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ABSTRACT

This study examined the effects of state regulation of financial, personnel, and academic resources on the administrative flexibility granted to universities, and tested the hypothesis that state regulatory climate influences levels of managerial satisfaction. Data were gathered through two surveys. The first covered management flexibility and state regulation issues; responses were received from 122 public universities. A second survey of administrative satisfaction and stress was administered to 12 managers on each campus; replies were received from 995 respondents at 100 universities. Survey questions were grouped in five sets of variables: state characteristics, campus characteristics, administrator characteristics, perceived administrative work climate, and overall satisfaction. The study found: (1) that administrative teamwork and interpersonal stress, respectively, had the strongest positive and negative influences on administrative satisfaction; (2) that academic and administrative dimensions of campus autonomy were relatively independent; (3) that there was only a slight relationship between the economic, demographic, social, and political characteristics of the state and the regulatory climate for state universities or managerial satisfaction levels, (4) that there was little correlation between state control and campus characteristics, and (5) that there was little direct relationship between administrator satisfaction and state and/or campus characteristics. Four figures summarize some of the data. (Contains approximately 65 references.) (CH)

# ADMINISTRATIVE SATISFACTION AND THE REGULATORY CLIMATE AT PUBLIC UNIVERSITIES

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**Jean Endo**
**Editor**
**AIR Forum Publications**

# ADMINISTRATIVE SATISFACTION AND THE REGULATORY CLIMATE AT PUBLIC UNIVERSITIES


## ABSTRACT

To what extent do regulatory climate differences among states influence the satisfaction levels of campus managers? This study first measures the financial, personnel and academic dimensions of state regulation, and examines the extent to which university and state characteristics have an effect on the regulatory climate and administrative flexibility granted to campuses. Second, the research analyzes the dimensions of managerial satisfaction and tests the hypothesis that the state's regulatory climate exercises an influence on the satisfaction levels of managers who are in functional areas impacted by state control. An array of organizational, individual, and work climate variables are used as controls. An atmosphere of administrative teamwork and interpersonal stress appear to exert the strongest positive and negative influences on administrative satisfaction.

# Administrative Satisfaction and the Regulatory Climate at Public Universities

## The Research and Policy Problem

While demands for accountability and control have produced, over the past 30 years, an increase in governmental regulation, the more recent atmosphere in Washington, D.C. and several state capitals reflects a growing consensus that regulation can be both costly and unproductive. "Taken by itself, any single action may not be unbearably intrusive, but the combined impact of many actions can nearly suffocate an institution" (Carnegie Foundation, 1982, p. 65).

Most organizational behaviorists believe that an increase in monitoring activity increases operating costs, both for those doing the monitoring and for those being monitored (Downs 1967). Many authors in higher education condemn regulations that hamper an institution from adjusting to changing circumstances and needs. A number of publications by the Association of Governing Boards (Gardner, et al., 1985), the Carnegie Foundation for the Advancement of Teaching (1982), the Carnegie Council on Policies Studies in Higher Education (1976), the Carnegie Commission on Higher education (1973), and the Sloan Commission (1980) have agreed that over-regulation is wasteful.

The Carnegie Commission (1973) concluded that campus autonomy has declined substantially since the end of World War II. For the nation as a whole, state legislative enactments per year increased from roughly 15,000 in the 1950s to 50,000 annually in the 1980s (Fisher 1988). While not all of these bills affect higher education, Fisher examined four representative states and found that nearly half of the higher education laws in this century had been enacted in the most recent two decades. However, the nature and intensity of these measures differ from state to state due to the varying nature of state history, structure, culture, law, educational standards, and political tradition. In heavily regulated environments, public universities are treated like "state agencies" and have less flexibility in personnel, financial and academic matters. Campuses in other states are relatively autonomous, and considered to be "state aided" (Curry & Fisher 1986).

The 1982 study by the Carnegie Foundation reported that state officials fail to reward efficient leaders, and that campus managers feel caught in a bureaucratic web that demands accountability, but provides few incentives for responsible management. Administrative dissatisfaction with over-regulation is

worth examining because the job satisfaction literature indicates a strong connection between satisfaction and productivity (Vroom 1964, Porter and Lawler 1968).

Much has been written about government regulation of public higher education, but there are few empirical studies that analyzed the relationship of state regulation to various campus and state characteristics. Exceptions include Volkwein's National studies in the 1980s, and more recently in the 1990s (Volkwein 1986, 1987, 1989; Volkwein & Malik 1996, 1997). While these studies have found little relationship between measures of regulation/autonomy and other university characteristics and behaviors, they suggest the hypothesis that state controls have a negative impact on administrative satisfaction. No studies in higher education have attempted to measure the impact of state regulation on administrators job satisfaction, despite the linkages in the research literature among satisfaction, performance, stress, and turnover (Austin & Gamson 1983, Glick 1992, Hagedorn 1996, Smart 1990). Researchers have shown a consistent inverse relationship between worker job satisfaction and turnover rates (Cotton & Tuttle 1986, Glick 1992, Mobley et al. 1979, Smart 1990).

Thus, there are multiple reasons to be concerned about state regulation and campus autonomy. First, the empirical literature on state regulation and its impact on campuses is sparse. Second, unless its benefits can be demonstrated, regulatory activity by the state appears to be unproductive and wasteful of taxpayer resources. Third, regulatory activity may reduce managerial job satisfaction which in turn increases turnover and lowers organizational productivity and adaptation. Since educational institutions, along with the rest of society, need to become more productive, we need to remove as many obstacles to increased productivity as possible. Fourth, since the States as well as the Federal government provide much financial support to this large higher education industry, they have a stake in knowing the impact of regulatory actions.

## Purpose of the Study and Conceptual Frameworks

To what extent do regulatory climate differences among states influence the satisfaction levels of campus managers? This study addresses this question first by measuring the administrative and academic dimensions of state regulation, and then examining the extent to which university and state characteristics have an impact on the regulatory climate. Second, the research examines the perceived work environments and individual characteristics of administrative managers whose positions are impacted by state control. With responses from almost 1000 managers at 100 universities, we analyze the dimensions of managerial satisfaction and test the hypothesis that the state's regulatory climate exercises an influence on satisfaction levels. We conducted this study by merging a variety of theoretical perspectives from the research literature:

organizational theory, structural/functional perspectives, the literature on university autonomy, and theories of employee satisfaction.

Contemporary organizational theory stresses the role of the organization's environment as a crucial influence on the life of an organization, its structure, and its activities. Contingency theory (Lawrence and Lorsch, 1967), the natural selection model (Aldrich, 1979), and the resource dependence model (Pfeffer and Salancik, 1978) all focus on the external environment. Volkwein (1986, 1989) found support for the resource dependence model in his studies of university quality. Public universities are viewed as complex, loosely-coupled organizations, and their relations with state governments form a critical component of the external climate within which they pursue their goals. Scholars often divide an organization's environment into economic, political, social, and technological dimensions.

Structural/functional perspectives from the literature on organizations and bureaucracies encourage researchers to attend to those variables that reflect the influence of organizational structures (Hall, 1991). Studies of colleges and universities, as particular types of organizations, have shown that campus mission, size, wealth, and selectivity exert significant influences (ranging from small to large) on a variety of college outcomes (Pascarella and Terenzini, 1991). Volkwein (1986, 1989, 1995) has demonstrated that a variety of university characteristics tend to cluster together along the dimensions of mission, size, financial support, and complexity. In their summary of the research literature, Austin and Gamson (1983) call for the incorporation of such factors as institution size, control, and selectivity into future studies of administrative satisfaction. Hagedorn (1994) notes the importance of university and department quality as influences on satisfaction.

The literature on university autonomy and state control suggests that there are multiple dimensions. Berdahl (1971) distinguishes between "procedural" and "substantive" autonomy. Levy (1980) and the Carnegie Foundation (1982) identify three important areas of university autonomy: financial or budgetary, personnel or appointive, and academic. In his studies of state regulation and campus flexibility, Volkwein (1986, 1987, 1997) found that the financial and personnel dimensions collapsed into a single administrative factor, leaving academic and administrative as the two autonomy dimensions.

The job satisfaction literature provides several conceptual frameworks that guide the development of this study and its measures. Maslow's hierarchy of needs is used by most management experts to argue in favor of worker autonomy and organizational flexibility (Boons & Kurtz, 1992). Herzberg's Two Factor Theory (1959) draws our attention on the one hand to intrinsic job content factors (such as feelings of accomplishment, recognition, and autonomy), and on the other hand to extrinsic job context factors (such as pay, security, and physical working conditions).

For instance, several researchers have identified the opportunity for independent thought and action, feelings of accomplishment, opportunities of growth and development, and self-esteem as indicators of intrinsic rewards (Olsen, 1993; Austin and Gamson 1993; Hackman and Lawler, 1971). On the extrinsic dimension, Kalleberg (1977) demonstrates that job satisfaction is positively affected by job reward factors such as pay. Hagedorn's (1994) causal model of satisfaction in academe shows satisfaction with salary, total work hours, and perceived support of colleagues as directly influencing perceived level of stress which, in turn, directly effects satisfaction. At any rate, there is general agreement that job satisfaction is multi-dimensional and influenced by a complex array of personal and situational circumstances (Austin & Gamson. 1983; Hoppock, 1977; Mumford, 1972; Bruce and Blackburn, 1992). Collectively, the literature suggests that employees may be satisfied with some components of their responsibilities but not satisfied with others. All of us tend to weigh the many dimensions of our jobs against one another and reach an overall conclusion. Thus, we may expect to find that the organization's regulatory climate exerts less of an influence on overall job satisfaction than it does on some satisfaction sub-components.

Consistent with research in other organizations, studies of managers in colleges and universities suggest that a variety of personal and organizational variables exert potential influences on their job satisfaction. Among these personal characteristics are age (Austin, 1985; Lee & Wilbur, 1985; Solomon & Tierney, 1977), sex (Austin 1985; Hagedorn 1996), level of education (Martin and Shehan 1989), length of service (Bamundo & Kopelman 1980), administrative rank (Austin 1984), and administrative area (Glick, 1992).

The organizational characteristics that may influence managerial satisfaction include organizational mission, size, wealth, complexity, and quality (Austin & Gamson 1983, Hall 1995). Several studies also show that a variety of work related variables exert positive and significant influences administrative satisfaction -- a supportive organizational culture, teamwork, relationships with colleagues and superiors, worker autonomy, and self-fulfillment (Berwick 1992, Bensimon & Newman 1991, Austin & Gamson 1983, Boone 1987, Lawler 1986, Rigg 1992).

Negative influences on satisfaction are produced by job and workload stress (Blix & Lee 1991, Glick 1992, Olsen 1993). Because of the connection between the two, job stress variables are almost always included in studies of job satisfaction (Blau 1981, Hagedorn 1996). Moreover, there are multiple sources of stress related to roles and responsibilities, tasks and workload, social and interpersonal relations, and personal health (Blix & Lee 1991, Smith et al. 1995, Sullivan & Bhagat 1992). Thus, in this study we

control for the influences of outside stresses like personal and family health problems, personal and family financial problems, and interpersonal difficulties with colleagues and superiors.

Many in higher education argue that the regulatory climate influences the satisfaction levels of campus managers and over regulation produces a controlled work environment (Atwell 1985, Carnegie Foundation 1982, Curry & Fisher 1986, Mingle 1983, Newman 1987). Solomon and Tierney (1977) and Smart and Morstain (198 ) found higher satisfaction among college administrators reporting a work environment that is appealing and challenging and consistent with their preferred responsibilities. Thus, we complemented our measures of actual state control with measures of the perceived regulatory control and the perceived work environment on the grounds that there may be a connection between the two.

## Research Methods

We created the analytical database for this study drawing information from a wide range of different sources. Information on state characteristics was assembled from U.S. Census data, the public administration literature, and a survey of state regulation and management flexibility practices. The organizational and financial characteristics of universities came from NCES/IPEDS, from the National Research Council study of doctoral programs(1995), from the Graham and Diamond research at Vanderbilt (1996), and from the guidebook information contained in *Barron's* and *US News*. The information about the backgrounds, perceptions, personal stress, and satisfaction levels of individual administrators was obtained on a survey that was administered by cooperating campus officials to a population of managers with 12 specific job titles that we hypothesized would be impacted by state control and campus flexibility.

### Target Population, Data Sources, & Variable Summary

This study solicited responses from 144 public universities in the United States classified by the Carnegie Foundation as Research I & II or Doctoral I & II. 122 universities in 50 states agreed to participate in the study, and their Presidents and Chancellors designated a campus contact person to assist the researchers with data collection. Each campus received two types of surveys. The first survey (of management flexibility and state regulation) contains 47 questions about financial, personnel, and academic transactions. This first survey was returned by 122 public universities.

The second survey of administrative satisfaction and stress was administered to 12 managers (ranging from vice presidents to directors) on each campus who hold positions that in theory are effected by

the regulatory climate. This second survey contains 7 questions about the respondent's background, and 44 items assessing their satisfaction, stress, and working conditions. Using procedures to ensure respondent anonymity, we eventually received 995 satisfaction surveys from 100 cooperating universities. The number of administrative respondents by rank and functional area is shown on the following page. While not every campus had all 12 managerial titles, we received an average of 10 satisfaction surveys per campus.

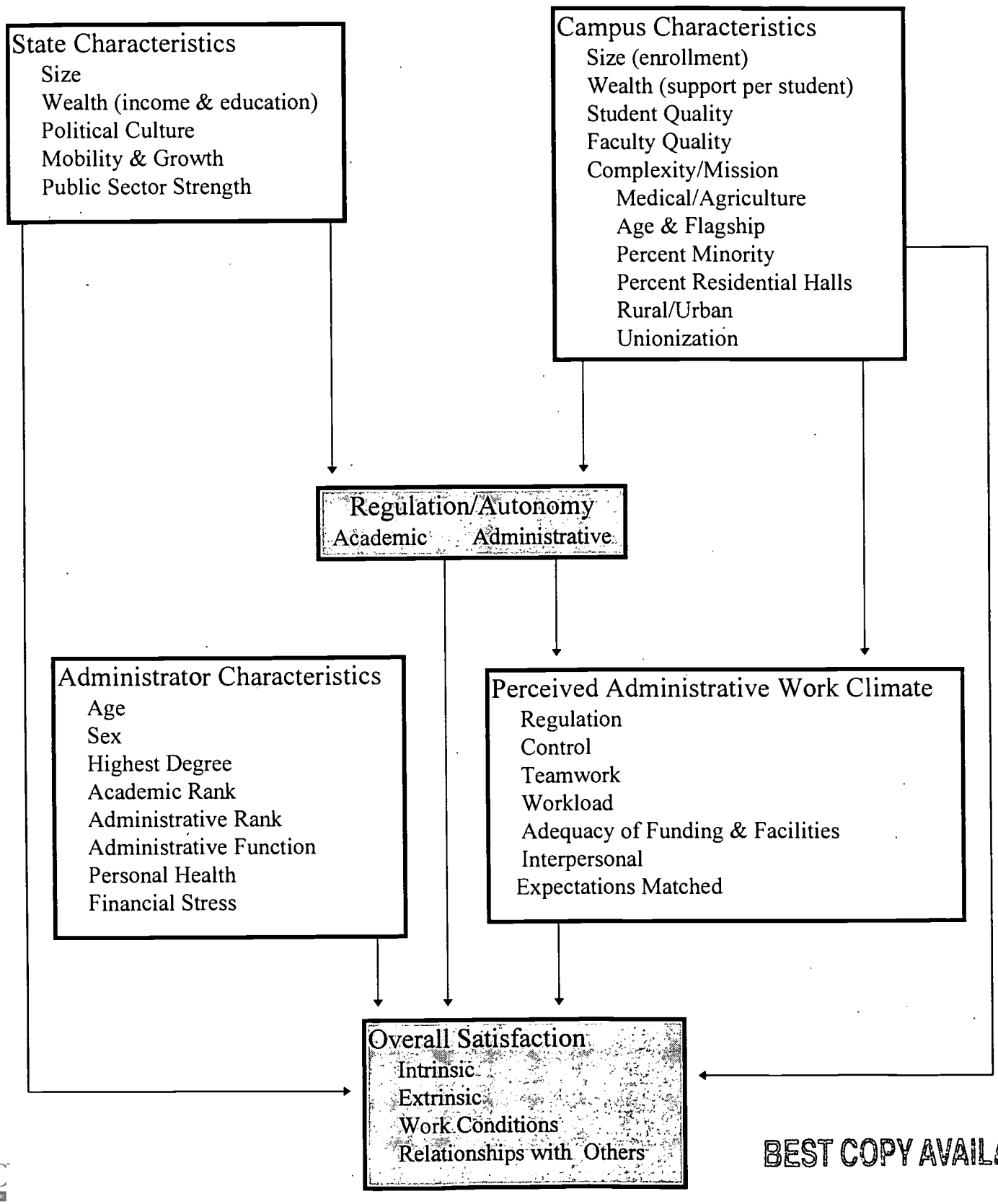
The attached diagram of variables in this study shows the measures that we assembled from these various sources. A more complete description of the methodology and data reduction steps for the state attributes, campus characteristics, and measures of regulation and flexibility is contained in Volkwein and Malik (1997, forthcoming).

**State attributes:** We incorporated into the database thirty-seven state characteristics that fall into three broad types of measures: economic (e.g., per-capita income, tax capacity, support for higher education, poverty rate), social/demographic (e.g., population attributes, mobility, ethnic and age profiles, education levels), and political/bureaucratic (e.g., relative size of state government, governor's power, political culture, voting patterns). State characteristics data were obtained from NCES "State Higher Education Profiles," from U.S. Census Data, from the Center for the Study of the States, and from other higher education and public administration literature. Data reduction in the form of principle components analysis and scale building produced the five variables shown in the diagram -- size, wealth, political culture, mobility, and public sector strength.

**Campus characteristics:** Based on the organizational literature (Hall 1991, Volkwein 1986), and our own confirmatory factor analysis, the 42 campus characteristics separate into four broad categories: organizational size, financial support, mission/complexity/diversity, and quality/selectivity. The measures reflecting organizational size, wealth, and quality formed tight scales, but the complexity measures are not highly enough correlated to form a common factor. The measures of size, wealth, and complexity we extracted from IPEDS and other data supplied by the National Center for Education Statistics. Variables reflecting faculty and student quality have been constructed from the national survey of doctoral program quality by the National Research Council, from the data assembled by Graham and Diamond (1996), and from the student and campus data reported in *Barron's* and *U.S. News*. In addition, we obtained AAUP salary data and within-campus Directory information about administrative officers and colleges and schools. From the campus administrative flexibility survey we obtained information about levels of employee unionization, flagship status, and constitutional autonomy.

**State regulation/autonomy:** Rules, legislation, and procedures, prescribed by the states to control academic, financial and personnel transactions of universities, are measured by campus responses to survey items and scales originally developed by Volkwein (1986, 1987, 1989), but updated and enhanced for this study (see Volkwein & Malik 1997). The survey collected responses to questions about 47 types of flexibility and control. Among the 26 survey items about financial and personnel matters, we found five dimensions of financial and personnel flexibility that are so highly correlated we combined them into a single scale of administrative flexibility. These items reflect various aspects of campus flexibility over managing budgets and revenues, expending funds, setting tuition, and appointing personnel without external approval. Regarding the 21 survey questions about academic flexibility, we found six dimensions that encompass all the academic survey items and form a common scale. These items reflect an institution's autonomy over

# Diagram of Variables in this Study



## List of Satisfaction Survey Recipients

1) Chief Academic Officer (Provost, Vice President, Vice Chancellor)

2) Chief Business & Finance Officer

3) Dean of largest college/school (non-medical)

4) Managers regardless of title that have responsibility for the following administrative offices:

a) Registrar

b) Institutional Research/planning

c) Personnel & Human Resources

d) Budget

e) Purchasing

f) Controller/Accounting

g) Payroll

h) Physical Plant/Facilities

i) Financial Aid

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## Administrative Respondents by Rank and Functional Area

### Administrative Rank or Equivalent

| Division | Vice Pres./ Provost | Dean/ Assoc. Vice Pres. | Assistant Vice Pres. | Director | "Assistant to" | Total |
|---|---|---|---|---|---|---|
| Academic Affairs | 83 | 91 | 6 | 2 | 2 | 184 |
| Business/Finance/Admin | 59 | 21 | 25 | 44 | 11 | 160 |
| Student Services | 3 | 8 | 7 | 138 | 7 | 163 |
| Planning & IR | 4 | 1 | 3 | 53 | 5 | 66 |
| Personnel/Human Res Mgmt | 12 | 34 | 29 | 229 | 34 | 338 |
| Other | 2 | 10 | 16 | 53 | 3 | 84 |
| **Total** | **163** | **165** | **86** | **519** | **62** | **995** |

academic programs, degree requirements, standards, and departments, as well as the institution's freedom from state imposed accountability requirements.

**Administrator Characteristics:** Based on the literature, we asked respondents to indicate their age and length of service, sex, highest degree, academic rank (if any), administrative rank (we imposed a hierarchy), and functional area (academic affairs, business and finance, human resources management, IR and planning, student services, and other)

**Managerial Satisfaction, stress, and work climate:** Using an anonymous survey distributed by the campus contacts to the 12 managers with job titles that we identified, we assess respondent satisfaction and stress in a variety of dimensions suggested in the occupational satisfaction literature. The 25 satisfaction items on the survey use a 5-point Likert type scale from very satisfied to very dissatisfied. Our principle components and data reduction techniques produced scales of intrinsic satisfaction, extrinsic satisfaction, satisfaction with work conditions, and relationships with others. Their alpha reliabilities range from .76 to .90. We use a single item to express overall satisfaction. 19 other questions use a 5-point scale to elicit responses to questions about work climate and sources of stress (1=none, 3=moderate, 5=extreme). These yielded scales reflecting perceptions about regulation, control, teamwork, workload, adequacy of funding and facilities, and stress from health, financial, and interpersonal situations.

### Analytical Procedures

We concluded data collection during 1995, and in early 1996 completed a series of data reduction steps and began the analysis. The data assembled from these various sources were merged into a database and manipulated using SPSS. We conducted principle components analyses to confirm the dimensions of state attributes, university organizational characteristics, regulation/flexibility, perceived work climate, and administrative satisfaction. We used a series of OLS Regression equations to test the hypothesis that regulatory climate differences among states influence the satisfaction levels of campus managers.

## Results

The attached **Flexibility Grid** shows our classification of the 50 states on the relative amounts of administrative and academic flexibility that they allow their universities. For each of the two flexibility dimensions, we took the separate factor scores from the principle components analysis and added them to produce a single overall scale for academic flexibility and one for administrative. Each state scoring one standard deviation or more above the mean is classified "high flexibility;" each scoring one standard deviation or more below the mean is "low." The rest are "medium." The universities with the greatest flexibility and the least state oversight on both dimensions are in the high/high box. States like Ohio, New Mexico, and Michigan enjoy above average autonomy on both dimensions. On the other hand, Illinois and Maryland are the only states in the low/low box, indicating that universities there have comparatively less

# Flexibility Grid

## Administrative Flexibility

| Academic Flexibility | Low | Medium | High |
|---|---|---|---|
| High | FL, NY, RI, MA, VA | NJ, OR, AK, WV | WY, MI, NM, AL, DE, OH, VT, PA, ND, IA |
| Medium | KS, TX, NC, CA, WI | ME, LA WA, MT UT, NB | KY, AR, IN, CT, NH |
| Low | MD, IL | OK, NV, AZ, MO, MN, TN, MS, GA, SD, HI, ID | CO, SC |

autonomy and more state oversight than their peers in this study. Reflecting the independence of these two flexibility dimensions, some states rate high/low while others rate low/high. For example, New York and Virginia are relatively high on academic and relatively low on administrative flexibility. On the other hand. Colorado and South Carolina experience the opposite condition: high administrative, low academic.

Our question is, do these differences among states translate into variations in the levels of administrator satisfaction? To address this question, we first examined the correlations among the relevant variables in the database, and second, calculated a series of OLS Regression models. The attached **Correlation Matrix** shows the zero-order correlations among the two objective measures of campus autonomy (1 administrative, 2 academic), the perceived measure of external regulation (3), the three work environment stresses (4-6), and the five measures of satisfaction that we developed from the survey (7-11). The correlation matrix shows that each of the two objective measures of autonomy/flexibility (variables 1-2) are significantly correlated with respondent perceptions about external regulation, but the coefficients are only -.09 and -.35. The measure of administrative autonomy is additionally correlated with perceptions of a controlled work environment (-.09). However, neither of the first two flexibility measures is significantly correlated with the measures of workload and interpersonal stress (5-6), nor the measures of satisfaction (7-11).

Interestingly, the measure of perceived external regulation (3) is significantly correlated with perceptions about a controlled work environment(4) workload stress(5), and interpersonal stress(6), but not with the satisfaction measures(7-11). However, the workload, interpersonal, and controlled work environment measures are negatively correlated with all five satisfaction measures. This suggests the possibility of indirect influences at work on satisfaction through the work environment.

Last, the correlation matrix shows that each of the five satisfaction measures (7-11) are strongly correlated with each other -- coefficients range from .34 to .69. Most strongly correlated with overall satisfaction is the scale of work conditions.

We next developed a series of stepwise, pairwise, OLS regression models by entering the state characteristics, then the campus characteristics, then the regulation measures, then the administrator attributes, and finally the work climate variables. Until we entered the work climate variables the models explained trivial amounts of the variance in the five dependent satisfaction measures. The results of the final multivariate analyses are shown in the **Regression Table** which shows only the significant beta weights and R-square values.

When all the state, campus, and administrator variables are included in the stepwise regression procedure, the first column shows that four measures explain 28 percent of the variance in overall

## Correlation Matrix
## Regulatory Climate, Work Climate and Satisfaction Variables

| State Regulatory Climate | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Campus Autonomy/Flexibil. | | | | | | | | | | | |
| **1** Administrative | 1.00 | | | | | | | | | | |
| **2** Academic | .18*** | 1.00 | | | | | | | | | |
| **Perceived Work Climate** | | | | | | | | | | | |
| **3** External Regulation | -.35*** | -.09** | 1.00 | | | | | | | | |
| **4** Controlled Work Envir. | -.09** | .06 | .24*** | 1.00 | | | | | | | |
| **5** Workload/Time Stress | -.00 | -.06 | .09** | .12*** | 1.00 | | | | | | |
| **6** Interpersonal Stress | .06 | .03 | .02 | .17*** | .27*** | 1.00 | | | | | |
| **Satisfaction** | | | | | | | | | | | |
| **7** Overall | .01 | -.05 | -.05 | -.19*** | -.22*** | -.44*** | 1.00 | | | | |
| **8** Intrinsic | .01 | -.06 | -.05 | -.27*** | -.13*** | -.43*** | .69*** | 1.00 | | | |
| **9** Extrinsic | -.15 | .05 | -.05 | -.10** | -.13*** | -.24*** | .42*** | .43*** | 1.00 | | |
| **10** Work Conditions | -.02 | .01 | -.06 | -.15*** | -.51*** | -.46*** | .55*** | .49*** | .37*** | 1.00 | |
| **11** Relationships | -.02 | .01 | -.08* | -.07* | -.13*** | -.36*** | .41*** | .41*** | .34*** | .40*** | 1.00 |

Significance Levels
* = <.05
** = <.01
*** = <.001

administrative satisfaction: This is a single item, rather than a scale, and the most important variables are the positive influence of administrative teamwork (.26), and the negative impacts of interpersonal work relations (-.31), workload stress (-.11), and perceptions of an overly controlled work environment (-.10).

Three of these four variables exert similar influences in the next column of the table -- the regression model for the scale of intrinsic satisfaction. (This eight-item scale reflects feelings of accomplishment, autonomy, creativity, initiative and challenge.) With an R-square of .31, the most significant influences are exerted by interpersonal stress (-.31), teamwork (.27), and a controlled work environment (-.18). Significantly less intrinsic satisfaction was reported by managers in human resources (-.09) and significantly more by those in states with a strong public sector commitment (.07).

The analysis of extrinsic satisfaction (a three item scale of salary & benefits, opportunities for advancement, and future income potential) explains only 14 percent of the variance. Influential variables include undergraduate quality (.12), administrative rank (-.18), teamwork (.14), inadequate funding (-.11), and interpersonal stress (-.15). Perhaps the only surprise here is that the higher the administrative rank, the less extrinsically satisfied. The highest paid employees are the least satisfied with their salaries and benefits.

Three variables explain 41 percent of the variance in the scale of work conditions. (These five items reflect satisfaction with hours, work pressure, job security, and organizational politics). Large negative influences are exerted by workload stress (-.42) and interpersonal stress (-.29). Again, teamwork has a positive influence (.19).

The regression model for satisfaction with work relationships (5 item scale reflecting relationships with colleagues, faculty, and students) only explains 20 percent of the variance. Once again, interpersonal conflict exerts a negative influence (-.28) and teamwork exerts a positive influence (.18). Undergraduate quality (.07) and having academic rank (.16) constitute other positive influences, while the perceived regulatory climate is a negative influence (-.08).

Looking across all five models, it is clear that the largest, most consistent correlations with administrative satisfaction are interpersonal stress and teamwork. Stress is associated with low satisfaction, while teamwork is associated with high satisfaction. Not only do they explain most of the variance in expected aspects of satisfaction (intrinsic and work relationships), but also in the less expected realms of extrinsic rewards and work conditions. Their influence is so pervasive that their influence on overall administrative satisfaction is two or three times greater than perceptions about workload stress and about an overly controlled work environment.

## Regression Table

## Regression Beta Weights for Administrative Satisfaction Measures With Characteristics of States, Campuses, and Administrators

| Independent Variables | Dependent Variables (N=996) | | | | |
|---|---|---|---|---|---|
| | Overall Satisfaction (1 Q) | Intrinsic Satisfaction (8 Qs, @=.90) | Extrinsic Satisfaction (3 Qs, @=.77) | Work Conditions (5 Qs, @=.76) | Relationships with Others (5 Qs, @=.82) |
| **State Characteristics** | | | | | |
| State size | | | | | |
| State wealth | | | | | |
| Public sector strength | | .07* | | | |
| State mobility and growth | | | | | |
| State political culture | | | | | |
| **Campus Characteristics** | | | | | |
| Campus size | | | | | |
| Campus wealth | | | | | |
| Faculty quality | | | | | |
| Undergrad Quality | | | .12*** | | .07* |
| Has Medical/Hospital | | | | | |
| Has Agricultural college | | | | | |
| Flagship | | | | | |
| Constitutional recognition | | | | | |
| Campus age | | | | | |
| Pct. Students in dorms | | | | | |
| Campus rural environment | | | | | |
| Employee unionization | | | | | |
| Pct. Minority students | | | | | |
| **Autonomy/Flexibility** | | | | | |
| Administrative | | | | | |
| Academic | | | | | |
| **Administrator Characteristics** | | | | | |
| Age | | | | | |
| Female | | | | | |
| Highest degree | | | | | |
| Academic Rank | | | | | .16*** |
| Administrative rank | | | -.18*** | | |
| Division | | | | | |
| Academic Affairs | | | | | |
| Business & Finance | | | | | |
| Human Resource Management | | -.09** | | | |
| IR & Planning | | | | | |
| Student Services | | | | | |
| Perceived Work Climate | | | | | |
| Perceived Regulatory climate | | | | | -.08* |
| Controlled Work Environment | -.10** | -.18*** | | | |
| Perceived Adm. teamwrk/commitmt | .26*** | .27*** | .14*** | .19*** | .18*** |
| Sources of Stress on individ. adm. | | | | | |
| Pressure of workload/time | -.11** | | | -.42*** | |
| Personal Health/financial | | | | | |
| Campus funding/facilities | | | -.11** | | |
| Interpersonal Relations | -.31*** | -.31*** | -.15*** | -.29*** | -.28*** |
| **Total $R^2$ =** | .28*** | .31*** | .14*** | .41*** | .20*** |

Significance levels * = <.05
** = <.01
*** = <.001

Non Significant Beta Weights not Shown

## Discussion and Conclusions

This topic is significant for a number of reasons. There has been much public discussion about the virtues of deregulation and decentralized, customer-based management. This study documents the 1995 status of each state's regulatory practices toward public universities and examines the evidence for a link to the satisfaction of campus managers. Although finding little relationship between the regulatory climate for public universities and a variety of other campus measures, Volkwein (1986,1987,1989) raised the possibility of a connection to managerial satisfaction. The empirical literature on state regulation and its impact on campuses is sparse. No studies in higher education have attempted to measure the impact of state regulation on administrators job satisfaction, despite the linkage in the organizational literature among managerial satisfaction and performance and turnover.

Drawing from contemporary organizational theory and building upon the literature on satisfaction, this study examines the nature of state control and university autonomy. Using a combination of campus survey data, follow up telephone interviews, and information from national sources, we constructed a database containing an array of measures reflecting campus characteristics, state attributes, the regulatory climate for public universities, and the survey results from a selected set of campus managers who responded anonymously to questions about their personal characteristics, work environments, and levels of satisfaction.

First, we confirmed the existence of two strong and relatively independent dimensions of campus autonomy: academic and administrative. The academic dimension is composed of factors reflecting campus flexibility regarding programmatic actions, setting standards and policy, degree requirements, restructuring departments, and responding to accountability requirements. The administrative dimension reflects campus flexibility regarding managing revenues, setting tuition and fees, classifying and appointing personnel, budgeting and expending funds. Such a two-dimensional framework is consistent with Berdahl's procedural and substantive autonomy and with Volkwein's studies in the 1980s that identified academic and administrative autonomy factors similar to these.

Second, we assembled an array of data that reflects the economic, demographic, social, and political characteristics of each state and found little evidence of a connection between these characteristics and either the regulatory climate for state universities or the satisfaction levels of their managers. There was a slight tendency for large states to be more controlling but this accounts for only 12 percent of the variance in administrative flexibility and none in academic flexibility. (Volkwein & Malik 1997)

Third, we also found little evidence of a connection between state control and campus characteristics. The amount of regulation is unrelated to the age, size, stature, mission, complexity, and cost of public universities. Out of 12 variables in two regressions, only one was significant (the percent of minorities) and it explains a mere seven percent of the variance in administrative flexibility and none in academic flexibility. (Volkwein & Malik, 1997)

Fourth, we examined the evidence for a relationship between the university's regulatory climate on the one hand and several dimensions of satisfaction on the other. The study finds little direct relationship between administrator satisfaction and most state and campus characteristics, including the regulatory climate. One exception is that intrinsic satisfaction is higher in states that give a priority to public sector programs and universities. Another exception is that undergraduate quality (freshman selectivity) measures are significantly associated with extrinsic satisfaction and satisfaction with work relationships. We do find that the actual regulatory climate (as measured by our data collected from institutions and states) has statistically significant but low correlations with perceptions about overly regulated and controlled work environments. These perceptions in turn are correlated with perceived work stress and satisfaction. However, most of the correlations are relatively low, ranging from .09 to .24.

While many in higher education believe that there is a connection between campus autonomy and administrative satisfaction, we find only the thinnest of evidence to support such a claim. In order to explain the low relationship between campus autonomy and job satisfaction, we need to consider the complexity of the satisfaction phenomenon. Job satisfaction is an overall measure of one's feelings toward work (Kalleberg, 1977). Thus, it is possible for workers to be dissatisfied with one aspect of their job, such as the salary, but on the other hand, be very satisfied with alternate aspects, such as interpersonal relationships or elements they find intrinsically satisfying. Workers weigh these factors against one another and reach a combined satisfaction score in which positive feelings balance out negative ones. Thus, although we did not necessarily expect to find evidence of a direct relationship between the regulatory climate and workers' **overall** satisfaction, we did expect to find evidence of campus autonomy affecting some of the sub-components of job satisfaction.

Our analysis suggests that external regulation has no direct influence on any of the five satisfaction measures. Rather, the regulatory climate may have indirect but small influences on the work environment and on interpersonal stress. However, workplace relationships and an atmosphere of teamwork have highly positive impacts on most measures of satisfaction. This finding is consistent with Hagedorn's (1996) recent research showing that interpersonal relationships positively influence job satisfaction and also lessen job related stress.

The important and statistically robust finding in our study is the solid and consistent connection between every measure of administrative satisfaction and the human relations aspects of university administration. Interpersonal work stress exhibits a consistently negative association with satisfaction and an atmosphere of teamwork exhibits a consistently positive association. These results strongly support those theories and administrative practices which accent the importance of interpersonal relationships in creating positive work environments and establishing organizational climates that are satisfying to managers.

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