, campus missions, and behaviors of senior campus leaders on students' educational development and satisfaction, and both Pascarella (1985) and Pascarella and Terenzini (1991) suggest that one possible reason for the tendency of institutional and environmental characteristics to not be strongly associated with student outcome measures is the failure of scholars to examine the potential *indirect* influences of such measures through the use of causal modeling procedures.

While the potential indirect effects of variables in this study were not examined because there is no available theory on which to postulate the causal relationships among these measures, it is possible, for example, that the relatively weaker overall influence of measures of the managerial behaviors of senior campus leaders in this study may underestimate their actual impact if one accepts the premise that campus leaders are primarily responsible for providing the necessary leadership by which campuses develop their overall mission and cultural orientations. There is evidence to support this premise. For example, there is abundant evidence of this assumption in both the organizational theory and assessment (Drucker, 1973; Perrow, 1970) and the higher education (Birnbaum, 1989; Chait, 1979; Davies, 1986) literatures that organizational leaders are largely responsible for developing the mission statements and orientations of their organizations. Similarly, Schein (1992) notes that "culture and leadership ... are two sides of the

same coin" and contends that "the only thing of real importance that leaders do is to create and manage culture" (p. 1). He suggests that specific behaviors of leaders communicate culture and transmit new cultural values. Schein provides numerous examples of how organizational culture may be created and influenced through such specific behaviors as what leaders pay attention to on a regular basis, how leaders react to critical incidents, what criteria leaders use to allocate resources, and what criteria they employ in terms of the qualities of individuals who are recruited by and promoted in the organization. If one accepts the logic of these premises, then assessments of the influences of the behaviors of campus leaders on students' educational development and satisfaction using causal modeling procedures might reveal that such influences are manifested in an indirect manner through their effects on campus culture and mission variables. Such a possibility warrants consideration in subsequent research efforts.

Strange and Banning (2001) are among many who contend that students behavior must be examined in terms of characteristics of the person and characteristics of the environment. This premise is consistent with the perspective of Dewey (1933) who notes that "we never educate directly, but indirectly by means of the environment" and "whether we permit chance environments to do the work, or whether we design environments for the purpose makes a great difference" (p. 22) and the perspective of Moos (1986) that educational environments are perhaps the most powerful technique we have for influencing human behavior. Strange and Banning provide a fourfold typology of campus environments based upon (1) physical characteristics and design; (2) collective characteristics of environmental inhabitants; (3) organizational structure, policies, and procedures intended to meet explicit or implied goals; and (4) consensual perceptions of environmental habitants of the organizational context and culture. These four components of campus environments provide a rich theoretical context within which to select specific manifestations of college environments that might influence student learning and development. For example, the various dimensions of campus missions included in this study and the managerial behaviors of campus leaders are reflective of the organizational structure, policies, and procedures component of Strange and Banning typology, while the campus culture measures are reflective of the consensual perceptions component of the model. The use of specific measures of campus environments suggested by the fourfold typology proposed by Strange and Banning would appear to be a more fruitful source of measures in efforts to discern

the influences of institutional and environmental characteristics than the extant higher education research literature where reliance continues to be placed on such attributes as the size, resource level, and type of control which have been shown consistently to not be strongly related to student learning and development.

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Table 1: Description of Educational Effectiveness, Organizational Culture Leadership Role, and Institutional Mission Scales and Variables

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Educational Effectiveness Scales

Student Educational Satisfaction (SES): The extent of students' satisfaction with their educational experiences at the institution. (3 items, coefficient alpha = .82)

Student Academic Development (SAD): The extent of academic attainment, growth, and progress made by students at the institution, and the opportunities provided by the institution for academic development. (4 items, coefficient alpha = .67)

Student Career Development (SCD): The extent of occupational or vocational development of students and the opportunities for occupational development provided by the institution. (3 items, coefficient alpha = .72)

Student Personal Development (SPD): The extent of student development in noncareer, nonacademic areas, that is, socially, culturally, emotionally, and the opportunities provided by the institution for personal development. (4 items, coefficient alpha = .70)

Organizational Culture Scales

Clan Culture: The campus is viewed as a friendly place to work where people share a lot of themselves. Campus leaders are considered to be mentors, or perhaps even parent figures. The college is held together by loyalty and tradition. The college emphasizes the long-term benefit of human resource development and attaches great importance to cohesion and morale. Commitment is high. (4 items, coefficient alpha = .75)

Adhocracy Culture: The campus is viewed as a dynamic, entrepreneurial, and creative place to work and encourages individual initiative and freedom. Campus leaders are considered innovators and risk takers. The glue that holds the college together is commitment to experimentation and innovation. The college emphasizes being on the leading edge and there is a long-term emphasis on growth and acquiring new resources. (4 items, coefficient alpha = .80)

Market Culture: The college is viewed as competitive and goal-oriented, and the major concern is with getting the job done. Campus leaders are considered to be tough, demanding, hard-drivers, producers, and competitors. The college is held together by an emphasis on success, winning, and reputation building. There is a long-term focus on competitive actions and the achievement of measurable goals and targets. (4 items; coefficient alpha = .62)

Table 1 (continued): Description of Educational Effectiveness, Organizational Culture, Leadership Role, and Institutional Mission Scales and Variables

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Organizational Culture Scales (continued)

Hierarchy Culture: The college is viewed as a formalized, structured place to work where procedures govern what people do. Campus leaders pride themselves as being good coordinators and organizers who are efficiency-minded. Formal rules and policies are the glue that holds the college together. There is a long-term focus stability and performance with efficient, smooth operations. (4 items; coefficient alpha = .62)

Leadership Role Factors

Motivator: Campus leaders actively serve as facilitators where they encourage the expression of opinions, build cohesion, and manage interpersonal conflict, and as mentors where they are aware of individual needs, listen to and support legitimate requests, convey appreciation, and facilitate the development of individuals. Proficient Motivators exhibit the capacity to understand themselves and their colleagues, communicate effectively, develop colleagues, build campus teams, use participative decision making, and manage conflict.

Vision Setter: Campus leaders actively serve as innovators where they are creative and envision, encourage, and facilitate change, and as brokers where they are politically astute and assure the organization's legitimacy with external constituencies. Proficient Vision Setters exhibit the capacity to think creatively, facilitate and live with change, build and maintain a power base on campus, negotiate agreement and commitment, and present ideas in a compelling manner.

Task Master: Campus leaders actively serve as producers where they are task-oriented and work-focused in order to motivate behaviors that result in completion of assigned tasks, and as directors where they set objectives, establish clear expectations, and emphasis goal setting and role clarification. Proficient Task Masters exhibit the capacity to envision, plan, and set goals, design and organize tasks, delegate effectively, foster a productive work environment, and manage time and stress in campus operations.

Analyzer: Campus leaders serve as coordinators where they engage in maintaining structure, scheduling, and seeing that rules and standards are met, and as monitors where they collect and distribute information, monitor performance, and provide a sense of continuity and stability. Proficient Analyzers exhibit the capacity to design work tasks, manage projects, manage across functions, and monitor individual, collective, and organizational performance.

Table 1 (continued): Description of Educational Effectiveness, Organizational Culture, Leadership Role, and Institutional Mission Scales and Variables

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Institutional Mission Scales and Variables

Mission Clarity: The degree to which the college mission statement is clear, easily understood, and known by faculty and administrators on campus. (2 items, coefficient alpha = .78)

Mission Distinctiveness: The extent to which faculty and administrators perceive the college has a special identity and a distinctive purpose to fulfill. (2 items, coefficient alpha = .76)

Mission Agreement and Fidelity: The degree to which faculty and administrators share a common definition of the college's mission and perceive that the academic programs and day-to-day operational processes and procedures of the institution are consistent with the institutional mission. (5 items, coefficient alpha = .87)

Percent Transfer: A single item indicating the percent of students enrolled in transfer/university parallel programs.

Percent Career: A single item indicating the percent of students enrolled in career/technical programs.

Percent Continuing: A single item indicating the percent of students enrolled in continuing/adult education programs.

Table 2. Correlations among All Variables in the Regression Analyses

	M1	M2	M3	M4	M5	M6	C1	C2	C3	C4	L1	L2	L3	L4	D1	D2	D3	D4
M1	1.00																	
M2	.35	1.00																
M3	.58	..54	1.00															
M4	.08	-.07	.03	1.00														
M5	.00	.10	.00	-.53	1.00													
M6	.02	.06	.06	.01	.06	1.00												
C1	.31	.42	.58	.06	-.03	.12	1.00											
C2	.29	.37	.55	.03	.02	.07	.62	1.00										
C3	.24	.27	.44	.11	-.09	.09	.48	.39	1.00									
C4	.27	.27	.46	.10	-.07	.11	.42	.61	.53	1.00								
L1	.39	.32	.60	.10	-.06	.03	.46	.56	.50	.56	1.00							
L2	.32	.34	.59	.06	.00	.10	.66	.56	.44	.37	.55	1.00						
L3	.24	.27	.41	.04	.01	.05	.41	.67	.22	.42	.50	.47	1.00					
L4	.23	.24	.38	.07	-.03	.06	.31	.27	.47	.32	.48	.41	.26	1.00				
D1	.28	.25	.44	.04	.02	-.01	.36	.30	.24	.20	.34	.33	.21	.22	1.00			
D2	.24	.37	.45	.02	.01	.08	.48	.42	.37	.35	.37	.38	.29	.29	.42	1.00		
D3	.18	.23	.23	-.15	.12	-.07	.11	.10	.04	.05	.15	.12	.07	.10	.31	.31	1.00	
D4	.27	.33	.47	.06	-.05	.05	.54	.49	.31	.37	.39	.41	.34	.26	.40	.53	.18	1.00

Note: Variable names are: MI "Mission Clarity," M2 "Mission Distinctiveness," M3 "Mission Agreement and Fidelity," M4 "Percent of Students in Transfer/University Parallel Programs," M5 "Percent of Students in Career/Technical Programs," M6 "Percent of Students in Continuing Education/Adult Education Programs," C1 "Clan Culture," C2 "Adhocracy Culture," C3 "Market Culture," C4 "Hierarchy Culture," L1 "Motivator Leadership Role," L2 "Vision Setter Leadership Role," L3 "Task Master Leadership Role," L4 "Analyzer Leadership Role," D1 "Student Educational Satisfaction," D2 "Student Academic Development," D3 "Student Career Development", D4 "Student Personal Development." See Table 1 for definitions of all variables.

Table 3: Standardized Regression Coefficients

Independent Variables	Dependent Variables: Educational Effectiveness Dimensions			
	Student Academic Development	Student Personal Development	Student Career Development	Student Educational Satisfaction
Organizational Culture Scales				
Clan Culture	.22[c]	.34[c]	.00	.14[c]
Adhocracy Culture	.10[a]	.15[c]	.01	.05
Market Culture	.04	.06	-.05	-.09[a]
Hierarchy Culture	.08[a]	-.05	-.08[a]	.01
Leadership Role Scales				
Motivator Role	-.02	-.04	.00	.01
Vision Setter Role	-.01	-.01	-.05	-.03
Task Master Role	.02	.03	.10[a]	.11[b]
Analyzer Role	.06[a]	.05	.04	.02
Mission Scales and Variables				
Mission Clarity	-.03	.00	.06	.03
Mission Distinctiveness	.13[c]	.04	.14[c]	.00
Mission Agreement and Fidelity	.14[c]	.15[c]	.13[b]	.28[c]
Percent Transfer	.00	.00	-.12[b]	.03
Percent Career	.01	-.05	.04	.04
Percent Continuing	.02	-.01	-.07[a]	-.05
R^2 Values	.32[c]	.36[c]	.11[c]	.22[c]

Note: [a] ($p < .05$), [b] ($p < .01$), [c] ($p < .001$)

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