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THE IMPACT OF DISCIPLINARITY ON THE ORGANIZATIONAL LEADERSHIP STYLES OF ACADEMIC DEANS

A Dissertation Presented

by

LAUREN J. WAY

Submitted to the Graduate School of the
University of Massachusetts Amherst in partial fulfillment
of the requirements for the degree of

DOCTOR OF EDUCATION

February 2010

Education

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THE IMPACT OF DISCIPLINARITY ON THE ORGANIZATIONAL LEADERSHIP STYLES OF ACADEMIC DEANS

A Dissertation Presented

by

LAUREN J. WAY

Approved as to style and content by:

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Joseph B. Berger, Chair

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DEDICATION

For Theo and Michelle,

with thanks for your support, sacrifice, love, and humor

through the years it took to finish.

ACKNOWLEDGMENTS

Joe Berger, my advisor, dissertation chair, and quantitative methods language interpreter through two graduate degrees, THANK YOU for believing I was capable of dissertation work even ten years ago, before I realized it myself. For dragging me along when I needed it, for helping me to have confidence in my own logic, and for allowing me countless hours sitting in your office without ever kicking me out, I thank you! You have been my mentor, oarsman, and guide (not to mention reconnaissance and strategist)! Now that I'm finally done you have full permission to run around in dangerous, war-torn countries as you will, but I'll still worry, and at least please send an email.

With grateful thanks to and deepest appreciation for Colin Twitchell and LATDC, who provided the real means to make it happen, not to mention encouragement. With gratitude to my parents and sisters, who wondered when the long paper would finally be over.

I wish to express my thanks to the 295 deans nationwide who took time from their busy agendas to participate in the study. Thanks to Elizabeth at SAREO for advice on survey best practices, and to Marietta Del Favero for partial use of her instrument.

Special thanks to Debbie B., for pushing me, reminding me, and assuring me I would one day ring the bell. And thanks to the rest of my doc cohort: Margaret, Claudine, Aaron, Regina, Laura, Chiaki, and Donna. For you I finally ring the bell and say with humor "DING! Last out, so I'll switch off the lights and close the door!"

ABSTRACT

THE IMPACT OF DISCIPLINARITY ON THE ORGANIZATIONAL LEADERSHIP STYLES OF ACADEMIC DEANS

FEBRUARY 2010

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Directed by: Professor Joseph B. Berger

The purpose of this study was to examine the impact of disciplinary background on the leadership styles of academic deans. The researcher conducted a nation-wide survey of academic deans from a wide range of disciplines. Specifically, the study sought to determine whether the disciplinary backgrounds of university deans are reflected in their self-reported actions, decision-making, and role perceptions. Subjects' disciplines were categorized according to high-consensus and low-consensus fields as well as the pure/applied dichotomy. Four dimensions of organizational leadership (bureaucratic, collegial, political and symbolic) were utilized to define the subjects' potential cognitive frames. The subjects' use of cognitive frames were classified into predominantly single-, paired-, or multi-framed approaches. Descriptive statistics, mean comparisons, and logistic regression were utilized to analyze the behaviors and motivations of subjects in the study.

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CHAPTER I

INTRODUCTION

"Universities are only as strong as their colleges,

and colleges reflect the strength of their deans"

(Wolverton, Gmelch, Montez, Nies, 2001, p. 97)

Introduction to the Problem

Leadership in higher education has been the focus of increasing debate and concern for nearly two decades. Beginning with several major reports on higher education's decline published in the late 1980s, there has been a perception that higher education's leadership is in crisis (Bensimon & others, 1989). Calls for better leadership abound, along with governmental directives for higher education's improved performance. Such improvement is difficult because higher education leadership is a complex and problematic task, one that is compounded by the unique organizational features, behavior, and structure that typify our colleges and universities.

Higher Education: A Unique and Complex Setting

While higher educational institutions can be described as "organizations," they differ from other organizations in many ways (Baldridge, Curtis, Eker, & Riley, 1978; Corson, 1960, 1979; Whetton, 1984). These differences include features and behaviors such as unclear missions and goals, fluid participation in management and decision-making, decentralization, inflexibility of resources, a low interdependence of parts, low control over "raw materials," and an unclear technology (Birnbaum, 1988). It has been observed and widely accepted that the combination of these phenomena is unique to higher educational organizations alone (Birnbaum), and for this reason scholars describe higher education as an "*organized anarchy*" (Cohen and March, 1974).

Not only do the features and behaviors of higher education differ from more traditional organizations, but the unit structure and relationship structure differ as well. Mintzberg's (1979) classic work on organizational structure produced a five-sector "logo" consisting of defined unit roles. These include the operating core (the people who perform the basic work), the administrative component (supervising managers who provide resources for the operators), the technostructure (housing specialists and analysts), and finally the support staff (whose work supports the work of others) (Bolman & Deal, 2003). Mintzberg proposed that organizations can take the form of five distinct structural configurations based on these units, including that of what best describes higher education's unique structure— the "professional bureaucracy." This configuration is unique in that its operating core of "professionals," the faculty, is much larger than that of other organizations, and there are very few managerial levels between the strategic apex and the faculty, which results in a decentralized and flat profile. Issues of quality control and coordination emerge for the small managing central administration, since the behavior of the professionals is guided by their initial professional training and indoctrinization rather than by managerial rules. Bolman and Deal describe the result of this configuration as a paradox: "individual professors may be at the forefront of their specialty, while the institution as a whole changes at a glacial pace. Professional bureaucracies regularly stumble when they try to exercise greater control over the operating core" (2003). Predictably, the professors will regard changes as annoying distractions from their professional scholarly work.

When higher education's wider environment is considered in conjunction with the structural configuration described above, a model resembling a matrix emerges. Alpert (1985, 1986) grouped together the linear model of single universities into a composite of multiple linear models, each placed above one another so that similar academic departments correspond with those of other universities while still being tied to their home institution. This combination creates both horizontal and vertical communities, and further demonstrates how the university is a collection of fundamentally autonomous units rather than being governed by a central authority.

Leadership in Higher Education's Complexity

As noted above, the study of leadership in higher education is difficult due to the organization's inherent ambiguity (Cohen & March, 1974), unique dual control systems, and the conflict between professional and administrative authority (Bensimon & others, 1989). Traditional theories of leadership, including trait theories, power and influence theories, and contingency theories fall short in the study of higher education, as they promote a view of leadership as "individual centered" (Cohen & Brawer, 1994, p. 33). Rather, the complexity of higher education's professional bureaucracy and the "plurality of voices vying for the right to reality" (Gergen, 1991, p.7) at colleges and universities today create the need for leadership that specifically "embraces a multiplexity of viewpoints rather than one that is based on the assumption of a single and shared reality" (Cohen & Brawer, p. 33). For these reasons, cognitive theories, and in particular the use of cognitive "frames" first presented by Bolman and Deal (1984) have been found to be the most suitable for the study of leadership in higher education.

Cognitive leadership frames are an organizational typography derived from the fact that leaders make assumptions about the nature of their social organizations. By altering the cognitive frame or "lens," that is used, a leader can consider the same set of phenomena from multiple perspectives. Cognitive leadership frames can allow a leader to filter out some things while allowing others to pass through (Bolman & Deal, 1984). The frames determine how problems are defined, what questions are asked, what types of information is gathered, and what potential solutions are considered (Goleman, 1985). They help us to "order the world and decide what action to take" (Bensimon, 1994).

Four distinct organizational frames have been proposed through which leaders view their organizations: these are the bureaucratic, collegial, political, and symbolic frames. Academic institutions are complex organizations with diverse members and hence represent an environment with multiple realities. For this reason leaders with the ability to utilize more than one cognitive frame will be more effective than those who analyze and deal with problems from a single perspective (Bolman & Deal, 1984; Bolman & Deal, 2003; Birnbaum, 1988; Bensimon, 1994). By incorporating elements of multiple frames, leaders have a more diverse set of tools in their proverbial tool box, and can offer more flexible responses and solutions.

Straddling Two Domains: Leadership of the Academic Dean:

Leadership in higher education exists on many levels. The most "external" members of an institution's top leadership are typically its trustees, followed by the institution's president, chancellor, and provost. Other tasks within the central administration are performed by leaders representing a range of professional areas, not the least of which are development and finance. However, there is an important area of

administrative leadership that is performed by an eclectic group of individuals whose backgrounds stem from a multitude of disciplinary paradigms. This group is that of the academic deans, and while they tend to rise up to deanship positions through the academic ranks and are well-versed in their own disciplinary paradigms, they are called on to be important contributing members in the domain of central administration. It has been observed that "the leadership linchpin that holds an organization together lies midway between those perceived as leaders and those upon whose work the reputation of the organization rests. In universities today, academic deans fill this role" (Wolverton Gmelch, Montez, Nies, 2001, p. 5). Academic deans are the link between the faculty and the central administration. In this way the role of an academic dean is one that uniquely *straddles the divide* between academic and administrative operations.

The role of the academic dean is one that has been appearing more frequently in the literature of higher education. It has been said that universities are only as strong as their colleges, and colleges are only as strong as their deans (Wolverton et al., 2001). The role of academic deans has been studied for its ambiguity (Wolverton, Wolverton, & Gmelch, 1999), its selection process (Twombly, 1992), its evaluation process (Lasley & Haberman, 1987; Matczynski, Lasley & Haberman, 1989), and its structure (Moore, Slaimebene, Marlier & Bragg, 1983). Yet there is very little understanding of how academic disciplinary background impacts the behavior of academic deans, or their approach to administrative work and leadership overall.

Unlike K-12 school principals, who undergo a series of defined steps that lead to their position including administrative certification, academic deans are chosen for diverse reasons and only undergo what has been called "random socialization" (Wolverton et al., 2001). They have been referred to as "amateurs" because they have little or no training for their administrative duties, and have no experience in the dean's office (Austin, 1984; Green, 1981; Lamborn, 1991; Marshall, 1956; Scott, 1979; Wolverton et al., 2001). The little training that academic deans receive tends to be summer "boot-camp" in nature, such as the Harvard program for new deans, or Bryn Mawr's program for rising female administrators. In contrast, the corporate world has accepted, based on the prevailing research, that "to become an expert takes time" (Wolverton et al.), and that truly productive managers take ten years to mature (Ericsson, Krampe, & Tesch-Romer, 1993). Even in academe, to qualify as "expert" scholar a student spends upwards of ten years to complete a doctoral degree program. This training is followed by a seven-year threshold as a new faculty member before reaching the associate professor status, and another seven years for full membership status. Wolverton et al. ask, "If it takes upwards of fourteen years to achieve expertise in our academic disciplines, why do we assume we can create academic leaders with weekend seminars or half-day university orientation sessions" (pg. 101; Galbo, 1998)?

Without comprehensive training or education in management and administrative leadership, academic deans are left to fall back on the skills and methods they have acquired during their disciplinary training and their careers as scholars. This fact, coupled with the increasing question of higher education's leadership, begs the need for comprehensive research on how the leadership of academic deans is influenced by their various disciplinary backgrounds.

Purpose of the Study

Clearly the exceptional organizational differences make leadership in higher education a complex challenge at best. Several notable trends in higher education that further compound the challenge include a widely recognized and escalating demand for institutional accountability and outcomes measures, and an increasing drive toward managerialism and centralization (Duderstadt, 2001). Given the systemic challenge of leadership coupled with these mounting pressures, there is an emerging need to seek better understanding of how our leaders are trained and educated. How does the academic training of leaders in higher education influence their approach to their administrative duties? Are academic deans prepared to utilize multiple cognitive leadership frames in their analysis of problems and generation of solutions? The purpose of this study is to examine whether *disciplinary* training and background can be identified as factors in the cognitive approach that leaders take toward their administrative work in higher education, and if so, in what ways.

The study seeks to take stock of the literature to date in the areas of disciplinarity and leadership, and the collection of areas that set its context, including the structure of higher education, and the notion of cognitive leadership frames. The study surveys deans

from a range of disciplines, categorizes those disciplines according to the types of paradigms they have been found to represent, and examines whether and how deans from different paradigmatic backgrounds approach their administrative leadership differently.

Research Questions

This research study investigates the apparent effects of disciplinarity on leadership behavior in the higher education setting. Specifically, it seeks to determine whether the disciplinary backgrounds of university deans are reflected in their actions, decision-making, and role perception according to self-reported behaviors. Thus, this study is guided by the following research question:

How does disciplinary background relate to the self-reported administrative leadership behaviors of academic deans? In addition to this primary research question, I explore the following related questions:

1. Does an academic dean's use of single, paired, or multiple cognitive leadership frames differ according to the individual's disciplinary field?
2. Do deans trained in certain disciplines tend to report behaviors that are associated with a more single- or paired-framed cognitive approach, while academic deans trained in other disciplines tend to report behaviors that are associated with a more multi-framed cognitive approach?
3. Are certain disciplinary backgrounds of academic deans associated with more multi-framed cognitive perspectives than others?

Significance of the Study

The work and performance of academic deans has been observed to be crucial to the success of individual units (Rosser, Josrund, & Heck, 2003). Yet the approaches to administrative work can vary greatly depending on the orientation of the individual leaders, and his or her use of dimensional perspectives or cognitive "lenses" and their combinations when making decisions and interacting with people. Indeed, it has been found that leaders who incorporate a multi-frame perspective rather than a single-frame perspective are most successful (Bensimon, 1989). Therefore, if the outcomes of this study demonstrate that certain disciplines tend to produce deans with more multi-framed approaches to their administrative work, it could significantly inform higher education management in a number of ways:

1. Such findings could help predict or anticipate leadership behaviors and approaches among deans from specific academic backgrounds;
2. The findings could help inform better ways of identifying good future leaders. It could inform policy makers with the development of selection processes, assessment or evaluation in the promotion and advancement of leaders to the deanship role;
3. The findings could indicate the need for support or training of current and future deans. They could inform the development of leadership training and education curriculum offered to deans at both the institutional level and the national level. National level training could include the agendas of such key organizations as the American Council on Education (ACE) Fellows Program, which strives to develop the administrative leadership skills of mid career faculty and

administrators, not to mention the American Council on Education's (ACE) National Identification Program, the American Association for Higher Education (AAHE), the Office of Women in Higher Education's Regional Leadership Forums, Bryn Mawr's national Summer Institute for Women in Higher Education Administration, Harvard University's national Institute for Management and Leadership in Education (MLE) and its Management Development Program (MLP).

4. Finally, the findings may inform the socialization processes of specific disciplines themselves, or shed light on the cognitive leadership implications of certain methodological perspectives. Indeed, it has been noted that academic deans have significant impact on the change and evolution of the academic profession, so a better understanding of the disciplinary differences could predict or even alter future directions.

Assumptions

One assumption of this study is that disciplinary socialization can have an impact on individuals' leadership perspectives; that a cognitive paradigm developed though indoctrinization and years of work in an academic discipline can carry over to an individual's work in other areas, namely professional administrative duties. Certainly the methodologies employed differ between disciplines, as well as the assumptions that support their use and validity. Cognitive leadership frames or dimensional perspectives and the combinations of them that are employed in various fields can also be said to differ, as can the set of criteria by which information and ideas are weighed and evaluated. While it seems "reasonable" to assume that such disciplinary differences and

their resulting values and mindsets would exert influence on the behavior and approaches of individual leaders, it can still be considered an "assumption" in this study.

Another assumption present in this study is that deans are in fact indoctrinated or socialized into their field. While some would argue that individuals are initially attracted into their chosen field due to a proclivity toward the field's set of assumptions about the world, it also seems logical to assume that individuals are indoctrinated to approach problems and ideas from the range deemed acceptable by their discipline. In some cases this might mean an individual's traits are accentuated or enhanced, and in others they are influenced or altered to conform, but in either case they are *socialized* to the mindset of the discipline.

For this study I assume that leadership behaviors are in fact measurable, that they can be divided along the lines of four prevalent classifying dimensions, and that the subjects in the study will in fact report truthfully on the surveys I will administer. Finally, this study makes the assumption that leadership in higher education actually *matters*, and that such leadership outcomes as strategic planning, long-range goals, and introduction of new policies actually has impact on the success of higher educational institutions.

Definitions

I propose several definitions to guide my research for this study. They include the following:

Leadership: Leadership is a process whereby an individual influences a group of individuals to achieve a common goal or goals (Rost, 1991; Northouse, 2001). While this is a widely used contemporary definition of leadership, academic deans perform their work in an environmental context that has been recognized as an organized anarchy

(Cohen & March, 1974), and therefore the rational concept of leadership that advances an organization in a forward direction is more difficult to apply (Dill, 1984). For this study, an academic dean is recognized as a "first among equals" by fellow faculty within the university's academic unit known as a college, school, or division, and is exercising leadership when performing his or her administrative duties within or for that unit.

Disciplinarity: The notion that there are significant and extensive differences between the many academic disciplines represented in the academy (Braxton & Hargens, 1996), and that the influence of these disciplines can divide members along the lines of distinct beliefs, norms, and ways of looking at the world.

Academic Dean: An academic dean is an administrative leader who holds an academic appointment. Academic deans "exist partway between the professorate and the president, with roles, responsibilities, and identities in both worlds. Most academic deans preside over broad academic units that join related (although sometimes only loosely) academic disciplines and are typically called colleges, schools, or divisions" (Green & McDade, 1994, p. 97). For purposes of this study, a dean of finance, human resources, or student affairs would not count as an academic dean (indeed those roles have more clearly-defined professional training and education), but a dean of an academic school, college, or division that is composed of faculty members would count.

Administrative Work: The work that is characteristic of higher academic administration including but not limited to the development and implementation of policy, strategic or long-range planning, goal-setting, general management, evaluation and assessment, dispute mediation or resolution, or decision-making related to the issues

of the academic unit, be it called a college, school, or division. Administrative work is distinct from academic work in that it is inherently not academic nor scholarly in nature.

Cognitive Leadership Frames: The range or combination of dimensional perspectives employed when analyzing or interpreting phenomena, and when making decisions, interacting with constituents or followers, developing policy, or otherwise engaging in administrative work (Bolman & Deal, 2003). In this study, the four distinct cognitive leadership frames to be explored include the bureaucratic, collegial, political, and symbolic frames (adopted from Bolman & Deal, 2003; Berger & Milem, 2000).

Single-, Paired-, or Multi-frame Perspective: A leader may favor the tendency to utilize three or all four of the cognitive leadership frames described above, which will be referred to as a "multi-frame perspective." Likewise, a leader may tend to utilize only one frame in his or her approach to leadership: a "single-frame perspective," or two of the four: a "paired-frame perspective" (Bensimon, 1989).

Summary

In this chapter I described the study's purpose and significance, and proposed the specific questions that will guide my research. These questions focus on the effects of disciplinarity on the leadership behavior of deans in higher education.

In the following chapter I review the literature and research published to date in several key areas that my study will draw on. I begin with an overview of the theoretical dimensions of organizational leadership styles. I elaborate on the "close-system" approach that is widely used to interpret the environment of higher education, including four key dimensions or cognitive frames, and summarize how research in higher education has successfully utilized these dimensional perspectives. I provide a review of

the literature in several areas that support the conceptual framework I propose in Chapter Three, including the existence of tight and loose coupling, institutional isomorphism, and a matrix model approach to higher education's structure. I then review the history and development of the notion of disciplinarity, highlighting the various taxonomies developed to distinguish disciplinary paradigms. This section also reviews the cognitive styles of disciplines, the influence that disciplinarity has been found to have on goals, policy, departmental decision-making, teamwork, and member behaviors. The literature review concludes with a review of the research studies that have examined disciplinarity and leadership within the higher educational context.

In Chapter Three I present the conceptual framework developed to provide my study's context, and outline the research design. In this section I include specifics on how I operationalized my research questions, and I outline methodology, participants, data, measures, coding, and my analytical approach.

In Chapter Four I describe the results of the analyses performed on the data collected for this study. I include a factor analysis and description of the scale construction, descriptive statistics, and the key results of the correlations, mean comparison, and regression analysis of the data.

In Chapter Five I discuss the findings in detail, and highlight the major interpretations and conclusions drawn from these findings. I present key implications of the findings for both research and practice in higher education, and the implications for future research.

CHAPTER 2

REVIEW OF THE LITERATURE

I have identified the need to understand differences in the leadership behavior of academic deans as a critical part of the larger imperative for understanding leadership in higher education. But what key influences should shape the direction of my study of academic deans' leadership behavior? In this section I propose the following questions to guide the study's conceptual formation, and use the literature published to date to address them:

1) How do we understand the meaning of leadership?
2) What guiding framework can we use to differentiate various leadership approaches in the higher educational setting?
3) What is the unique organizational context in which academic deans' administrative leadership occurs, and how does this context impact the expectations of deans as leaders?
4) How is the notion of "disciplinarity" defined and operationalized, and what evidence is there that disciplinary affiliation influences the administrative leadership styles of deans from different academic backgrounds?

My responses to these questions are addressed in the three respective areas of the literature review, titled *Theoretical Dimensions of Organizational Leadership Styles, Higher Education's Organizational Context and Structure, and The Notion and Influence of Disciplinarity*.

Theoretical Dimensions of Organizational Leadership Styles

Approaches to Organizational Leadership Theory

The development of organizational theory has a long rich history, and a diverse variety of theoretical perspectives have emerged over time. The wide range of theoretical traditions that the field has produced have been described as "perspectives," "models," "frames," "lenses," or "dimensions." These perspectives each have their own assumptions about the nature of organizations, their environments, and especially behavior, and can be classified into groups according to these underlying assumptions (Berger & Milem, 2000). The groups include "closed-system" approaches, which seek to explain the behavior inside organizations; "open-system" approaches, which seek to explain the ways in which the environment influences the organizational behavior; and "non-system" approaches, which essentially assume there are so many complex influences that only chaos or anarchy can describe the behavior (Berger & Milem, 2000).

Of these three approaches, it is the closed-system approach that has been widely used to interpret the environment of higher education (Berger & Milem, 2000). This approach recognizes that internal behavior is the key to leadership in organizations, and hence institutions are defined through the collective actions of their members. These collective actions are made up of the many patterns of behavior performed by individuals – the patterns of behavior that can be analyzed according to certain leadership styles. In this section I seek to define the four frames or dimensions that have been found to best classify behaviors and leadership styles in higher education. These include four classifying dimensions (Bolman & Deal, 1984) that have come to be labeled in the context of higher education as Bureaucratic, Collegial, Political, and Symbolic

(Birnbaum, 1988). I then review higher education literature that utilizes these dimensions to study their influence and outcomes on key participants and constituencies such as students, faculty, and administrative leaders.

Leadership Styles: The Bureaucratic Dimension

The bureaucratic or "structural" frame is derived from a long history of organizational theory with roots in the rational, formal structure and operations of organizations, but it also serves to illuminate organizational "social architecture" and its consequences. This tradition focuses on the formal structures of organizations as the most "important" and prominent feature of any organization and the one that has the greatest influence on leadership behaviors. The "scientific management" system developed by the industrial analyst Frederick Taylor (1911) prescribes a notion of efficient, routinized organizational processes. It could be argued that Taylor's "principles of scientific management" had the most significant impact on workplace practice in this dimension. The writings of German sociologist Max Weber on the bureaucratic forms of organization and the routinization of the administrative process also formed an early foundation for the development of this perspective.

Classical theorists whose work forms the underpinnings of the bureaucratic model include Henri Fayol, F.W. Mooney, and Col Lyndall Urwick (Morgan, 1997). These theorists codified their insights by drawing on principles prominent in such areas as military and engineering, focusing on notions of precisely defined, hierarchically-arranged jobs, with clear lines of command and communication. Classical management theory defines the organization as a network of interlocking parts having predictable

patterns of authority illustrated in organizational charts, which leaders strive to operate in as efficient and rational a manner as possible.

The bureaucratic leadership dimension advances the notion that organizations increase their efficiency and enhance their performance by proper division of labor and by creation of specializations. Leaders create rational rules, policies, and predictable operating procedures to govern work conditions and to clearly define standard procedures. The nature of the organization defines or prescribes its one best structure, and every organization exists to achieve its established goals and objectives. Individuals and units work together in achieving these goals with the help of vertical and lateral integration, coordination, and controls. Every organization is considered to have a core process or "technology," which includes organizational beliefs about linking inputs and outcomes.

According to this frame, positions of leadership are based on merit and expertise (Berger & Milem, 2000). It is the technical accuracy of leaders' logical decisions that is valued above all. Leaders seek the proper balance of control and direction so that individuals and groups will not be either too autonomous or too unsupported, and goals will not be too over or under-defined. Likewise, leaders seek to create structure for their organizations or units that will not be too loose or too tight according to changing circumstances, and indeed restructuring is considered one of the most powerful methods leaders have to create change according to the bureaucratic frame.

Leadership Styles: The Collegial Dimension

The collegial dimension, adopted for the higher education setting from the "human resources" perspective, describes the relationships between the members of an

organization and the organization itself. Rather than assume that individuals serve the needs of organizations, leadership behavior according to this dimension assumes that organizations exist to serve the needs of individuals. Collegial-style leadership understands that a good fit between job and individual allows the individual to find meaning and satisfaction in their work, while the organization reaps the benefits of the individual's productivity, energy, creativity, and talent. When the fit between individuals and organizations is good, both reap the benefits, when the fit is bad, both will suffer.

Leaders strive to encourage a collegial environment where there is an emphasis on consensus, shared power, collective responsibilities, and common aspirations (Birnbaum, 1988). Collegial-style leaders will seek to deemphasize status differences, and encourage members to communicate and interact as equals in what can be called a "community of colleagues." In their study of university faculty, Bowen and Schuster (1986) found that three major components of collegiality are equal worth of knowledge in various fields, the right to participate in institutional affairs, and "a congenial and sympathetic company of scholars in which friendships, good conversation, and mutual aid can flourish" (Bowen & Schuster, p. 55). Sanders' (1973) research similarly found the notion of collegiality to be one marked by a sense of mutual respect, and a willingness to be judged by one's peers. Millet (1962) described this phenomenon as a "community of scholars," a term that collegial-style leadership has come to use often.

Collegial environments display a tendency to rely on consensus and the opinions of the groups' senior members (Kerr, 1982), however consensus does not necessarily require unanimity (Birnbaum, 1988). In a collegial organization, a leader can be best described as a "first among equals," and is typically considered having been "elected"

rather than "appointed." Members and leaders are constantly engaged in a process of social exchange (Blau, 1964). Collegial-style leadership emphasizes teamwork as the hallmark of an effective organization (Berger & Milem, 2000).

Because leadership is based on mutual influence, a leader's ability to influence people may depend on his or her willingness to be, in turn, influenced by them (Homans, 1961). Goleman's (1995) work informs the type of emotional intelligence needed by leaders, including that of self-awareness, self-management, social awareness, and relationship management. According to the collegial dimension, leaders need to exemplify the values of the group or "live up to the norms" in an exceptional way; conform to the group's expectations of what leadership should be; use the established channels of communication; never give orders that will not be obeyed; listen carefully to group expectations; reduce status differences to maintain open communication; and encourage the group's own self-control or self discipline (Birnbaum, 1988). Collegial leaders balance the need for task accomplishment with relationship development, promote a "common language" among members, and above all consider the needs of the group members as the key to productivity and success.

Leadership Styles: The Political Dimension

According to the political leadership style, organizations are systems of political activity, comprised of coalitions with various interests and agendas. Enduring differences among coalition members such as perceptions of reality, values, beliefs, or interests are bound to create conflict, as does the allocation of scarce resources (Berger & Milem, 2000). This perspective is useful in exploring the relationships between interests, conflict, and power in organizations (Morgan, 1997). The political leadership style

assumes that power relations, scarcity, interdependence, and divergent interests invariably produce political activity (Baldridge, 1971; Bolman & Deal, 2003). The 1963 work of Cyert and March underscore political system theory: rather than assume that corporations and individuals have the singular goal of maximizing profits, this work depicts organizations as coalitions comprised of individuals and subcoalitions. According to this view it is bargaining among coalitions and members that ultimately produces goals (Berger & Milem, 2000).

A variety of "power" sources is key to understanding the political dimension (Baldridge, 1971; French & Raven, 1959; Kanter, 1977; Pfeffer, 1981; 1992; Russ, 1994). Power is the single most significant resource for organizations. Types of power both within and outside an organization are many, and include position power, the power of expertise, reward control, coercive power, networks and alliances, control of agenda, control of symbols, and personal or "charismatic" power.

The political perspective asserts that organizations are both "arenas" where internal politics are negotiated, and also political "agents" existing within wider arenas or political "ecosystems" (Moore, 1993). As arenas, they provide a setting where a widely varied array of divergent interests and agendas are in an ongoing state of interplay. As agents, or actors, organizations "exist, compete, and co-evolve" (Bolman & Deal, 2003, p. 238) in ecosystems with clusters of other organizations, each seeking to fulfill its own agenda. Relationships between and within ecosystems can be both collaborative and competitive.

Pfeffer and Salancik's (1978) book, *The External Control of Organizations,* is one of the most significant works for explaining the political model. This work notes the

degree to which organizations depend on their environment, especially to secure necessary inputs. Organizations attempt to make their environment more advantageous and predictable through such activities as merging or forming coalitions. But for every inch of greater influence an organization may gain over its environment, by engaging in coalition-formation it also looses some of its autonomy (Pfeffer & Salancik).

According to the political frame, positions of leadership are determined by the control of key resources (Berger & Milem, 2000). Politics are at the heart of decision-making for leaders, and successful ones are able to influence and shape the rules of the game. Leaders as politicians are described by Bolman and Deal (2003) to have four key skills: agenda setting (Kanter, 1983;, Kotter, 1988; Smith, 1988), mapping the political terrain (Pfeffer, 1992; Pichault, 1993), networking and forming coalitions (Kanter, 1983, Kotter, 1982, 1985; Pfeffer, 1992), and bargaining and negotiating (Bellow and Moulton, 1978; Fisher & Ury, 1981; Lax & Sebenius, 1986). Social control is considered to be vital for a leader, since upholding one's authority depends on the degree to which partisans remain fearful or respectful of that authority. In short, the political frame asserts that those leaders who obtain and use power best will be the most successful.

Leadership Styles: The Symbolic Dimension

The symbolic leadership style is focused on the interpretation of symbolic "meaning and belief." The body of literature includes several disciplines, such as political science (Dittmer, 1977; Edelman, 1971), organization theory and sociology (Selznick, 1957; Clark, 1975; March & Olson, 1976; Weick, 1976; Masland, 1985; Hofstede, 1984). Symbolically-oriented leadership recognizes that organizations have

many levels of meaning. Organizations are unified by their unique cultures and values, and those researchers willing to peel back the consecutive layers will find deeper and deeper levels to analyze. For a symbolically-oriented leader, an organization's ceremonies and rituals, legends and stories, symbols and sagas all provide clues to the unique set of underlying assumptions inherent to an organization. Many of these will literally be staged internally in the "theatre" that is the organization. Indeed, the symbolic perspective defines an organization as "the enactment of a shared reality" (Morgan, 1997, p. 141), and our understanding of organization through this lens should be inseparably tied with "the processes that produce systems of shared meanings" (Morgan, p. 141).

Research on the impact of culture on the workplace was pioneered by Hofstede (1984), who defined culture as "the collective programming of the mind that distinguishes the members of one human group from another" (p. 21). Researchers have long argued over whether organizations *are* cultures or whether they *have* cultures (Schein, 1992), but organizational culture has been described as both a product and a process. It is the shared practices, artifacts, norms, beliefs, and values that define an organization and dictate its members' collective behavior, and is embodied by organizational symbols. Culture has been described as the "glue" that holds an organization together, and also defined simply as "the way we do things around here" (by Deal & Kennedy, 1982, p. 4). Symbolically-oriented leaders inherently understand the importance of culture, that "legitimacy" is defined through symbols, and that appearances can make or break an organization.

Symbolically-oriented leaders emphasize expressive rather than instrumental actions (Pfeffer, 1981). They know that what matters about any event or process in an organization is not what happened but what it means and how it is interpreted by the organization's members, and that meanings are not "given" to us, we must create them (Bolman & Deal, 2003). Therefore, according to the symbolic dimension, by engaging in story telling or putting the desired "spin" on events leaders can inspire and motive others and strengthen the shared meanings they seek to spread.

It is the multitude of goals and a general lack of shared meaning in the higher education setting that renders it an environment of anarchy (Cohen & March, 1974). Therefore, in the face of uncertainties, it is important for leaders to create symbols to resolve confusion, find direction, and help the organization's members find purpose (Berger & Milem, 2000). Leaders who understand the power of symbols and strive to strengthen their meaning are better equipped to understand and influence their organizations (Bolman & Deal, 2003). Use of metaphor, humor, and play bring out the human side of organizational work, and can help unify members, and use of "visions"— visions for the future, visions of where the organization can go— are powerful tools for leaders. Symbolically-oriented leaders are always aware of the symbolic consequences of their actions, and understand their roles as they affect the social construction or social "reality" construction process (Morgan, 1997).

Research Utilizing Behavioral Dimensions

In the previous section I outlined four prominent dimensions used to define organizational behavior in higher education, and their implications for leadership styles. These dimensions have been used as constructs in researching the behavior and outcomes

of key participants and constituencies in higher education. These constituencies have included students and faculty, as well as both academic and administrative leaders. In this section, to demonstrate how the study of academic dean's administrative leadership might be approached, I briefly review the literature that has utilized these dimensions as constructs, focusing my review not on the research findings per say but on the *ways* in which the dimensions have been utilized and applied in the research.

Some research utilizes the dimensional perspective in terms of behavior and others in terms of environment or organization. The dimensions have been applied to higher educational governance (Birnbaum, 1988), decision-making (e.g. Chaffee, 1985; Childers, 1981), leadership (Bensimon, 1989; Bensimon & others, 1989; Bensimon & Neumann, 1989; Cohen & March, 1974), and as effectiveness indicators (Cameron, 1978; Cameron 1986; Cameron & Ettington 1988; Smart, Kuh, & Tierney, 1997).

The dimensional perspectives have been effectively used to study various groups or constituents in higher education. The first group is that of *students*. Research that utilizes the dimensional approach to study students includes the impact or correlation between organizational behavioral attributes with student retention rates and persistence (Kamens, 1971; Blau, 1973; Cameron, 1978; Astin & Scherrei, 1980; Bean 1980; Braxton & Brier, 1989, Ewell, 1989;), student experiences (Bean, 1980; Cameron, 1978; Cameron, 1986; Godwin & Markham, 1996), student satisfaction (Astin & Scherrei, 1980; Bean, 1983; Cameron & Ettington, 1988), student persistence (Berger & Braxton, 1998), and student academic development (Cameron & Ettington, 1988; Smart & Hamm, 1993; Berger & Milem, 2000; Berger, 2002). This research includes such applications as the impact of the level of institutional bureaucracy or collegial behaviors

on student outcomes (Blau, 1973; Astin & Sherrei, 1980; Bean, 1983), or the dominant collective behavior patterns in an institution on student outcomes (Berger, 2000) or on student learning (Berger, 2002).

The other primary "group" that researchers have studied utilizing a dimensional perspective is that of higher educational "*leadership*." The application of dimensional perspectives in this body of research includes a focus on leaders' theoretical ideas (Bensimon & Neumann, 1989; Bensimon, 1989), leaders perceptions of their own behavior (Neumann, 1989; Tierney, 1989; Neumann, 1989), and leaders perceptions of leadership itself from a symbolic frame (Birnbaum, 1989). Most of these studies focused on college or university presidents, and included the extent to which presidents incorporate single or multiple frame approaches in their descriptions of good leadership (Bensimon, 1989), and the dimensional complexity of presidents' actions or behaviors (Neumann, 1989). Bensimon (1990) utilized a dimensional analysis to compare the congruence of presidential leadership self-descriptions with the perspectives of campus leaders such as chief academic officers, trustee chairpersons, and faculty senate leaders. Earlier studies examined presidential leadership from a dimensional perspective without the use of the four "frames," such as Cohen and March's (1974) landmark book. One of the major findings in the area of leadership research and dimensional perspectives suggests that leaders who incorporate a multi-dimensional mindset (a multiple-frame perspective) rather than a single-frame perspective are most successful (Bensimon, 1989).

One recent study has utilized the dimensional perspective in regards to the behavioral leadership of *academic deans*. Del Favero (2005) sought to identify constructs associated with the four behavioral orientations (dimensions) that would

distinguish academic deans from various discipline groups. She used a dimensional perspective to classify behaviors in order to determine whether deans were more inclined to behave in ways associated with one dimensional orientation over another according to their academic discipline. This was accomplished through deans' self-reporting of behaviors, to explore disciplinary differences in leadership.

Summary: Theoretical Dimensions

In conclusion of the theoretical dimensions of organizational behavior, the approach to organizational theory that views distinct patterns of behavior along the lines of defined dimensions lends itself to the more practical use of cognitive frames. These frames can be used to both understand (analytically) and guide (prescriptively) the behavior of leaders in the higher educational context. Such an approach can be instrumental in studying the different administrative leadership styles of academic deans. In the next section of this literature review, I address the *context* in which the administrative leadership behavior of academic deans occurs.

Higher Education's Organizational Context and Structure

Now that I have reviewed the theoretical dimensions of organizational behavior and identified the types of cognitive frames that academic deans may be utilizing in their work, I ask "what is the workplace *setting* in which academic deans do their work?" Indeed, in order to understand the behavior of an organization and the behavior of its members and leaders, it is necessary to understand the organization's context (Alpert, 1986). In this section I review the literature that defines the organizational context in which academic deans perform their complex roles. I seek to answer the following questions: What model best represents the institutional structure of higher education?

How does the wider environmental context impact that structure and serve to create a dual role for academic deans?

From an organizational perspective, the university is one of the most complex structures in modern society, as well as increasingly archaic (Perkins, 1973). One of the best approaches to describing the organizational structure that is unique to higher education is through the use of a "matrix." Alpert's (1985, 1986) matrix model is a descriptive model that effectively diagrams higher education's complex relationship structure, and includes the assumptions drawn from organizational theory of tight and loose coupling, as well as organizational institutionalization and isomorphism. In this section I will briefly describe these concepts, and their role in the collective pattern of behaviors that composes the matrix model which defines the complex working environment of the academic dean.

Tight and Loose Coupling

The term "loose coupling" was first used by Glassman (1973) to describe the activity of the variables that the components of an organization share (the opposite being "close" coupling.) This concept implies that linkages, connections, or interdependencies exist within an organization. Two or more elements or events are coupled together, such as the "technical" core of higher education, that is, its teaching and learning, and the "authority of office," which includes offices, positions, tasks, etc. (Plowman, 1998).

Weick (1979) further developed the concept of coupling by proposing that although coupled events are responsive, each maintains its own uniqueness, identity, or some degree of physical separateness. It is the basis of the activity of the variables two events share that determines the "degree" of coupling between them. Means and ends are

coupled: there is more than one way to get from point A to point B, and it is this variety that make the means only "loosely" coupled to the ends (Plowman, 1998). Weick wrote that the identification of the elements and systems that are coupled is critical due to the conceptual necessity of researchers to identify the separateness and boundaries of the elements coupled.

Examples in higher education include Plowman's suggestion that the bureaucratic model of organization (described above in the section on theoretical dimensions of organizational leadership styles) is inherently more coupled, while the collegial model is more loosely coupled. He describes the relatively "loose" coupling of faculty, as a consortium of peers who share the core technology of teaching but who have distinct expertise in their own field. Different programs and departments may stand on their own without affecting the others, and have relative autonomy. Higher educational "administration," on the other hand, is more tightly coupled in the structured bureaucratic sense. The looser coupling of faculty interacting with the tighter coupling of administration can result in conflict or anarchy (Plowman). The academic dean, as it will be further noted, performs work in *both* the loosely-coupled faculty domain *as well as* the more tightly-coupled administrative domain.

Institutionalization and Isomorphism

Based in phenomenology, the notion of institutionalization was proposed by Berger and Luckman (1967) to be a core process in both the creation and perpetuation of enduring social groups. An institution is an outcome of the institutionalization process, and has come to be formed by the processes of habitualization, objectification, and sedimentation. It is ironic that success for organizations that exist in highly elaborated

institutional environments (such as colleges and universities) does not depend on the organization's degree of efficiency (Meyer & Rowan, 1977).

In their landmark work, *The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields*, DiMaggio and Powell (1991) argue that organizations are still becoming more homogeneous as well as bureaucratized, and that structural change is being driven not by the need for efficiency, but by processes that make organizations more similar rather than more efficient. Organizational innovation is usually driven by the desire to improve performance in the early stages. But as an innovation spreads, there comes a point where rather than improving performance, the adoption of the innovation is simply to provide legitimacy (Meyer & Rowan, 1977). The aggregate effect of all this constant "change" is a lessening of diversity within the field (DiMaggio and Powell). Educational institutions (among other organizations) can follow two types of isomorphism: competitive and institutional (Meyer, 1983; and Fennell, 1980). Competitive isomorphism assumes that there is market competition and "fitness" measurement. This is complemented by the institutional view of isomorphism, such as when forces press communities toward accommodation with the "outside" world, as Kanter (1972) described. Each higher educational institution, then, becomes more and more identical with the others in its same category.

Bringing it Together: The Matrix Model Approach

Alpert's (1985, 1986) "matrix" model incorporates the notion of tight and loose coupling and recognizes the phenomena of institutionalization and isomorphism in a way that seeks to describe and predict the structural relationships that make up the research university.

The matrix concept of the university builds on the "linear-model" (Petrie & Alpert, 1983) that "portrays the university as a set of autonomous academic departments and professional schools, each represented by a separate rectangle and tied together by its institutional identity, geographic location, administration, support services, and board of trustees" (Alpert, 1985), and is a classic example of a loosely coupled organization. The linear model assumes the departmental mission is the "pursuit of excellence," which is generally interpreted as a search for new knowledge within the university's many areas of specialization. Prestige among peers and a department's quality in comparison with national rankings has come to be the most universal measure of departmental quality. For this reason, the quality of the institution overall has come to be seen as the separately measured quality of its departments (Alpert). A relative autonomy of departments and a lack of shared goals also marks each university.

Alpert's (1985, 1986) matrix model is represented by a composite of multiple linear models, each representing leading universities, laid out in relation to one another in the form of a "matrix" (see figure 1). With each linear representation placed above another, the departments of the different universities are aligned above one another, so that, for example, every anthropology department is in the same column. Any given department is located in a row that corresponds with a specific university, and in a column that corresponds with a specific discipline. This clarifies that each department has special relationships with the other departments in its own campus community (in its own row) as well as with the wider, national or global community (in its own column). According to Alpert, both horizontal and vertical "communities" can be viewed as loosely coupled systems. The matrix model thus extends beyond the linear by

considering the environment in which universities operate, and by representing the university as a collection of fundamentally autonomous units rather than being governed by a central authority. More radically, the matrix model extends beyond the boundaries of the individual campus, to include the roles of institutions external to it as well as their impact on its governance, administration, and mission.

The Influence of Context on the Academic Dean

Perhaps what is most significant to this paper is how the matrix model reveals the "divergent goals" of the campus communities versus the disciplinary communities (Alpert, 1985). Specifically, intellectual and administrative leadership diverges: faculty members tend to focus on national research agendas in their disciplines, while senior administrators must focus on promoting the institutional goals, such as the undergraduate mission, the balance of campus resources among units, and public service missions. It is these often conflicting agendas that complicate leadership and separate the administrative domain from the academic in higher education.

It can be said that more traditional organizations, such as corporations, relate to one another within a single given industry. However, the matrix model reveals for us that the academic "industry" is in fact a multitude of industries, or academic disciplines, each running parallel to one another. These "disciplinary industries" are governed by a similar set of professional norms and values, while their assumptions, methodologies and hence worldviews are highly divergent. Those numerous industries become embedded across large organizational structures. Single campuses must manage multiple "industries," the disciplines. Management is performed by the central administration, which of itself is not an academic discipline, however the regulative compliances governing them are

universal. For this reason it might be said that universities' central administrations are a nationwide "industry" in and of themselves, governed by the same set of objectives and utilizing the same "methodology."

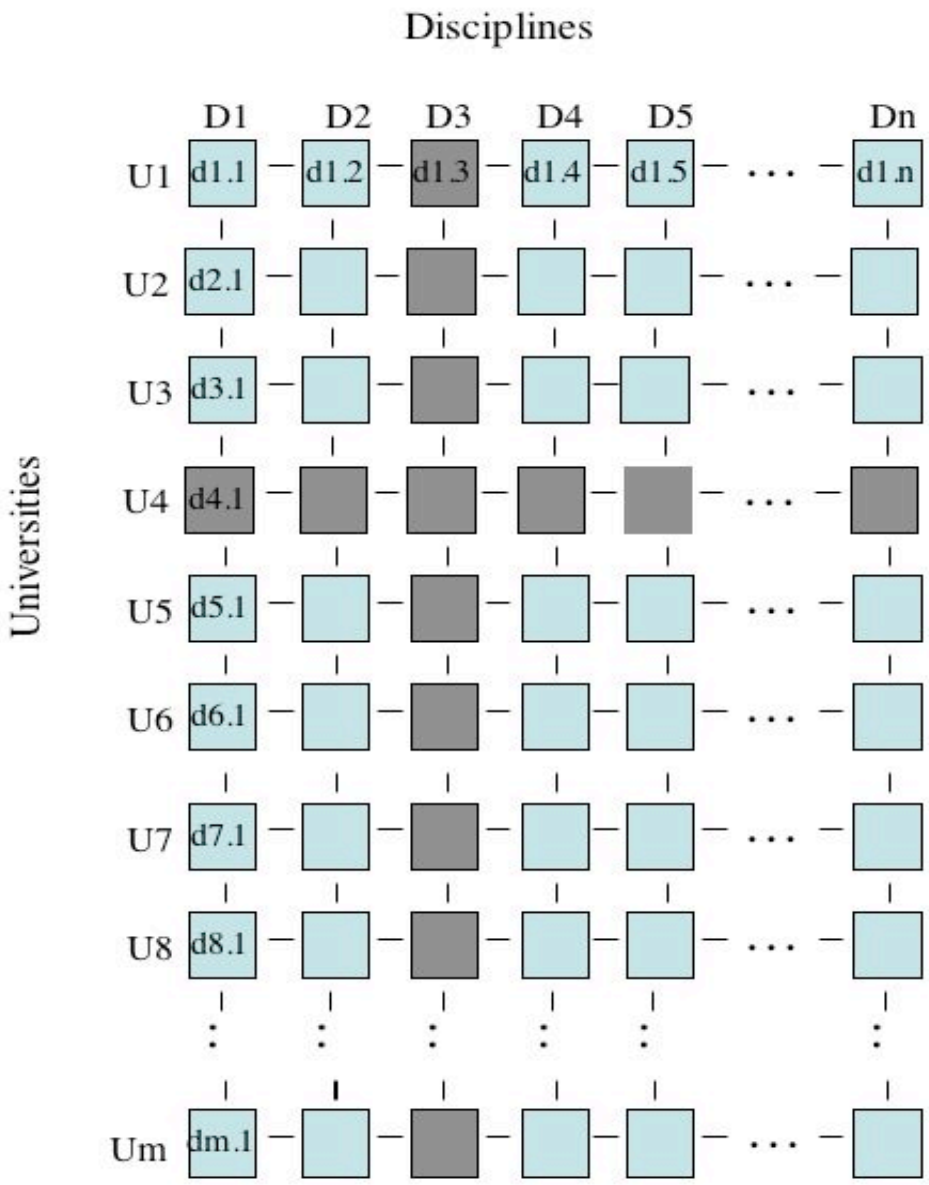

Figure 1. Matrix Model of the Research University (Alpert, 1986, p. 3)

Figure 1: Alpert's Matrix Model of the Research University

The conflicting agendas also present an interesting dichotomy that may be linked to a phenomenon noted in the literature of organizational behavior. Pfeffer and Salancik (1978) note that organizations may intentionally create two separate structural units: one that is a "non-profit" institution and one that is a "for-profit" institution, both housed within the same business entity or organization. Although this behavior has never been applied to the study of higher education, the case might be made that the work of faculty, embodied in disciplinary departments, is the "non-profit" work of higher education, while the administration's work represents the "corporate" or "for-profit" institution.

The role of the dean, which sits squarely between the for-profit world of the central administration and the non-profit world of the academic faculty, straddles agendas which are often conflicting in nature. Deans can be said to be tightly coupled with the administrative expectations, but loosely coupled in terms of the expectations and roles within their academic units. At the departmental level, academic deans are responsible for symbolic compliance, and the controls that govern the academic world are normative, based on professional norms. However, their roles in the central administration require a compliance that is regulative in nature, and is highly institutionalized. In this way it could be said that deans are responsible for generating both the "symbolic capital" of the non-profit faculty, and the "material," or "economic capital" of the for-profit central administration. The tension that arises with this dual responsibility is the value placed on each form of capital by the two groups.

Summary: Structural Context

In this section, I have gone beyond the professional bureaucracy (Mintzberg, 1979) that is used to describe the research university's internal structure in chapter 1 by

detailing the tight and loose coupling that characterizes the relationships in and among the major units within the institution. I have used the phenomenon of institutional isomorphism to explain the rise of the matrix model, and it is this model that best illustrates the structure of universities both internally and externally in relation to their environment. Drawing on the work from another field that suggests that organizations often establish both for-profit and non-profit entities, I have proposed that this is true of higher education, and that as a result academic deans who straddle both the normatively controlled academic world and the regulatively controlled, institutionalized world of central administration, are responsible for producing both symbolic and material capital for the institution. But how might the approach of academic deans to this work differ based on individual leadership styles? Because the training of academic deans is largely based in their respective disciplinary fields, the following section explores the notion of disciplinarity to provide background on how disciplinary differences may be responsible for the ways in which individual academic deans utilize cognitive frames in their administrative leadership.

The Notion and Influence of Disciplinarity

Disciplines and the Notion of Disciplinary Differences

In this section I provide depth on how the academic departments represented in the matrix model described above are divided along disciplinary lines. More importantly, I seek to understand the cognitive and behavioral differences between and among the disciplines (and hence the academic deans they produce) that are columned in the matrix.

Academic departments are divided along the lines of diverse academic disciplines, which some have called the "life-blood" of higher education (Becher, 1994).

The disciplines provide higher education's main organizing base, and its main social framework (Becher, 1994; Clark, 1983). However, disciplines provide their member individuals with much more than just a subject matter. Disciplines provide members with distinct attitudes, beliefs, norms, ways of doing things, and ways of looking at the world. Their impact on members' behavior may be deeper than was once believed.

Currently there is widespread recognition of significant organizational and intellectual differences between the disciplines, and of the fact that disciplines can and do exert significant influence on their members (Clark 1987). A long rich history of research that attempts to distinguish the differences between the disciplines, and hence the work and behaviors of individuals working in those disciplines, has been undertaken by researchers, themselves heralding from various fields. In the following section I explore the literature to date regarding the concept of "disciplinarity." I begin with the categorization of academic disciplines and the theoretical formulations of disciplinary differences, and I will explore the person-environment "fit," disciplinary culture, distinguishing attitudes and characteristics, the influence of disciplinarity on departmental goals and decision-making; and finally the impact of disciplinarity on leadership in the higher education environment.

Categorizations of Discipline

While the work of comparing and contrasting various knowledge areas or disciplines dates back as early as Aristotle's work in the fourth century B.C., modern attempts to develop formal criteria have taken many conceptual forms. While Comte (1842) arranged disciplines in a hierarchical fashion according to a dimension of "general-simple to specific-complex," philosophers in the 20th century examined the

relative "progress" of fields in an attempt to clarify why fields advance at varying rates (quickly/slowly.) Braxton and Hargens (1996) note that the work in this tradition "produced several single-dimension, usually dichotomous, conceptualizations of fields," including those of theoretical versus empirical (Conant, 1950), restricted versus unrestricted (Pantin, 1968), mature-effective versus immature-ineffective (Ravetz, 1971), and pre-paradigmatic versus paradigmatic (Kuhn, 1962).

Paradigm Development and High/Low Consensus

Both Kuhn (1962) and Pantin's (1968) work are focused primarily on the sciences, but create a platform utilized by future categorization and taxonomy work. Each presents a clear-cut, two-fold categorization, with Pantin focusing on knowledge structures and distinct specializations within disciplines, while Kuhn's primary concern was academic communities at the disciplinary rather than subdisciplinary level. He began with the study of revolutionary phases in the development of physics, "normal" and revolutionary science, which led to his development of the notion of a "paradigm" (Kuhn). By noting the level of agreement in a field (such as what is deemed as acceptable research findings, what problems to study and what methodologies should be utilized), Kuhn assigned fields as having "low" or "high" consensus. His model labeled fields marked by high-consensus such as chemistry, mathematics, or biological sciences as having highly developed paradigms, in contrast with fields marked by low-consensus (such as social sciences and humanities). The latter he described as having "less developed" paradigms. Kuhn's dimensions thus included pre-paradigmatic, paradigmatic, and revolutionary science. His concept of "paradigm" references a body of theory to which all members of a field subscribe. He wrote "A paradigm is what

members of a scientific community share, and conversely, a scientific community consists of men who share a paradigm" (Kuhn, 1962, in Lodahl and Gordon, 1973, p. 192.)

In the study of disciplinary differences, the concept of "paradigm development" (Lodahl & Gordon, 1972) has been especially favored. This concept has provided a framework to investigate differences among scholarly fields, and stems from Lodahl and Gordon's hypothesis that variation in paradigm development is manifested in the research and teaching activities of individual faculty. The "research technologies" within fields with firmly established paradigms, they argued, are comparatively predictable. It is significant to note here that researchers who have worked with this concept have not focused on constructing rankings of disciplines, but rather have used the paradigm development measure as a control variable in studies of organizational phenomena (Braxton & Hargens, 1996).

Degree of Integration

Parallel to these developments, researchers in the field of sociology, although utilizing different language, began pursuing the notion of disciplinary differences in social patterns. It was argued that the variation in the level of consensus among practitioners regarding appropriate research topics and methods led to variation in phenomena such as rates of research collaboration and disputes in departmental decision-making (Hagstrom, 1964, 1965.) This line of enquiry was extended beyond the notion of consensus to include a notion of integration (Hargens, 1975), that is, to what degree scholars' specialized efforts are integrated. Hargens demonstrated evidence that political science is less specialized than chemistry and mathematics, and that mathematics is less

functionally integrated than the other two. He showed that two dimensions of social solidarity could be contrasted— normative integration and functional integration.

Hard-Soft, Pure-Applied, and Life Sciences Dimensions

Another widely-cited, dual-dimension classification is known as the "hard-soft" and the "pure-applied" dimensions. This classification was originally proposed by Storer (1967, 1972), and the dimensions were based on the "rules" of research and on the clarity of standards by which scholars can judge the importance of work in the field. This conceptual frame was later revised by Biglan (1973a) into a three-dimensional classification schema developed though the use of non-metric multidimensional scaling procedures, and presented as a typology of academic disciplines that was popularized by subsequent scholars in the field. By analyzing faculty members' perceptions of the similarity of subject matter, Biglan identified three distinct dimensions for differentiating fields. The most prominent dimension he noted was the hard-soft dimension, similar to both Storer and Kuhn's (1962) work. This dimension distinguishes hard sciences from social sciences and serves an "organizing" function (Biglan). The second dimension involves the fields' level of concern with application to "practical" problems, or practical application of subject matter. It is this practicality aspect that distinguishes "pure or applied" fields, such as history on one end of the continuum, and agricultural sciences on the opposite end. The third dimension notes scholars' differentiation of areas that involve inanimate objects with those that involve biological and social phenomena, such as education and biology on one end of the continuum and mathematics on the other. Biglan labeled this dimension "concern with life sciences," however this dimension is little-used in current disciplinarity research.

In summary of the classification systems developed in the literature to date, the first line of inquiry explores the differences in knowledge itself and approaches to sorting disciplines into like-categorizations. This includes assigning fields into "high" or "low' consensus (Kuhn, 1962). The second line of inquiry focuses on the cognitive styles of the disciplines, specifically the cognitive approaches taken by its members. It is no surprise that the content and method of a field are linked to the "cognitive and perceptual processes of its members" (Biglan, 1973a, 1973b), and diversity in faculty activities and attitudes are divided along lines of discipline (Cresswell & Bean, 1981; Hesseldenz & Smith, 1977; Hargen's, 1996; Smart & Elton, 1982). Specifically, paradigm development is manifested in such activities as teaching and research (Lodahl & Gordon, 1972). While early sociology researchers explored disciplinary differences in social patterns, it was not until much later that these patterns were described as behavior that arose from differences in "culture."

Disciplinary Cultures and Person-Environment "Fit"

In the 1980s a new trend arose in higher education regarding the importance of "culture" and the ways in which culture might apply to individuals and groups within the higher education arena. At this juncture, the notion of disciplinarity was newly framed in a cultural perspective. Becher (1981, 1989, 1994) extended the focus on hard-soft, pure-applied distinctions, and brought a number of cultural considerations into the discussion of disciplinarity, as outlined below.

Through extensive interviews with university faculty in twelve select disciplines nationwide, Becher (1989) developed theoretical categories or "disciplinary ethnographies." These ethnographies demonstrate differences in values, intellectual

tasks, and unique codes of conduct among disciplines. Becher proposes that we conceive of disciplines as having recognizable identities and particular cultural attributes (Becher, p. 22).

Becher (1994) described the cultural aspects of a discipline and the cognitive aspects as being inseparably woven together. Because disciplinary practices closely reflect the relevant characteristics of their respective domains of enquiry (Becher), it is logical that individual actors within a domain would behave in accordance with the practices and assumptions upon which their chosen field of knowledge is based. Clark (1962) wrote that there is no true unified "faculty culture" in our higher educational institutions, since an array of disciplinary subcultures "split" the faculty.

Becher (1989) proposed a new classifying dimension, that of disciplinary social structure, which he describes as a "convergent-divergent" continuum. Convergent paradigm disciplines, such as mathematics and physical sciences, are marked by significant member agreement regarding the core subject matter of the discipline and regarding research methods to be employed. In such disciplines the growth of subject matter is cumulative, and members share a common sense of identity and shared intellectual styles. With divergent paradigm disciplines, on the other hand, such as the humanities and some social sciences, core subject matter and the nature and goals of the fields are intensely debated by members, and disputes over methodology are common and enduring. Growth of these fields can be described as "recursive," and their knowledge bases do not tend to build cumulatively.

Becher describes membership in divergent disciplines as often fragmented, with numerous intellectual styles, but in which members are more open to adopting the

techniques and ideas from other fields. He compares the convergent paradigm disciplines as growing like branches on a tree, while divergent paradigm disciplines "evolve" like an organism.

Aside from the classification of social structure described above, the second dimension that arises out of Becher's (1989) work is the classification of "knowledge domains." Like Biglan, he presents the idea that these domains can vary according to hard-soft and pure-applied differences, but he labels them as a dichotomy of "rural" and "urban" fields. Rural fields are marked by a low ratio of researchers to research problems, and a relatively slow pace of scholarship (history or social theory may be considered examples). Urban fields are marked by a large number of researchers focusing on a small number of research problems, a decidedly rapid pace of scholarship, high drama and extensive technology, high levels of research collaboration and teamwork but extensive and frequently contentious competition (examples of such fields may be physics or biochemistry).

When framed from a cultural perspective, all of the categorization work described above (from hard-soft, pure-applied, to rural urban or high-low consensus) are simply ways to recognize disciplinary differences and reduce complexity for understanding different sets of cultural norms and values in which individuals are socialized to "fit" within their environment. Holland's (1966, 1973, 1985, 1997) "theory of careers" proposes three central components, including individuals, environments, and the congruence or "fit" between the individuals and the environments. Individuals search for and choose environments where they can express their own set of abilities and interests (Holland uses a set of six dominant personality "types" in his work, and correlating

environments in which those types flourish.) The environments in turn "socialize" individuals by steeping them in their respective norms and values, reinforcing and rewarding certain patterns of interests and abilities. Faculty in distinct disciplines, then, entered and were socialized in their own disciplines beginning as students and later moving on to faculty roles. As faculty the members "reify" the respective norms and values of the disciplinary environments, and behave in ways consistent with the culture and expectations of their unique fields. "Faculty are the primary agents of those environments, and are largely responsible for creating the prevailing orthodoxies, biases, and definitions of "the right way" to think and act in those environments (Kelly & Hart, 1971; Lipset & Ladd, 1971, in Smart, Feldman, & Ethington, 2000, p. 81). Therefore, when faculty successful in their fields as scholars and teachers are promoted to the roles of academic deans, they carry with them into these roles their socialized notions, norms and values of their fields. These socialized notions influence their understanding of what constitutes good leadership, and their overall leadership preferences.

Influence on Goals and Policy

In the prior section I described how the socializing function of academic settings can work to affect member beliefs and norms. In the present section I review the specific literature on how these disciplinary differences have been found to be manifested in departmental differences and in the generalities of departmental "behaviors."

Differences in Departmental Goal-Orientations

Goal orientations of departments appear to differ by discipline (Smart & Elton, 1975). Departments of disciplines considered to be "hard" according to Biglan's (1973a) theory were found to stress research and graduate education goals more than those of

disciplines that are considered "soft." Departments of disciplines considered to be "pure" were found to place a greater emphasis on goals related to faculty development, maintenance of the ideals of academic freedom and the spirit of inquiry than those of "applied" disciplines (Smart & Elton).

Differences in Departmental Decision-Making

In regards to the decision-making process, the decisions made in a department are sometimes described as taking a form that is indigenous to the discipline (Anderson, 1976). That is, a departmental resolution or policy recommendation will often take a form that is unique to the particular discipline's conceptual base (Anderson). This is due to the disciplines' individual variance in their built-in conceptual modes and their methodological processes, which are applied to the non-research tasks of policy development and resolution of educational issues (Anderson). Policy reflects values, and values differ according to the culture of the environment, as described by Holland (1985, 1997) and others. Also in regards to disciplinarity and decision-making, it has been found that in departments of high-consensus disciplines such as physical sciences, the faculty have a higher level of autonomy than do those in social sciences, where decision making is more collegial but also more influenced by administrative authority (Beyer & Lodahl, 1976).

Influence on Characteristics and Behaviors

Disciplinarity and Member Characteristics

Research has shown that fields where there is a high level of paradigm development (or "hard" fields) are associated with the following departmental characteristics: A high similarity of survey courses; a high agreement course content and

degree requirement; a low conflict over time spent on teaching; a high number of teaching and research assistants; a high desire for more graduate students; a high proportion of their time spent with graduate students (Lodahl & Gordon, 1972). Faculty in applied disciplines report spending less time on research activities and more of their time on administrative assignments than do faculty in pure disciplines (Smart & Elton, 1982).

Differences between faculty in pure versus applied disciplines (as developed by Biglan, 1973a) have been found to include differences in personal value orientations, attitudes toward contemporary issues facing the academic community, and the emphasis placed on selected undergraduate teaching goals (Smart & Elton, 1982). Faculty in pure subject matter areas and those in paradigmatically "hard" disciplines regard themselves as more religious and politically conservative than faculty in applied fields, and less supportive of preferential hiring practices for women and minority faculty (Smart & Elton). They report being more supportive of awarding federal aid to institutions rather than to students.

In regards to individual self-promotion, Becher (1981) notes that this behavior appears to be critical among faculty in the fast-paced world of urban disciplines. Becher writes that this personality trait can be even more powerful and important to success than intellectual prowess, since faculty in his studies report that establishing oneself in a "leadership" position in one's field leads to further prominence such as joining elite groups, being invited to speak at conferences, etc.

Disciplinary Differences in Collaboration and Teamwork Behaviors

In regards to collaboration and teamwork, there are markedly higher levels in what Becher (1981) describes as the "urban" disciplines than in the "rural" ones. He notes that this appears to be due to the higher ratio of people to problems. In rural fields there are "plenty of problems" for research, so there is no point for researchers to undertake one with which someone else is already engaged. While competition exists in rural disciplines, the "race to be first" that exists in research publication for the hard sciences in urban fields is not nearly as present. While the premium is on being first and fastest in urban research, rural academics see it ("perhaps with a touch of smugness" as Becher notes, p. 120) as more important to be "right." The higher levels of collaboration in urban disciplines, however, is tempered by the fact that much of the team research Becher observed was composed of one senior scholar faculty member, with two or three "hired hands," such as a doctoral student, postdoc, or technician. Becher wrote "one of the most surprising outcomes [of my research interviews] was the very limited extent to which the academics concerned were engaged in collaborative, as opposed to individual, research" (p. 118).

Disciplinary Differences in Communication Behaviors

Faculty in urban disciplines were found to be relatively more "cliquey," while rural ones are less "occupationally gregarious" (Becher, 1981, p. 120). In regards to internal communications, Becher noted that urban faculty tend to pass on news via word-of-mouth, while rural faculty more often use written forms of communication (although in regards to publication, the speed of urban disciplines requires there be no delay.) The personal contact networks of rural researchers tend to be very small and are built up on an

individual basis, while these networks for their urban counterparts tend to have an independent existence and be very large in membership (Becher).

Clearly faculty member behavior differs according to the norms and expectations of the discipline. Notable differences in decision-making, goal-orientation, how faculty members' time is spent, collaborative behavior, communication styles, and even predictable differences in faculty members' personal values and political orientation have been found. But these represent overall differences among general members – that is, the faculty members within disciplines. They do not necessarily represent the behaviors of those who have risen to leadership behavior in their fields. The next section will address disciplinarity and leadership, specifically that of chairpersons and deans.

Disciplinarity and Leadership

Given the variations in goals across academic departments (Smart & Elton, 1975), differences in faculty attitudes and priorities (Becher, 1989), value orientations, and teaching/research emphases described above, it seems reasonable to expect that the management and leadership of these departments could vary widely (Smart and Elton 1982). This section will briefly summarize the literature to date regarding the disciplinary differences manifested in the leadership behaviors of chairpersons and deans across fields.

Socialization and Leadership

It has been argued that the same demands of the social context that shape students and faculty (described above) also shape leader behaviors (Pfeffer, 1977). In the past two decades, researchers have applied Merton's (1957) ideas on socialization within society to organizations and their members. To expand on Bragg's (1976) definition of the

socialization process as “the learning process through which the individual acquires the knowledge and skills, the values and attitudes, and the habits and modes of thought of the society to which he belongs" (p. 3), Tierney (1988) simply defined the concept by asking "What do we need to know to survive/excel in the organization?" (p. 8). Kirk and Todd-Mancillas (1991) linked socialization with academic "turning points" in an individual's life (p. 407).

Socialization, therefore, is useful not only to understanding how faculty assimilate to their roles, but how department chairs and deans “learn” behavior, ultimately their administrative roles. Sarbin (1968) states that learning an achieved role occurs through the process of anticipatory socialization. The social structures that “shape” a future dean or chairperson are the departmental social structures in which the individual has had previous experience as a graduate student and later a faculty member. For this reason, socialization can have differing effects depending on the norms of the discipline. Because deans and department chairs are typically drawn directly from the faculty ranks in each academic discipline, their behaviors in their new administrative roles will vary according to the expected norms of their respective fields (Smart & Elton, 1976).

Chairpersons

Differences in Chairperson Time Allocation and Emphasis

Chairpersons of departments in hard disciplines have been found to spend more time than those in soft disciplines on their research role, including obtaining and managing grants and contracts, recruiting, selecting, and supervising graduate students, etc. (Smart & Elton, 1976). Chairpersons of pure departments were found to spend more time on their faculty, including encouraging professional development of faculty,

maintaining morale, and reducing conflicts among faculty) than those in applied departments. Chairpersons in applied departments were found to spend relatively more time on their role as "coordinator" than those in pure departments (1976). And chairpersons in life-system departments (as defined by Biglan, 1973a) were found to devote relatively more time to their research role, as well as to place a greater emphasis on graduate education than those in non-life systems departments (1976). Smart and Elton's (1975) overall research findings were generalized as follows: chairs in high-consensus fields emphasize substantive academic goals related to teaching and research, while chairs in low-consensus fields emphasize goals related to departmental climate and administrative processes.

Differences in Chairperson Power Held and Leadership Style

It has been found that in some departments, such as social science departments, the individual has more power in decision-making than in others, such as in physical science departments. Chairpersons in physical sciences have been found to have more power than their counterparts in social sciences (Lodahl & Gordon, 1973). Neumann and Boris (1978) found that leadership style is influenced by social demands and task structure, and not vice versa.

Leadership style of department chairs has been found to vary by the disciplinary level of consensus (Neumann & Boris, 1978). Chairpersons in high-consensus fields within notably high prestige departments tend to employ a "task-oriented" leadership style, while those in low-prestige departments used both the task-oriented and "people-oriented" styles. Conversely, chairpersons in low-consensus fields who work on high-prestige departments use both styles while those chairpersons in low-consensus fields but

low-prestige departments use a task-oriented style. Overall, this research demonstrated that differential leadership styles (among chairpersons) are predictable in different scientific fields.

Differences in Chairperson Perceptions of Influence

In a study of chairpersons' perceptions of their influence in the functioning of academic departments, Hayward (1986) found that those in high-consensus fields perceived they had comparatively high influence over procurement of research funds, faculty teaching loads, and decisions regarding faculty promotion. Perceptions of chairpersons in low-consensus fields, however, were that they had comparatively high influence in the recruitment and hiring of faculty and institutionwide policy.

Differences in Chairperson Tenure Length

Whether a chair is in a high or a low-consensus field was found to relate in part to average length of tenure in the role (Pfeffer & Moore (1980). In a study of department-chairperson turnover, it was found that departments in low-consensus fields have a higher rate of chairperson turnover (Salnick, Straw, & Pondy, 1980).

To summarize, there have been found differences between chairpersons' perceptions and behaviors based on disciplinary backgrounds. As described above, they include differences in time allocation and emphasis, power held, leadership style, perceptions of influence and relative tenure length.

Deans

The research above describes the disciplinary-related behaviors of chairpersons. However, while chairpersons are generally engaged in work that is closely related to their disciplines, the role of academic deans can be said to be more closely tied to the

institutional administrative domain. A recent study of academic deans at the national level examined the social and cognitive dimensions underlying disciplinary variations, and found that the social dimension of academic discipline may still be a factor that significantly differentiates how deans approach their administrative work. Del Favero (2005) examined the self-reported administrative behavior of 210 deans across the hard/soft, pure/applied domains, and analyzed them according to the behaviors descriptive of four organizational frames defined by Bolman and Deal: structural, human resources, political and symbolic. She found that the social as opposed to cognitive dimension of disciplinarity to be more useful in discriminating administrative behavior of academic deans, and also found that the social dimension of a discipline's culture "may contribute to the durability of discipline differences over the course of an academic career" (p. 86). Her discriminant analysis identified significant linear functions that distinguished behaviors of deans from hard/pure, hard/applied, soft/pure, and soft/applied discipline groups. These include the finding that deans from low-consensus fields, especially those in applied fields, are more inclined toward use of socially-oriented administrative behavior than those in high-consensus fields.

A Synthesis of the Research on Disciplinarity

The body of knowledge on disciplinarity that I have reviewed in this section identifies the existence of numerous and varied conceptual lenses used to define and describe the phenomenon of disciplinarity in higher education. Clearly the phenomenon has been explored from diverse approaches and frameworks, including those based in the sciences, in sociology, in psychology, and in organizational behavior. This section briefly summarizes the various lines of inquiry to date, noting where and how they

overlap and parallel one another. I also summarize the methods used to explain how disciplinary differences have come to be, and the research on leadership that demonstrate the behavioral outcomes of these methods. I conclude by reconciling the different approaches to date in an effort to identify the most useful aspects and describe how and where they might be applied in future studies regarding the topic of higher education leadership in the twenty-first century.

The first line of research on disciplinarity focused on the categorization and differentiation of disciplines and their relative subjects of study. This line included the examination of how the range of existing disciplines differ from one another in content and approach. It generated the definition of "paradigms" (Kuhn, 1962) and the so-called comparative *maturity* of disciplines. The goal of this line of inquiry has been to categorize disciplines. Another line of research has focused on the perceptual processes and "cognitive styles" of academic fields. This line of inquiry generated the "hard-soft" and "pure-applied" dimensions (Storer, 1967, 1972; Biglan, 1973a), which are linked with the cognitive and perceptual styles of a field's members in addition to the content and method of the field. Finally, the lens of culture (Becher, 1981, 1989, 1994) and the way that culture is inseparably enmeshed with cognition (Bailey, 1992) has been explored. This line of inquiry proposed a "disciplinary social structure" as a so-called "new" classifying system.

What is most interesting is the way in which the different lines of inquiry have mirrored one another, often using different labels for what are the same or similar phenomena or behaviors. It can be argued that Becher's (1989) proposal for the theoretical categories he calls a system of "disciplinary ethnographies," which he

proposes have recognizable cultural attributes including different values, intellectual tasks and codes of conduct, is simply another way to label the earlier taxonomy or systems of categorization. Becher's "convergent-divergent" continuum, described as part of his "new" classifying dimension, refers to the level of member agreement in a discipline regarding the core subject matter and research methods employed. This definition is almost exactly the same as the one used earlier by Biglan (1973a) to describe his "hard-soft" dimension. Biglan in fact based this dimension on the work of Storer, who defined it similarly some years earlier. And both Biglan and Storer's (1967, 1972) definitions of the hard-soft dimension very closely mirror both Hagstrom's sociology-based work, and Kuhn's earlier assignment of fields having high or low member consensus as "developed" or "less developed paradigms," not to mention Lodahl and Gordon's (1972) concepts of paradigm development. Becher's (1989) second dimension, which he labels "knowledge domains," is presented according to a dichotomy he calls "rural" and "urban," which can be described as a cultural metaphor for the dimensions his predecessors developed decades earlier.

My review of research on the disciplinary differences in leadership behavior included noted differences in chairperson time allocation and emphasis, leadership style and relative amount of power, perceptions of influence and tenure length. In addition, I noted the extension of the notion of academic disciplinarity to the behaviors of deans heralding from different academic fields. It should be noted that only *one* research study (Del Favero, 2005) to date could be found on how differences in disciplinarity relate to academic deans.

Going forward, how can the different notions and descriptions of disciplinarity be synthesized and used to advance the research on higher education leadership? As noted above, a number of labels applied by researchers to the phenomenon of disciplinarity represent a dichotomous split between two paradigms. The "pure-applied" categorization represents a level of concern with application to "practical" problems, or practical application of subject matter. It is this practicality aspect that distinguishes "pure or applied" fields, such as history on one end of the continuum, and agricultural sciences on the opposite end. The categories at the basic level were alternately labeled "paradigmatic and pre-paradigmatic," "hard-soft," "rural and urban," and "high-low consensus," they represent very similar notions. Because the constructs of high versus low consensus and pure versus applied can be applied both to the nature of the disciplines themselves and the resulting differences in behaviors displayed by their members; and because they can be approached from a scientific, psychological, sociological, and cultural perspective, they are excellent choices for framing further study of disciplinarity in leadership behavior. This study therefore utilizes these two grouping constructs, labeled "high-low consensus" and "pure-applied fields" for an exploratory study of the apparent impact of disciplinarity on the cognitive frame approach of academic deans.

CHAPTER 3

METHODOLOGY

A search of the literature on disciplinarity and cognitive leadership styles uncovered only one significant research study (Del Favero, 2005) on the effects of disciplinarity and the leadership behavior of academic deans to date. This lack of attention to one of the most important leadership roles in higher education clearly demonstrates a need for further scholarly research in this area. Hence, this study explores the potential differences in leadership behavior and motivation between academic deans with different disciplinary backgrounds. I have undertaken this research through a study of academic deans' utilization patterns of cognitive leadership frames according to the high-consensus/low-consensus and pure/applied dimensions of disciplinarity.

In this chapter I describe the conceptual framework for the research study that defines the parameters of my work, and outline both the primary research question that guided the study, and its related secondary questions. I define the research design, including a description of the survey I adapted and honed for the study, and the type of data to be collected. I also briefly describe the subjects or participants in my study, the source of my data, the rationale behind the selection of my sample, and the data analysis methods utilized.

Conceptual Framework

Academic deans play important leadership roles within higher education, in a setting of "organized anarchy" (Cohen & March, 1974) where unique organizational features and behaviors render leadership a complex and problematic task (Birnbaum, 1988). Academic deans' responsibilities for administrative management take place

against the background of their institutions' professional bureaucracy (Mintzberg, 1979), and at the highest level of nexus within the horizontal and vertical communities of the higher education matrix model described by Alpert (1985, 1986). While the administrative responsibilities of deans are relatively consistent from unit to unit, the background and training of Deans tends to vary greatly by discipline. Most deans rise to their positions through the faculty ranks and this means that each has been socialized in a specific discipline with its own related set of values, norms and methods for viewing the world (Kelly & Hart, 1971; Lipset & Ladd, 1971; Smart, Feldman, & Ethington, 2000). This disciplinary influence creates distinct preferences for filtering information, framing questions, problems and solution sets, and ultimately understanding and leading academic units (Del Favero, 2005). These preferences represent cognitive lenses or frames (Birnbaum, 1988; Bensimon, 1989), and are cognitive tools that academic deans may rely on, especially given that there is very little comprehensive training or education in management and administrative leadership available to academic deans other than their prior training as scholars (Wolverton et al. 2001). Potentially there is a direct relationship between the academic backgrounds of deans, and the choice of specific cognitive frames they utilize in performing their leadership work.

Research Questions

In this research study I investigate the potential influence of disciplinarity on leadership behavior among academic deans. Specifically, the study seeks to determine whether the disciplinary backgrounds of university deans are reflected in their actions, decision-making, and role perception according to self-reported behaviors or motivations. Thus, the following questions guided the research:

- How does disciplinary background relate to the self-reported administrative leadership behaviors of deans?

In addition to this primary research question, the following related questions are explored:

- Do academic deans' use of single, paired, or multiple cognitive leadership frames differ according to the individual's disciplinary field?
- Do deans trained in certain disciplines tend to report behaviors that are associated with a more single- or paired-framed cognitive approach, while academic deans trained in other disciplines tend to report behaviors that are associated with a more multi-framed cognitive approach?
- Are certain disciplinary backgrounds of academic deans associated with more multi-framed cognitive perspectives than others?

Research Design

The research design for this study included administering a survey that consisted of two sections. The first section was comprised of a series of four scales, one each for the bureaucratic, collegial, political and symbolic frames, that represent the potential cognitive frames as expressed through a list of leadership activities potentially performed by the deans. These items built upon the 2005 work of Del Favero (with her permission) and were first "piloted" for my study with a focus group and honed before administered to the final research participants. The second section sought to obtain background information in specific areas, including unit size, experience, gender and other demographic information for the deans in my sample group.

The survey was administered to a cohort of 571 deans via online survey during the summer of 2008. A total of 295 deans responded. The data were collected and analyzed to determine whether the self-reported behavior and motivation of the academic deans differed along the lines of individuals' disciplinary background.

The approach of this study builds upon Del Favero's (2005) work analyzing the impact of disciplinarity on academic deans' self-reported leadership behaviors, and does so by incorporating Bensimon's (1989) approach to studying college presidents' leadership styles utilizing the constructs of single-, paired-, or multi-frame cognitive approach. My methodological approach also builds upon the work of Berger (2000) that operationalized the concept of organizational frames by seeking to determine the dominant organizational patterns in higher educational institutions. My research also extends the knowledge generated by Del Favero on the study of disciplinarity and academic deans by utilizing a methodology that allows for a wider analysis of deans' behavior. While Del Favero's analysis essentially *collapsed* the four frames down to *two*, the methodological approach in this study sought to retain all four of these critical cognitive dimensions, allowing for a much wider and more in-depth interpretation of the data. This study also produced a larger data set, with usable surveys from more academic deans.

In addition to allowing a wider interpretation than Del Favero's (2005) study by retaining all four frames, my methodology introduced the incorporation of a method that allowed subjects to be classified on their use of single-, paired-, or multi-framed cognitive approaches. This builds on the work of Bensimon (1989), who studied and defined college presidents' leadership styles through the constructs of single-framed,

paired-framed, and multi-framed cognitive approaches (the frames referring to the four cognitive dimensions). However, while Bensimon utilized only *qualitative* methods to make these distinctions, my study builds upon her work by operationalizing these constructs through the use of *quantitative* methods. Another way my study departs from Bensimon's is in how I sought to differentiate leadership styles along the lines of disciplinary background, including high/low-consensus and pure-applied fields. In addition, my results also classify the use of single-, paired-, or multi-framed approaches according to the *disciplinary backgrounds* of the deans found to utilize them.

Participants/Data Sources

The subjects in my research sample are administrative leaders who hold academic appointments, i.e., academic deans. As such, my participants did not include such leaders as deans of finance, human resources, or student affairs, as these roles have more clearly-defined professional training and education than do those of the academic leaders who have come directly from their faculty roles. Thus my sample is composed of deans of academic units that are themselves composed of faculty members. I accomplished this by selecting only academic deans to participate in my survey.

There were several approaches I considered taking to collect data from academic deans, and each had its own benefits and limitations. One approach would have been to survey all of the academic deans at one large research university, which would have allowed me to control for a single institutional type and culture. However, such a sample would have been too small for a full analysis, and hence would not have lent itself well to generalizability. A second approach would have been to collect data from academic deans participating in one of the Harvard University summer programs, which are

programs specifically designed for the leadership training of college and university deans. While this method may have offered a "captive audience," the audience would in fact be "self-selected" according to whoever showed up at the summer program that year, including deans from institutions that are very diverse and not necessarily comparable.

In order to most accurately build on the work of Bensimon (1989) and Del Favero (2005) I needed a sample that would be highly generalizable. My data were therefore gathered via internet survey from a sample that I reached via direct appeal email, preceded by mailed letters. I used the Carnegie classification system to identify the country's tier I Comprehensive Universities, where the *widest* variety of disciplines are represented, which is critical for a study that compares disciplinary backgrounds of its participants. My sample included 571 academic deans representing a randomized sample of these "comprehensive category" universities, including both public and private institutions. I first visited the websites for each of the selected universities to obtain the name, title, and email address of each of the academic deans for every college within these universities. I sent out a "pre-survey" letter via U.S. mail delivery alerting the deans to the study and requesting their participation. I then emailed each one with an appeal to take my online survey, and my results classified them by high-low consensus and pure-applied fields according to their self-reported disciplinary backgrounds. This method of using a random stratified cluster sample composed of comprehensive doctoral I research-oriented universities served to capture data from the widest possible grouping, while ensuring a large number of subjects. My response rate on the 571 deans surveyed was 51.66%, and a total of 295 usable surveys were collected.

Data/ Measures/ Coding

For coding of the data, the subjects in the study were split into groups: those academic deans from high-consensus disciplines, those in low-consensus disciplines, and those deans in pure fields versus applied fields, based on prior research and accepted classification of the fields. In this way the deans were classified into one of four categories: 1.) high-consensus pure deans, 2.) low-consensus pure deans, 3.) high-consensus applied deans and 4.) low-consensus applied deans.

Participants' responses to the demographic section of my instrument provided me with information on their disciplinary background and disciplinary affiliation. They also provided me with data on participants' gender, age, race/ethnicity, size of academic unit for which they are serving in the role of dean, number of years they have served as a faculty member, previous administrative positions, and the number of years they have served as academic deans. As a control variable, my instrument also included two questions about the current environment and the chief academic officer's leadership style. (See Appendix E, Survey Instrument)

The self-reported behaviors on the survey instrument are a list of actions that deans may engage in as part of their administrative work, each of which was predetermined to be associated with one of the four cognitive leadership frames. Deans in the study were asked to rate themselves on each action. Quantitative analysis then allowed me to discover the patterns of each respondent that I classified into single-, paired-, or multi-framed cognitive approaches for each respondent. The four scales on the instrument are ones I have modified from the Del Favero (2005) study survey, with her permission. (See Appendix E, Survey Instrument)

Although the scales on my survey are similar to those on Del Favero's 2005 study on the disciplinary impact of academic deans' leadership behavior, I used a very different approach in my testing, coding, and analysis of these data. Del Favero utilized discriminate analysis, which meant she had to collapse four dimensional frames into two. However, my approach provided a method that allowed each of the four frames to remain distinct, and by utilizing an analytical approach that did not include discriminant analysis, I was able to analyze the participants' reported behaviors along all four frames. That is, I sought to determine whether the subjects in the study exhibited single-, paired-, or multi-framed cognitive leadership frame approaches in their responses, according to the range of four possible cognitive leadership frames. As noted earlier, my unique frame analysis is similar to Bensimon's (1989) approach in her research on the leadership styles of presidents, however, because my data were gathered via survey rather than interview, and my analysis utilized quantitative rather than qualitative methods, my approach produced more generalizable results. I began my analysis by using quantitative techniques inductively to inform subsequent data analytic techniques. The descriptive analysis guided my methods. My analysis of the data included descriptive correlation analysis and multivariate analysis, including logistics regression tests.

Conclusion

"Universities are only as strong as their colleges, and colleges reflect the strength of their deans" (Wolverton et al. 2001, p. 97). By conducting survey research of academic deans to determine whether their disciplinary backgrounds are reflected in their self-reported administrative leadership behaviors, I have addressed an important gap in the literature of higher education. The results of my research address the vital need to

understand the leadership behaviors of academic deans, as a critical part of the larger, publicized imperative for understanding leadership in higher education.

CHAPTER 4

DATA ANALYSES AND RESULTS

The purpose of this chapter is to describe the results of the analyses performed on the data collected for this study. In order to understand the impact of disciplinary background on academic deans' utilization patterns of cognitive leadership frames, I collected and analyzed data from 295 academic deans from 81 comprehensive doctoral research universities across the country. As per the original research questions, I assigned high/low and pure/applied status to the disciplinary background of each subject in the sample. In order to assess each group's use of cognitive leadership frames, I used the deans' responses to determine the predominant patterns of single-, paired-, or multi-framed approaches, in other words the deans' self-reported usage patterns of the bureaucratic, collegial, political and symbolic frames.

This chapter is divided into five sections. In the first section, on factor analysis and scale construction, I describe how the 88 items in the survey related to deans' leadership motivations were reduced into four scales of eight to ten items, each representing one of the four cognitive frames. In the second section I provide a review of the descriptive statistical analysis, including the means, standard deviations, and percentages where appropriate, for each of the relevant variables used in this study. In this section, I explain the method by which I grouped the variables into five blocks, consistent with the conceptual framework for this study, in order to allow the data to be ready for logistic regression analysis. In the third section correlational analysis is used to explore the association between pairs of variables in the study, including single and composite variables. In the fourth section I focus on the mean comparison of the data

through the use of independent samples t-tests to demonstrate the relationships between the types of cognitive frames and pairings of frames in use by the deans and their category of disciplinary background. Finally, in the fifth section I utilize logistic regression analyses in order to examine the interactive relationships between the individual items in the five blocks of variables as well as the composite blocks overall with the dependent variables of disciplinary background. By exploring these logistic regression equations, I am able to show the relative size of the effect of the multiple independent variables on the four dependent variables. In this way, I provide the statistical analysis necessary to draw conclusions that respond to the research questions in the following chapter of this study.

Factor Analysis and Scale Construction

Cognitive Frames

Deans in the study responded to items that were designed to identify underlying motivations for their behaviors; these items were pre-classified to fall into the four cognitive frames adapted for use in this study. Multiple items that together form a latent construct for each of the four cognitive frames were constructed. Factor analysis provided a means for confirming the a priori conceptualization of structure of the cognitive frames as they were measured in this study. It also provided a way to reduce the complexity of the data while increasing the robustness of the key measures and improving the variance for each measure. The four scales were generated through the use of factor analysis using the varimax method for an orthogonal rotation of the 88 items (22 for each of the four cognitive frames) that were included in the survey instrument as indicators of Deans' self-reported cognitive leadership frames. The results of the factor analysis confirmed

the presence of the four a priori scales that matched the cognitive leadership frames being investigated in this study. Only items with factor loadings of 0.30 or higher (Kim & Mueller, 1978; Berger, 2000) were included in the construction of the final scales. As a result, the four scales were identified and constructed using between eight and ten items in each of the four cognitive frames. Table 1 provides a summary (including the factor loadings for each item and the alpha reliability for each factor) of the final results of the factor analysis including a listing of the items used to construct each of the multi-item factors. Cronbach's alpha reliability test was conducted to confirm the reliable structure of each scale. All of the scales had alpha reliabilities in excess of 0.70, indicating that they have strong reliability (Astin, 1980; Berger, 2000). These scales embody the four cognitive frames described in the review of literature that was presented in Chapter two. Each scale is composed of eight to ten items and includes items measuring dean's self-reported motivations when performing typical tasks required for their role as dean as classified by the bureaucratic, collegial, political, and symbolic cognitive frames.

The bureaucratic scale emphasizes deans' self-reported underlying motivations while performing typical tasks of a dean that represent a focus on organizational rules, regulations, policies, protocol, decreed hierarchy, and formal structure in order to achieve established goals and objectives for their units or universities. The collegial scale emphasizes the behavior of deans which is collaborative and consensus building, with demonstrated beliefs in the power of the community of scholars, social awareness, the relationship of the member to the organization, common aspirations, and a sense of shared power in the decision making process. The political scale emphasizes deans' behaviors that recognize the organization as groups of separate coalitions and sub-

coalitions, each competing for scarce resources, power, and advantage, and where conflict, bargaining, and self interest rule all decision making. The symbolic scale represents the behavior of deans that focuses on the importance of culture and legitimacy, as defined through symbols, symbolic actions, ceremonies and rituals, and where the culture, values, and social reality construct the shared meaning of a unit or university.

Table 1

Results of Factor Analysis for Cognitive Frames

Factor Names and Items	**Factor Loading**
Bureaucratic	
I credit chairs and program heads for helpful ideas and suggestions in order to recognize their contribution	**.75**
I communicate with chairs and staff about the importance of excellence in order to ensure all understand their role in achieving organizational excellence	**.74**
I communicate my expectations to department chairs/administrative heads in my unit so they will clearly understand their department's obligations, tasks, and responsibilities	**.65**
I stay abreast of the work of department chairs or administrative heads in my unit in order to ensure departmental objectives are being adequately addressed	**.64**
I inform alumni and other constituents about our programs as a way of maintaining an effective alumni relations program	**.58**
I provide support to department chairs in order to enable more efficient coordination between my office and the departments	**.49**
I involve faculty in decision-making in order to take advantage of the expertise they have to contribute	**.48**
I review the strengths and weaknesses of the unit's goals in order to examine the fit between program objectives and college goals	**.46**
I offer career advice to chairs and other administrators in order to increase their value to the organization	**.36**
My approach to organizational change is driven by the priorities of the institution's long-range strategic plan	**.37**
Alpha Reliability	**.76**

(table continues)

…….

Collegial

I encourage faculty members to participate in teaching development activities out of concern for their success and advancement .....**.74**

I offer career advice to chairs and other administrators out of concern for their personal success/advancement .....**.74**

I handle conflict between department chairs or program heads and their faculty members by working with the department chair or program head to develop his/her conflict management skills .....**.63**

I provide support to department chairs out of concern for their personal and professional development as individuals.....**.47**

I stay abreast of the work of department chairs or administrative heads in my unit in order to be sure their professional needs are being met .....**.46**

I monitor campus activity outside my unit so we are better able to meet the needs of our own constituents .....**.39**

I review the strengths and weaknesses of the unit's goals in order to assure a good fit between faculty interests and abilities with unit goals.....**.37**

I communicate with chairs and staff about the importance of excellence in order to make everyone feel their contribution to excellence is valued.....**.31**

Alpha Reliability .....**.78**

…….

Political .....

I show sympathy/support to someone in my organization who is upset as a way of gaining that person's support .....**.73**

I provide support to department chairs in order to cultivate their support in return .....**.68**

I offer career advice to chairs and other administrators as a way of alliance-building .....**.63**

I provide tangible rewards (resources, faster service, special favor) to chairs and faculty in recognition of their contributions in exchange for, or to influence, their support.....**.61**

My approach to organizational change is driven by the demands of various institutional interest groups and coalitions.....**.55**

I credit chairs and program heads for helpful ideas and suggestions in order to influence their commitment to the unit.....**.54**

I address student reports of inappropriate faculty conduct by negotiating a proper resolution with the department chair .....**.35** (table continues)

I encourage faculty members to participate in teaching development activities to help my unit to rise above the others .....**.34**
I communicate my personal appreciation for faculty achievements in order to reduce the chances that they will seek employment elsewhere .....**.30**
I handle the anger of an external constituent (such as an influential board member, etc.) by first weighing the contributions of the board member .....**.30**
Alpha Reliability .....**.78**
……

Symbolic .....
.....
I communicate my expectations to department chairs/administrative heads in my unit in order to increase shared meaning about the unit priorities.....**.70**
I inform alumni and other constituents about our programs in order to reinforce my unit's image in the community.....**.69**
I monitor campus activity outside my unit in order to convey an appropriate external image.....**.51**
I stay abreast of the work of department chairs or administrative heads in my unit as a way of communicating my support .....**.48**
I allow department chairs to handle problems in their own departments in order to reinforce my expectations of their responsibilities in this regard.....**.45**
I communicate with chairs and staff about the importance of excellence in order to send a message that excellence is the standard .....**.42**
I credit chairs and program heads for helpful ideas and suggestions in order to let them know that I value participative decision-making.....**.39**
My approach to organizational change is driven by the desire to improve the image and reputation of the unit.....**.38**
I communicate my personal appreciation for faculty achievements in order to make examples of their success .....**.35**
I congratulate external constituents on an accomplishment/award in order to send a message of concern/appreciation for their success.....**.34**

Alpha Reliability .....**.76**
……

Participants in the Study

Before looking at the individual variables, I will briefly describe the actual fields and disciplinary backgrounds represented in the sample of deans that was collected for this study. As mentioned above, data for this study were collected from 295 academic deans from 81 comprehensive doctoral research universities across the country. As per my original research questions, deans were characterized into four categories, each consisting of a combination of one variable from each of the two dichotomous sets (Low/Applied, High/Applied, Low/Pure, High /Pure).

Actual deans in the study who were categorized in the *low-consensus applied* fields included men and women who were socialized in and identified with the following disciplines (among others): education, educational leadership, social work, nursing, business, law, communications, journalism, public health, mental health, art, performing arts, design, theatre, music, accounting, marketing, management, organizational behavior, criminal justice, child development, exercise science, and family science. Deans in the study who were categorized in the *low-consensus pure* fields included men and women who were socialized in and identified with the following disciplines: psychology, sociology, philosophy, English, French literature, political science, history, and language pathology, among others. Deans in the study who were categorized in the *high-consensus applied* fields included men and women who were socialized in and identified with the following disciplines: engineering (biomedical, electrical, mechanical, chemical, material), nanotechnology, architecture, pharmacology, medicine, dental medicine, veterinary medicine, medicinal robotics, anatomic pathology, nutrition, computer science,

agriculture, agronomy, and forestry, among others. And deans in the study who were categorized in the *high-consensus pure* fields included men and women who were socialized in and identified with the following disciplines: biology, chemistry, biochemistry, entomology, mathematics, physics, and astrophysics, among others.

Descriptive Statistics

This section provides an overview of the descriptive statistics most relevant to this study. Included are discussions regarding how I created the variables that distinguish a dean's cognitive frame usage pattern, and I reporting on the mean and standard deviation or percentage of each variable within the conceptual model used to guide the multivariate portion of this study. These definitions and statistical findings set the stage for the logistic regression analysis described later in this chapter.

Consistent with the conceptual framework of this study outlined in chapter 3, the variables were grouped into five blocks. These included the subject's Personal Characteristics, Professional Background, Organizational Context, Discipline, and Cognitive Frame.

Descriptive statistics were run for each of the Cognitive Frames scales as a method for identifying the percentage of deans in the study whose dominant usage was one of the four. However, in order to then examine the extent to which deans had single-, paired-, or multi-framed orientations, or *diffused* frame orientation, I examined the frequency distribution of the responses and created a high/low categories within each before constructing these new items. The Single Frame variable refers to how many deans operated with a single dominant frame, that is, a Bureaucratic, Collegial, Political *or* Symbolic frame. The Paired-Frame category refers to how many deans operated with

two prevalent frames. The Multi-frame category refers to how many deans operated with three or more prevalent frames, while the diffused Frame category refers to how many deans demonstrated no dominant frames or patterned frame usage. All of the relevant descriptive statistics, including their definitions with means and standard deviations, are outlined in Table 2 below.

In the Personal Characteristics block of variables, I found the female deans in the study consisted 35% of the sample. The age of the deans in the study had a mean of 58.6 years. White deans in the study consisted of 87% of the subjects, while Black deans represented 4%. (The remaining 9% of deans were spread across multiple other ethnic identities).

The Professional Background block of variables showed that the mean number of years a dean had served at his or her current institution was 14.11 years. The mean number of years that the deans in the study served as faculty members was 26.6 years. The subjects who reported serving in their *current* roles as deans for 1 to 3 years was 43%, for 4 to 6 years was 24%, and for 7 or more years was 33% .

A composite measure indicating relative level of experience in which subjects served as a non-dean administrator, including as an assistant or associate dean, department chair, or director of center or institute, had a mean of 5.9 and a standard deviation of 1.9. About two thirds of the deans in the study have had less than 9 years of experience in administrative roles. The Organizational Context variables showed that the mean number of units housed in the departments of the deans in the study was 7.4.

The Discipline variables showed that of the deans in the study, 50% were from a disciplinary background categorized as Low/Applied (see chapter 3 for definitions of the

categories), 22% were from High/Applied backgrounds, 14% were from Low/Applied backgrounds, and 6% were from disciplines in the High/Pure category.

The Cognitive Frame block classifies the raw scores for all of the deans self reported behaviors as they fall into the orientation scales of Bureaucratic, Collegial, Political, and Symbolic. The Bureaucratic frame had a mean of 43.6 and a standard deviation of 4.3. The Collegial frame had a mean of 41.3 and a standard deviation of 5. The Political frame had a mean of 29.3 and a standard deviation of 6.1, and the Symbolic frame had a mean of 42.9 and a standard deviation of 4.5.The Cognitive Frame block also reports the means and standard deviations for each of the constructed items identifying deans' dominant cognitive frames as their responses grouped into *single* dominant categories. The measures showed that 24% of the deans in the study displayed a single dominant cognitive frame. Of these single-framed deans, 3% operated with a dominant Bureaucratic frame; 5% operated with a dominant Symbolic frame; 6% operated with a dominant Collegial frame; and 10% operated with a dominant Political frame. Hence, single-framed deans were almost twice as likely to operate with a Political cognitive frame than any other.

Finally, the Cognitive Frame block shows the percentage of deans who display cognitive frame usage patterns that are Paired-Frame, Multi-Frame, or Diffused (meaning "no frame"). The data showed that 12% of deans in the study utilized a Paired-Frame approach, that is, a paired-frame approach favoring two of the four cognitive frames. The percentage of deans in the study with a Multi-Frame approach was higher than the percentage with any single frame, at 19%. Hence, deans whose dominant pattern was revealed as being either paired- or multi-framed represented a combined 31% of the

group. A third, previously unanticipated group of deans were found to have *no* single-, paired-, or multi-framed approach whatsoever, in other words the responses of these subjects demonstrated a heterogeneous utilization of frames in which their scores across all four frames were in the moderate to low range when compared with the scores of the rest of the sample. I classified this group as "Diffused Frame," and it represented the largest number of subjects in the study, at 45%.

Overall, the Cognitive Frame block demonstrates that 45% of the deans in the study operated with either a diffused frame (no frame) or with a single dominant cognitive frame. Significantly, this is greater than the number of deans who operated with paired- or multi-framed approaches.

Table 2

Variables Definitions with Means and Standard Deviations

Variable Category and Name	Definition
PERSONAL CHARACTERISTICS	
1. Gender: Female	Single item identifying deans' gender (1=female, 2=male) Female = 35%
2. Age in Years	Single items asking deans their age in years. Mean = 58.7 years S.D.= 5.9
3. Race: White	Single item asking deans to identify whether they belong to the racial/ethnic group White/Caucasian. (1 = no, 2 = yes) White Deans = 87%
4. Race: Black	Single item asking deans to identify whether they belong to the racial/ethnic group African, African America, or Black. (1 = no, 2 = yes) Non-Black Deans = 4%
PROFESSIONAL BACKGROUND	
5. Years as Faculty	Single item asking deans total number of years served as a faculty member (anywhere) Mean = 26.6 S.D. = 8.1

(table continues)

6. Years as a Dean:	Single item asking deans the number of years they served in current role as dean. For each contributing composite item indicator: 1 = N/A, 2 =1 to 3 years, 3 = 4 to 6 years, 4 = 7+ years 2, 1-3 years = 43% 3, 4-6 years = 24% 4, 7+ years = 33%
7. Years as an Administrator	Composite measure indicating relative level of experience in which subjects served as a non-dean administrator, including assistant or associate deanships, department chair, director of center or institute. For each contributing single item indicator: 1 = N/A, 2 = 1 to 3 years, 3 = 4 to 6 years, 4 = 7+ years Mean = 5.9 S.D. = 1.9
ORGANIZATIONAL CONTEXT	
8. Departments in Unit	Single item asking deans the total number of departments in their unit Mean = 7 S.D. = 9

(table continues)

DISCIPLINE

9. Discipline: High/Pure	Single item to determine whether dean's disciplinary association is in the category of High/Pure. (1 = no, 2 = yes) Deans with High/Pure Disciplines = 6 %
10. Discipline: High/Applied	Single item to determine whether dean's disciplinary association is in the category of High/Applied. (1 = no, 2 = yes) Deans with High/Applied Disciplines = 22%
11. Discipline: Low/Pure	Single item to determine whether dean's disciplinary association is in the category of Low/Pure. (1 = no, 2 = yes) Deans with Low/Pure Disciplines = 14%
12. Discipline: Low/Applied	Single item to determine whether dean's disciplinary association is in the category of Low/Applied. (1 = no, 2 = yes) Deans with Low/Applied Disciplines = 50%

COGNITIVE FRAME

13. Bureaucratic	Composite item identifying the raw scores for deans' Bureaucratic frame. Mean = 43.6 S.D. = 4.3

(table continues)

14. Collegial	Composite item identifying the raw scores for deans' Collegial frame. Mean = 41.3 S.D. = 5.0
15. Political	Composite item identifying the raw scores for deans' Political frame. Mean = 29.3 S.D. = 6.1
16. Symbolic	Composite item identifying the raw scores for deans' Symbolic frame. Mean = 42.9 S.D. = 4.5
17. Dominant: Bureaucratic	Constructed item identifying deans' dominant cognitive frame as Bureaucratic in nature. Single frame deans with a dominant Bureaucratic frame = **3%**
18. Dominant: Collegial	Constructed item identifying deans' dominant cognitive frame as Collegial in nature. Single frame deans with a dominant Collegial frame = **6%**
19. Dominant: Political	Constructed item identifying deans' dominant cognitive frame as Political in nature. Single frame deans with a dominant Political frame = **10%**
20. Dominant: Symbolic	Constructed item identifying deans' dominant

(table continues)

	cognitive frame as Symbolic in nature. Single frame deans with a dominant Symbolic frame = **5%**
21. Paired-Frame	Constructed item identifying deans' frame usage pattern as Paired-Frame. Deans with a Paired-Frame = **12%**
22. Multi-Frame	Constructed item identifying deans' frame usage pattern as Multi-Frame. Deans with a Multi-Frame = **19%**
23. Diffused	Constructed item identifying deans' with no significant patterned frame usage, classified as Diffused. Single-frame deans displaying no single or patterned frame = **45%**

Correlations

In this section I explore the association between pairs of variables in the study, including the single and composite variables I have deemed most relevant to answering the research questions posed in chapter 3. Table 3 below provides a comprehensive correlations table which demonstrates the measure of association between variables. It expresses both the strength and direction of the bivariate relationships among relevant variables.

As I have outlined in the chapters above, the most important relationships in the data are those between the types of backgrounds of the deans in the study (the disciplinary categories of High/Low Consensus and Pure /Applied) and the cognitive frame patterns demonstrated by the deans via their self-reported behaviors. For this reason the correlations identified in this section will focus mainly on the relationships between these independent and dependent variables, although some correlations between these areas and demographics of the subjects in the study are also reported.

Some of the strongest correlations include a *positive* significant relationship between deans with High/Applied disciplinary backgrounds and Gender Female (r= .24***), and a *negative* significant relationship between deans with Low/Applied disciplinary backgrounds and Gender Female (r= -.26***)

The relationship between Multi-Frame cognitive approach and Gender Female deans also had a strong negative significance (r= -.16**). Paired-Frame cognitive approach and Gender Female deans had a less strong, but still significant negative relationship (r= -.14*).

Gender Female deans were much less likely to have high raw scores for the Bureaucratic, Collegial, and Symbolic perspectives (r= -.19**, r= -.3***, and r= -.28***), but there was not a significant relationship between gender and the raw scores of the Political perspective.

The raw scores for the Collegial frame are positively associated with deans who have disciplinary backgrounds in Low/ Applied fields (r= .21***), and negatively associated with deans in High/Pure disciplines (r= -.13*). In addition, raw scores for the Collegial frame have a negative correlation with deans in Low/ Pure fields (r= -.12*).

Thus, overall, the data show raw scores for the Collegial frame have a resoundingly negative correlation with deans in Pure disciplines.

The Dominant Collegial Frame is positively correlated with deans who are in Low/Applied fields (r= .12*), and Diffused Dominant Frame is negatively associated with deans who are in Low/Applied fields (r= -.14*).

It is interesting that raw scores for the Bureaucratic Frame behavior have a negative relationship with the Number of Years as a Faculty member (r= -.13*), although there is *no* significant correlation between years as faculty member and the raw scores for any of the other perspectives. It is also interesting that there is no significant relationship between the Number of Units in deans' departments and High Applied disciplinary fields, however there are significant positive relationships between Number of Units in deans' departments and the High/Pure disciplines (r= .15*), and Low/Pure disciplines (r= .25***), and a negative correlation with Number of Units in deans' departments and Low/Applied disciplines (r= -.31***).

Analysis of the correlations overall demonstrates a few strong relationships between the types of disciplinary backgrounds of the deans in the study and the cognitive frame patterns demonstrated by the deans via their self-reported behaviors. Examination of these data also shows relationships among certain demographics (Gender Female) and cognitive approaches.

Table 3

Correlations

	Gender Fem	Age	Race Black	Race White	Ys as Faculty
Gender Female	1				
Age	0.02	1			
Race Black	-0.03	0.02	1		
Race White	-0.01	0.09	-0.48	1	
Ys as Faculty	0.08	0.17**	-0.01	0.06	1
Ys as Dean	-0.08	0.29***	0.04	-0.07	0.08
Ys Administrator	0	0.09	.04	-0.04	0.15*
No. Units in Dept	0.15*	0	0.07	-0.09	0.01
High Pure	0.07	0.05	0.02	0.02	0
High Applied	0.24***	0.02	-0.03	0	0.12*
Low Pure	0.03	.01	0.01	0.11	0.07
Low Applied	-0.26***	-0.06	0.03	0.07	-0.16**
Bureaucratic	-0.19**	-0.06	0.09	-0.14**	-0.13*
Collegial	-0.3***	0.02	0.13*	-0.16**	-0.1
Political	-0.08	0.03	0.01	-0.07	-0.09
Symbolic	-0.28***	-0.05	0.09	0.2***	0.11
Dom Bur Frame	0.04	-0.08	-0.03	0.07	0
Dom Col Frame	-0.01	0.09	0.09	0.02	0.03
Dom Pol Frame	0.12*	0	-0.07	0.01	0.01
Dom Sym Frame	0.13*	-0.07	0.03	-0.05	-0.01
Paired-Frame	-0.14*	-0.08	0.03	0.06	-0.1
Multi-Frame	-0.16**	0.01	0.07	-0.14*	-0.06
No Dom Frame	0.08	0.06	-0.08	0.06	0.1

(table continues)

Table 3 (Continued)

Correlations

	Ys as Dean	Ys as Admin	Units in Dept	High Pure	High Appl
Gender Female					
Age					
Race Black					
Race White					
Ys as Faculty					
Ys as Dean	1				
Ys Administrator	-0.09	1			
No. Units in Dept	-0.09	0.03	1		
High Pure	-0.05	-0.03	0.15*	1	
High Applied	0	-0.05	0.08	-0.13*	1
Low Pure	0.05	0.07	0.25***	-0.1	-0.22***
Low Applied	0	-0.03	-0.31***	-0.25***	-0.54***
Bureaucratic	-0.03	-0.02	0.03	-0.07	0.01
Collegial	0.11	0.05	0.03	-0.13*	-0.07
Political	-0.03	0.04	-0.02	0.02	0.1
Symbolic	0.07	0.04	0.03	0.06	0.02
Dom Bur Frame	-0.03	0.04	-0.03	0.05	0.01
Dom Col Frame	0.09	-0.05	0.04	-0.01	-0.07
Dom Pol Frame	0.02	0.07	0.02	-0.04	0.1
Dom Sym Frame	-0.04	-0.12	-0.02	0.01	-0.01
Paired-Frame	-0.02	-0.03	-0.04	0.04	-0.03
Multi-Frame	0.01	0.04	0.08	-0.05	0.03
No Dom Frame	-0.03	0.02	-0.05	0.02	-0.03

(table continues)

Table 3 (Continued)

Correlations

	Low Pure	Low Appl	Bureaucr	Collegial	Political
Gender Female					
Age					
Race Black					
Race White					
Ys as Faculty					
Ys as Dean					
Ys Administrator					
No. Units in Dept					
High Pure					
High Applied					
Low Pure	1				
Low Applied	-0.41***	1			
Bureaucratic	-0.11	0.09	1		
Collegial	-0.12*	0.21***	0.73***	1	
Political	-0.06	-0.08	0.31***	0.3***	1
Symbolic	-0.09	0.11	0.75***	0.6***	0.41***
Dom Bur Frame	-0.07	0	0.16**	-0.08	-0.07***
Dom Col Frame	-0.03	0.12*	0.06	0.25***	-0.19**
Dom Pol Frame	-0.02	-0.07	-0.15**	-0.17**	0.35***
Dom Sym Frame	0.04	0.01	0.05	-0.11	-0.09
Paired-Frame	0.02	0.05	0.21***	0.24***	0.13**
Multi-Frame	-0.1	0.11	0.56***	0.55***	0.34***
No Dom Frame	0.09	-0.14*	-0.63***	-0.59***	-

(table continues)

Table 3 (Continued)

Correlations

	Symbolic	Dom Bur Frame	Dom Col Frame	Dom Pol Frame	DomSym Frame
Gender Female					
Age					
Race Black					
Race White					
Ys as faculty					
Ys as Dean					
Ys Administrator					
No. Units in Dept					
High Pure					
High Applied					
Low Pure					
Low Applied					
Bureaucratic					
Collegial					
Political					
Symbolic	1				
Dom Bur Frame	-0.07	1			
Dom Col Frame	-0.06	-0.04	1		
Dom Pol Frame	-0.11	-0.06	-0.09	1	
Dom Sym Frame	0.25***	-0.04	-0.06	-0.08	1
Paired-Frame	0.22***	-0.06	-0.1	-0.13*	-0.08
Multi-Frame	0.55	-0.08	-0.12*	-0.16**	-0.11
No Dom Frame	-0.62***	-0.15**	-0.23***	-0.31***	-0.21***

(table continues)

Table 3 (Continued)

Correlations

	Paired-Frame	Multi-Frame	No Dom Frame
Gender Female			
Age			
Race Black			
Race White			
Ys as Faculty			
Ys as Dean			
Ys Administrator			
No. Units in Dept			
High Pure			
High Applied			
Low Pure			
Low Applied			
Bureaucratic			
Collegial			
Political			
Symbolic			
Dom Bur Frame			
Dom Col Frame			
Dom Pol Frame			
Dom Sym Frame			
Paired-Frame	1		
Multi-Frame	-0.18**	1	
No Dom Frame	-0.34***	-0.43***	1

Significance: *p≤.05, **p≤.01, ***p≤.001

Mean Comparison

Before discussing the results of the multivariate analysis of the data, I focus this section on a brief mean comparison of the data. Specifically, this section demonstrates the relationships between the types of cognitive frames and pairings of frames that are in use by the deans and their category of disciplinary background. A table of independent samples t-tests between types of cognitive frames and disciplinary background illustrates this analysis.

The distribution of the deans' cognitive frames and frame combinations across the disciplinary categories is represented in Table 4. I have compared the means and standard deviations of each of the four disciplinary categories for each of the seven cognitive frame types displayed by deans in the sample, as well as for the raw scores on each of the four frame perspectives. When conducting these tests on the data, the confidence level was set at .05.

Of special note in these findings are the statistically significant t-values for deans with a Multi-Frame perspective (t= -2.11) and those with a Dominant Bureaucratic cognitive frame (t= -2.87) in the Low-Consensus Pure disciplinary category. For the deans in the study with disciplines that are categorized as Low-Consensus Applied, a strong positive t-value for the Collegial perspective raw scores stands out as statistically significant (t= 3.45), and is the highest t-value of all measured t-values in the whole study. Also in this disciplinary category, the t-value for the Dominant Collegial cognitive frame has a strong positive significance (t= 2.13). A statistically significant negative t-score of -2.48 for the Diffused Dominant cognitive Frame pattern also stands out as notable in this same disciplinary category.

For deans in High-Consensus Pure disciplines, raw scores in the Collegial perspective had a significantly low t-value of -2.11.

While the Bureaucratic Frame had the *highest* t-value among the deans with Low-Consensus Pure disciplinary backgrounds (t= -2.87 as mentioned above), it had the *lowest* t-value among deans with Low-Consensus *Applied* disciplinary backgrounds (t= -0.01). Indeed, the Dominant Bureaucratic cognitive frame in the Low-Consensus Applied disciplinary category had the lowest t-value of all measured values in the table.

Table 4

T-Tests Between Types of Cognitive Frames and Disciplinary Background

	High & Pure		**High & Applied**	
	mean	t-value	mean	t-value
Bureaucratic	42.44	-1.03	43.68	0.23
Collegial	31.17	-2.11*	32.52	-1.09
Political	29.76	0.40	30.37	1.76
Symbolic	41.88	-0.80	42.71	-0.36
Dom: Bureaucratic	1.06	0.56	1.03	0.19
Dom: Collegial	1.06	-0.12	1.03	1.57
Dom: Political	1.06	-0.88	1.16	1.52
Dom: Symbolic	1.06	0.13	1.04	-0.21
Multi-Frame	1.11	-0.99	1.21	0.47
Paired-Frame	1.17	0.53	1.10	-0.53
Diffused Frame	1.50	0.40	1.43	-0.49

*p≥.05

	Low & Pure		**Low & Applied**	
	mean	t-value	mean	t-value
Bureaucratic	42.48	-1.71	43.93	1.45
Collegial	31.85	-1.87	33.82	3.45*
Political	28.45	- .88	28.80	-1.26
Symbolic	41.88	-1.52	43.33	1.73
Dom Bureaucratic	1.00	-2.87*	1.03	-0.01
Dom: Collegial	1.05	-0.50	1.09	2.13*
Dom: Political	1.09	-0.27	1.08	-1.14
Dom: Symbolic	.07	0.59	1.05	0.25
Multi-Frame	1.09	-2.11*	1.23	1.89
Paired-Frame	1.14	0.39	1.14	0.85
Diffused Frame	1.56	1.49	1.38	-2.48*

*p≥.05

Regression Analysis

Logistic regression was used to examine the interactive relationships between the individual items in the five blocks of variables as well as the composite blocks overall with the dependent variables of disciplinary background. Logistic regression was selected as the most appropriate method for analyzing the variables within the model being examined in this study because it is the most effective means of examining multivariate relationships when the dependent variable is dichotomous. Additionally, logistic regression is the most robust method for examining multiple independent variables that range in level of measurement. Moreover, logistic regression effectively generates output data that indicates the relative size of the effect of the multiple independent variables on the four dependent variables.

The original conceptual model contained all of the variables and variable combinations discussed in earlier chapters of this study. However, when conducting statistical analysis on these data, as expected, the model proved to be over-identified. Because many of the items are so highly correlated, these bi-variate relationships "masked" important multivariate relationships among variables. Therefore, the conceptual model was reduced to only include the most robust independent variables and was split into two analytic models – one that focused on the raw scores for each of the four factors measuring the extent to which participating Deans reported using the bureaucratic, collegial, political and symbolic frames; and a second model that explored the extent to which Deans use a particular frame in a dominant manner, predominantly use paired- or multi-frame approaches or utilize a diffused approach in which no frame is

used in a consistent manner across the range of activities investigated in this study. The summary of first set of logistical regression equations are presented in Table 5, and includes the raw scores for each of the cognitive frames. The addition of the dominant cognitive frames and patterns of frame (paired, multiple, or diffused) usage are presented in Table 6. All of the measures of explained variance (R^2) reported in the tables were computed using Nagelkerke method for calculating percentage of explained variance.

The regression results indicate that deans in this study who were female tended to be in Applied rather than Pure disciplines. Deans in High and Low Applied disciplines tended to be female, and deans who were female tended to be in High or Low Applied disciplines (High and Low Applied in the logistic regression table with cognitive frame raw scores= 1.52** and -.88**. High and Low in the logistic regression run with dominant frames and patterns= 1.80*** and -1.13***).

The data for logistics regression breaks down into two equations. In the first equation, the R^2 for Personal Characteristics was High/Pure= .08; High/Applied= .13, Low/Pure= .07; Low/Applied= .13. The R^2 for Professional Experience was High/Pure= .03; High/Applied= .02; Low/Pure= .02; Low/Applied= .03. The R^2 Organizational Context was High/Pure= .05; High/Applied= .00; Low/Pure= .10; Low/Applied= .11. The R^2 for Leadership was High/Pure= .02; High/Applied= .04; Low/Pure= .05; Low/Applied= .04. For the equation over all, Nagelkerke R^2 was High/Pure= .18; High/Applied= .20; Low/Pure= .24; Low/Applied= .31.

In the second equation, the R^2 for Personal Characteristics was High/Pure= .08; High/Applied= .10, Low/Pure= .04; Low/Applied= .10. The R^2 for Professional Experience was High/Pure= .02; High/Applied= .02; Low/Pure= .08; Low/Applied= .03.

The R^2 Organizational Context was High/Pure= .04; High/Applied= .01; Low/Pure= .09; Low/Applied= .14. The R^2 for Cognitive Frame: Dominant Patterns (including the Dominant Bureaucratic, Collegial, Political, Symbolic, Paired- and Multi-frame) was High/Pure= .04; High/Applied= .07; Low/Pure= .24; Low/Applied= .11. For the equation over all, Nagelkerke R^2 was High/Pure= .18; High/Applied= .20; Low/Pure= .03; Low/Applied= .38.

The Professional Experience block of variables (number of years in current position, number of years as a faculty member, and total years in administrative positions, appeared to have no relationship in the regression analysis to the dependent variables of disciplinary category. Organizational Context, however, specifically the number of departments in a dean's unit, more clearly differentiated deans in High/Pure (.06*, and .11*), Low/Pure (.13**, and .14***), Low/Applied (-.25***, and -.20***) fields than those in the High/Applied fields (which was the only category with no significance, .02). The Low/Applied fields, with -.25*** and -.20***, had the biggest negative, a significant finding.

Deans whose disciplines were in the High/Applied category were more likely to report cognitive frame raw score behaviors that were Political (.09*), and deans who tended to report behaviors that were political tended to be in High/Applied or Low Applied (-.08*) disciplines. Deans whose disciplines were in the Low/Applied category tended to report cognitive frame raw score behaviors that were Collegial in nature (.23**), and deans who reported behaviors that were Collegial tended to be in Low/Applied fields.

In the cognitive Frame: Dominant Patterns variables block, the only pattern or dominant frame to stand out in the regression analysis was the Dominant Collegial frame. Deans in the study who were shown to have dominant Collegial cognitive frames tended to be in Low/Applied fields (1.54*), and deans who were in Low/Applied fields tended to have a Dominant Collegial frame. The variable measuring the diffused Frame pattern (that is, no dominant, paired-, or multi-framed pattern whatsoever) was too highly correlated with other measures to be included the regression analysis. When examined by itself, this Diffused Frame did not have any significant effect.

Overall, for deans with a disciplinary background in the High/Pure or Low/Pure categories, it was Organizational Context (Number of Departments in Unit) that appeared most significant. For deans in High/Applied disciplines it was the Political cognitive frame raw scores, and for deans in Low/Applied fields it was Organizational Context, Collegial and Political cognitive frame raw scores, and a Dominant Collegial leadership frame.

Table 5

Summary of Logistic Regression Equations, 1

	Independent Variables		Dependent Variables	
	High Pure	High Applied	Low Pure	Low Applied
Personal Characteristics				
Gender: female	1.10	1.52**	-.60	-.88*
Age	.06	.02	-.12	-.01
Race: White	17.77	-.69	9.67	-.56
Race: Black	18.93	-.11	19.07	-.70
R^2 for Personal Characteristics:	.08	.13	.07	.13
Professional Experience				
No. yrs. as Faculty Member	-.03	.00	.12	-.02
Years in Current Position	-.18	.09	.16	-.20
Total years Admin (combined)	-.15	-.14	.04	.15
R^2 for Professional Experience	.03	.02	.02	.03
Organizational Context				
Number of Dept.s in Unit	.06*	.02	.13**	-.25***
R^2 for Organizational Context	.05	.00	.10	.11
Cognitive Frame: Raw Scores				
Bureaucratic	.01	.05	-.06	-.05
Collegial	-.15	-.11	-.09	.23**
Political	.02	.09*	.00	-.08*
Symbolic	.03	-.01	.04	-.01
R^2 for Cognitive Frame Raw	.02	.04	.05	.04
Nagelkerke R^2	.18	.20	.24	.31

*p< .05, ** p< .01, ***p< .001

Table 6

Summary of Logistic Regression Equations, 2

	Independent Variables		Dependent Variables	
	High Pure	High Applied	Low Pure	Low Applied
Personal Characteristics				
Gender: female	1.46	1.80***	-.58	-1.13**
Age	.07	.01	-.02	-.01
Race: White	.93	-.82	20.40	-.50
Race: Black	1.42	-.61	19.60	-.41
R^2 for Personal Characteristics:	.08	.10	.04	.10
Professional Experience				
No. yrs. as Faculty Member	-.02	.02	.01	-.04
Years in Current Position	-.22	.10	.27	-.13
Total years Admin (combined)	-.19	-.13	.12	.07
R^2 for Professional Experience	.02	.02	.08	.03
Organizational Context				
Number of Dept.s in Unit	.11*	.01	.14***	-.20***
R^2 for Organizational Context	.04	.01	.09	.14
Cognitive Frame: Dominant and Patterns				
Dom: Bureaucratic	-17.69	.52	-19.55	-.66
Dom: Collegial	-.17	-1.46	-.55	1.54*
Dom: Political	-.05	.68	-.86	.07
Dom: Symbolic	.70	-.66	.68	.00
Paired-Frame	.25	.12	-.34	-.20
Multi-Frame	-.88	.42	-.23	.56
R^2 for Cognitive Frame	.04	.07	.03	.11
Nagelkerke R^2	.18	.20	.24	.38

*$p \leq .05$, ** $p \leq .01$, ***$p \leq .001$

CHAPTER 5

SUMMARY AND CONCLUSIONS

The focus of this study is to investigate whether and how the disciplinary-specific academic training of leaders in higher education influences their cognitive approach to administrative duties. For this study I have surveyed deans from a range of disciplines, categorized those disciplines according to the types of paradigms they have been found to represent, presented the data analysis in chapter four, and will now discuss whether and how deans from different paradigmatic backgrounds may approach their administrative leadership differently.

Specifically, this chapter will seek to discuss whether the disciplinary backgrounds of university deans are reflected in their actions, decision-making, and role perception according to self-reported behaviors, and will seek to address the following questions:

- How does disciplinary background relate to the self-reported administrative leadership behaviors of deans?
- Does an academic dean's use of single, paired, or multiple cognitive leadership frames differ according to the individual's disciplinary field?
- Do deans trained in certain disciplines tend to report behaviors that are associated with a more single- or paired-framed cognitive approach, while academic deans trained in other disciplines tend to report behaviors that are associated with a more multi-framed cognitive approach?
- Are certain disciplinary backgrounds of academic deans associated with more multi-framed cognitive perspectives than others?

I will also address several areas where unanticipated findings have led to new areas of consideration and potentially useful conclusions.

First this chapter reviews the previous four chapters to illuminate the process of moving from conceptual model to research to conclusion. The findings are then discussed in greater detail, and the interpretations and conclusions that have been drawn from these findings are highlighted. I then present implications of the findings for both research and practice in higher education, and the implications for future research. The chapter culminates in a discussion of the limitations inherent in the study, and further suggestions for future consideration.

Review of the Study

Chapter one describes how leadership in higher education has been the focus of debate and concern both in the media and in scholarly research. Calls for better leadership are continually escalating, along with increasing governmental directives for higher education's improved performance. Improvement in this arena is difficult because higher education leadership is a complex and problematic task, one that is compounded by the unique organizational features, behavior, and structure that typify our colleges and universities. Several notable trends in higher education that further compound the challenge include a widely recognized and growing demand for institutional accountability and outcomes measures, and an increasing drive toward managerialism and centralization (Duderstadt, 2001). Given the systemic challenge of leadership coupled with these mounting pressures, there is an emerging need to seek better understanding of how our leaders are trained and educated. Academic deans are the "linchpins" of leadership in the modern university. How does the academic training and

lack of managerial training of such higher education linchpin leaders influence their leadership styles and abilities?

In chapter two, the literature review discusses how without comprehensive training or education in management and administrative leadership, our universities' academic deans are left to fall back on the skills and methods they have acquired during their disciplinary training and their careers as scholars within the confines of their specific fields. Yet academic disciplines vary greatly in their methodological views, assumptions, and approaches to problem-solving. This chapter draws on a great body of literature that indicates how faculty and ultimately deans are socialized in very different ways according to the paradigmatic nature of their chosen fields. These fields have been classified into numerous dichotomous categories, including combinations of high-consensus and low-consensus fields, as well as pure and applied fields. Disciplinarity has been found to be an influencing factor on departmental goals, policy, focus, and decision-making, particularly among chairpersons across various disciplines. One initial study has approached the topic of academic deans and disciplinarity, but has left a wide gap in the literature to explore whether and how disciplinary differences carry over to impact the cognitive leadership frames, or leadership "styles" of academic deans in their approach to administrative work.

In chapter three, I describe the conceptual framework for this study as it defines the parameters of the work, and outline the primary research question that guides the study as well as its related secondary questions. The research methodologies, including the survey instrument, the identification and recruitment of suitable subjects for the study, the process of data collection, and the data are specified in chapter three and then are later

analyzed in chapter four. The data analyses guide the ultimate findings and conclusions that will be drawn below in this chapter.

Overview of Findings

The findings of this study indicate that indeed the disciplinary backgrounds of university deans are reflected in their actions, decision-making, and role perception according to self-reported behaviors. In other words, these deans' disciplinary backgrounds appear to impact their individual and collective leadership styles, since an academic dean's use of single, paired, or multiple cognitive leadership frames as reported for this study appear to differ according to the individual's disciplinary field of study. Deans trained in disciplines that are classified as low-consensus applied fields are more likely to favor a Collegial style approach, but more importantly stand out as the group that is most likely to utilize a multi-framed cognitive approach to their leadership work. Deans in high-consensus applied fields are the next group most likely to utilize the multi-framed approach. Together, these two findings indicate that it is the pure/applied dichotomy that affects the multiple cognitive leadership frame ability, rather than the high-consensus low-consensus dichotomy. These and other results-based research findings are described in detail below.

Discussion of Empirical Evidence Regarding Deans' Reported Behavior and Motivations

The results of the data analysis indicate a complex relationship between disciplinary background and leadership behavior and motivation. These findings can best be understood by examining each type of discipline or background. Below is a breakdown of the evidence, classified into the four categories that each contain a

combination of one variable from each of the two dichotomous sets (Low/Applied, High/Applied, Low/Pure, High /Pure).

Deans from Low-Consensus Applied Disciplines

A solid 50% of all deans in the study who responded to the survey were "Low/Applied" deans, that is, they were from low-consensus, applied disciplines. This number is greater than the deans from any of the other three categories (the number of High/Applied deans came in a distant second, at 22%), and constitutes the majority of deans in the study. The group of Low/Applied deans tended to be female, and was the group with the highest representation of females out of all four disciplinary categories in the study (at 46% female). Deans in the study's Low/Applied category also were more likely to work in departments with a relatively lower number of units than those deans in other disciplinary categories, as deduced from the negative correlation with Number of Units in deans' departments and Low/Applied disciplines.

Low/Applied deans in the study are less likely to report being oriented toward the Diffused Dominant frame. They had a statistically significant negative t-score for this pattern, and the effect size measured against the other three groups clearly demonstrated that Low/Applied deans were the least likely of the groups to have unclear, diffused leadership styles. This is particularly interesting given the fact that out of the three cognitive frame patterns, the majority of the deans in the study overall demonstrated a Diffused dominant frame (45%), meaning they were not found to display behaviors associated with any clear single-, paired-, or multi-framed approach. For Low/Applied deans, it can also be noted that the higher the level of reported Collegial behaviors, the less likely these deans are to have a Diffused frame.

One of the most significant findings about the deans from low-consensus, applied disciplines across the results of the data analysis was this group's relationship with the Collegial cognitive frame. As noted above, Low/Applied deans had the highest raw scores in the Collegial cognitive frame category of all deans in the study, which means they reported motivations for their actions and decision-making that was grounded in collegial thinking. They demonstrated a positive association with the Dominant Collegial frame, and in fact had the strongest positive t-value for the Collegial frame of all measured t-values in the study. The other frame favored by Low/Applied deans was the Political frame, as demonstrated by the raw scores only.

Low/Applied deans also had the lowest t-value associated with the Bureaucratic frame, the lowest of all measured t-values in the study. This means that deans from low-consensus applied disciplinary backgrounds were highly unlikely to display bureaucratic tendencies in their administrative leadership behaviors, favoring instead collegial and political methods and motivations.

Finally, the most interesting finding on the Low/Applied deans was that out of all four disciplinary categories, this group had the highest level of Multi-frame cognitive use. This significant discovery was revealed when the cognitive frame pattern data for each of the four groups was plotted for effect size.

Deans from High-Consensus Applied Disciplines

Deans from high-consensus applied disciplinary backgrounds represented 22% of all deans who participated in the study. This is the second largest disciplinary group in the study, after Low/Applied, but unlike the Low/Applied category, deans in this group tended to be male rather than female. Indeed, this group had the lowest representation of

female deans of all four of the disciplinary categories. Also unlike the Low/Applied group, there was no significant relationship between the number of units in deans' departments and this group's disciplinary category.

The most significant finding about the deans from high-consensus applied disciplines was their connection with the Political cognitive frame. Deans in the High/Applied category were more likely than others to report cognitive frame raw score behaviors that were Political in nature, and of these, the male deans in the group were the most likely to report these behaviors. The effect size, too, demonstrates that High/Applied deans had the highest level of Dominant Political frame usage of all the disciplinary categories.

Also interesting was that this group had the lowest level of Dominant Collegial and Dominant Symbolic usage. In regard to cognitive pattern, this group was least likely to use a paired cognitive frame, but had a higher usage of the Multi-frame than two of the other three groups, after Low/Applied deans.

Deans from Low-Consensus Pure Disciplines

Deans in the study from Low/Pure disciplinary backgrounds represented 14% of all subjects, the third largest category out of the four. As with the Low/Applied deans, it was the organizational context variable "number of units in the department" that appeared to be the strongest influencing variable.

The raw score behaviors reported by the Low/Pure group of deans demonstrated a negative correlation with Collegial cognitive frame behaviors, in other words these deans were unlikely to take action in their administrative work based on collegial frame motivations. This is in stark contrast with the deans from low-consensus applied

disciplines, who strongly favored the collegial frame. However, although it was not statistically significant in use, the Low/Pure deans were the disciplinary category with the highest usage of the Dominant Symbolic frame.

The Low/Pure deans demonstrated significantly low usage of the bureaucratic cognitive frame. Although all four disciplinary groups reported very low levels of bureaucratically-motivated behaviors, it was the Low/Pure deans who scored the lowest in this area.

Of greatest significance to this study's guiding research questions, deans with Low/Pure disciplines had the lowest statistically significant t-scores for the Multi-frame perspective, and rated the lowest usage of multi-frame on the effect graph. Out of all the deans in the study who demonstrated a multi-framed approach, only 3.5% of them were from the Low/Pure category. This means that deans in Low/Pure fields appear to be the disciplinary group who least clearly utilize multiple cognitive leadership frames in their administrative work as deans.

It is no surprise, then, that while the Low/Pure deans had the lowest multi-frame scores out of the four disciplinary categories, they also had the *highest* level of *Diffused* frame usage in the study. This means that in comparison with the leadership styles of deans in the other three disciplinary categories, the Low/Pure deans in this study have the *least coherent* leadership styles.

Deans from High-Consensus Pure Disciplines

Deans in the study from High/Pure disciplinary backgrounds represented 6% of all subjects, the smallest group of deans to reply to the survey despite the researcher's efforts to solicit participation. According to the traditional statistical analysis, the

High/Pure deans had significantly low raw scores in the Collegial perspective. However, when the "effect size" is plotted and analyzed, this group of deans falls roughly in the middle of the four groups in terms of its Collegial frame usage.

According to t-test scores, deans in this category were found to have the lowest level of dominant Political frame usage in comparison with the other three categories of deans. It is interesting that according to effect size this group of deans demonstrated the highest level of paired cognitive frame usage, and the highest levels of Dominant Bureaucratic frame usage when compared to deans in the other categories. However, although their levels were high in comparison with the other three groups, their actual numbers in these areas (due to low representation in the study) were so low as to perhaps not be useable.

Indeed, very few High/Pure deans scored high enough on a dominant frame to be counted as having any dominant tendencies. The data revealed exactly equal levels of dominant Bureaucratic, Collegial, Political, and Symbolic frame usage. This is not to say the deans in this category had a Diffused frame, but rather that each dean was dominant in a different area, with equal spread across the dominant single frames. Out of all the deans in the study who demonstrated a Multi-framed approach, only 3.5% of them were from the High/Pure category. This means that the High/Pure deans were second only to the Low/Pure deans in their minimal usage of the Multi-framed approach.

The pattern of findings indicates that deans who have been socialized in High/Pure disciplines have among them very diverse approaches to leadership, and demonstrate very unclear leadership patterns. They have a less patterned cognitive frame and hence a less coherent leadership style than do High/Applied and Low/Applied deans.

The equal spread of high/pure deans across the dominant frames demonstrates that disciplinary background may not be the driving force for deans in this category. While disciplinary background seems to be the driving force behind the cognitive frames for the other categories for deans, it is clear that *something else* is driving cognitive frame use for this group.

Relationship Between Gender and Leadership

While this study was not intended to examine the cognitive leadership styles according to deans' gender, the data revealed some strong relationships in this regard worth noting. Overall the data showed that there was a strong negative relationship between Multi-Frame cognitive approach and male deans. This means that the deans in the study who were male were very unlikely to utilize a Multi-frame cognitive approach in their administrative leadership. The data also showed a less strong, but still significant negative relationship between male and Double Frame, which indicates that male deans were also unlikely to utilize a paired cognitive lens approach in their work.

The correlation analysis indicated that male deans reported lower scores on the Bureaucratic, Collegial, and Symbolic frames than the female deans, but there was not a significant difference on the Political. This indicates that the male deans in the study were more likely to utilize a Diffused, or no frame approach, while the female deans were more likely to use single-, paired-, or multi-framed approach. However, according to the data, male deans in the study were more likely than female deans to utilize the *dominant* Political cognitive frame.

Relationship Between Unit Size and Patterned Cognitive Frame

The unit size mattered more in certain equations than gender or discipline. Overall, for deans with a disciplinary background in the High/Pure or Low/Pure categories, it was the number of departments in the deans' units, rather than disciplinary background or gender, that that appeared most significant. In this way, deans in Pure fields (both high and low-consensus) demonstrated an interesting connection with unit size.

Conclusions Regarding Deans' Reported Behavior and Motivations

To respond to the research questions guiding this study, it is indeed possible to note the use of dominant cognitive frame approaches by disciplinary category. These include the High/Pure discipline deans having the highest level of dominant Bureaucratic frame usage; the Low/Pure deans having the highest levels of dominant Symbolic frame usage; the High/Applied deans having the highest level of dominant Political frame usage; and the Low/Applied deans having the highest level of dominant Collegial frame usage.

More importantly, a total of 31% of the deans participating in the study demonstrated either a paired- or multi-framed cognitive approach in their leadership styles. While these Paired- and Multi-framed approaches were spread across the disciplinary categories, the relative measures plotted in the effect size demonstrated interesting breakdowns along the lines of discipline. These included the significant finding that deans from low-consensus applied disciplines demonstrated the highest usage of a multi-frame cognitive approach to administrative leadership, and that deans from

high-consensus applied disciplines followed in second place. Deans from low-consensus pure disciplinary fields were the least likely to use a multi-frame cognitive approach, with deans from high-consensus pure disciplines following in second place. Altogether these findings indicate that it is the deans in applied fields rather than pure fields who tend to utilize a multi-framed cognitive approach in their leadership work.

While the cognitive frame findings by disciplinary category above have interesting implications to higher education leadership, perhaps the most troubling finding in this study is the relatively low level of cognitive pattern usage altogether among academic deans. A surprising 45% of the deans in the study responded to the behavior questions on the survey instrument with answers that widely spanned the bureaucratic, collegial, political, and symbolic frames, and which therefore did not translate into any paired- or multi-framed approach whatsoever. This diffused approach indicates that close to the majority of the deans in the study utilized no clear cognitive frame style.

Implications for Theory, Policy, and Practice

Implications for Theory

The contrasting of knowledge areas and disciplines began centuries ago with the work of Aristole, and progressed into hierarchical dimensions that Comte (1842) and others classified to produce single-dimension, dichotomous conceptualizations of the fields (Braxton & Hargens, 1996). This was followed by the development and honing of categorical taxonomies which draw distinct differences among disciplinary groupings, including high/low, pure/applied dimensions, and the unique grouping of distinguishing characteristics known as disciplinarity. The findings of my study can further the theory

of disciplinarity by contributing the addition of leadership behaviors and the motivations that underlie them to the differences among disciplines.

Because academic deans have been grounded and socialized by their fields' prevailing theories, research methodologies and views of the world, their behaviors in their administrative roles will vary according to their disciplines (Smart & Elton, 1976). The deans will view problems and generate solutions according to the norms and expectations of their fields. Based on the data in this study, we might add to the theories of discipline that individuals in certain fields are being socialized in ways that lead to dominant use of specific cognitive frames in their administrative leadership approach. These are summarized in the following four paragraphs.

Based on the data in this study, we might add to the theories of discipline that individuals in low-consensus applied fields are being socialized in a way that leads to predominantly Collegial cognitive styles of leadership. Collegial leadership behavior, as describe above in the chapter reviewing the literature of the four dimensions, includes an emphasis on group consensus, shared power, collective responsibilities, and common aspirations (Birnbaum, 1988). Collegial leaders balance the need for task achievement with relationship development and collaboration. Because academic deans tend to serve as chairs first, my finding is supported by Smart and Elton's (1975) research, which identified that academic chairs in low-consensus fields emphasize goals related to departmental climate. Beyer and Lodahl (1976), too, noted that "decision making" is more "collegial" in the social sciences than in the physical sciences.

This study also indicates that individuals in low-consensus pure fields are being socialized in a way that leads to predominantly Symbolic cognitive styles of leadership.

Symbolically-oriented leaders are aware of the symbolic consequences of their actions, and understand how their roles affect the social or "reality" construction process. Such leaders create symbols to resolve confusion and help their organization's members find purpose. They utilize metaphor, shared meaning, and "visions," and they strive to put the desired "spin" on events while they inspire and motive others.

Likewise, this study may indicate that individuals in high-consensus applied fields are being socialized in a way that leads to predominantly Political cognitive styles of leadership, and low levels of Collegial and Symbolic leadership. Political leadership focuses on the conflict and power in organizations, jockeying for position, coalition-forming, bargaining and negotiating. Politically-oriented leaders seek to shape the rules of the game, and their positions are determined by the control of key resources (Berger & Milem, 2000). The findings related to this group of deans may be said to be supported in part by prior research that found that chairpersons in the hard (i.e. high-consensus) disciplines are more focused on obtaining and managing grants and contracts than the other disciplines. Becher noted that faculty in the "urban" sciences disciplines tended to work competitively, and to engage in collaborative research far less often than those faculty in "rural" disciplines.

Finally, based on the data in this study, we might add to the theories of discipline that high-consensus pure fields are being socialized in a way that leads to predominantly Bureaucratic cognitive styles of administrative leadership, and distinctly low levels of Collegial leadership. The Bureaucratic style involves an emphasis on operating in as efficient a manner as possible. It tends to favor rational rules, policies, and predictable operating procedures, while utilizing controls, and a process or "technology" to achieve

clearly established goals and objectives. While the deans from high-consensus pure disciplines in my study had the highest levels of dominant Bureaucratic cognitive styles when compared with deans in *other* disciplines, they also demonstrated equal levels of all four frames in the raw scores, indicating that they have a less patterned cognitive frame and a less coherent leadership style than other kinds of deans. This means that different high-consensus pure deans act and lead in different ways. Interestingly, this may advance the theory started by Neumann and Boris in 1978, when they discovered that chairpersons in high-consensus fields within notably high prestige departments tended to employ a "task-oriented" leadership style, while those in low-prestige departments used both task-oriented and "people-oriented" styles. They concluded overall that different leadership styles among chairpersons are predictable in different scientific fields.

While the one prior study in the field of higher education that examined academic deans' disciplinary backgrounds concluded that there exist differences in the "social dimension" among deans, this is the first study to comprehensively determine the four dominant cognitive frames by discipline, and to clearly identify cognitive frame style patterns among the deans of differing disciplinary backgrounds. For this reason, policy makers and practitioners may extract some valuable information from this study for consideration and use in the higher education arena.

Implications for Policy and Practice

This study has the potential to inform university policy and practice in a number of ways. This includes the type of disciplinary background or even gender administrators might consider most effective as they make appointments to the role of dean; a potentially valuable new method for administrative assessment of leadership; the

consideration of unit size and its potential effectiveness; and the type and intensity of training that is made available to academic deans.

Several key studies and theories both outside and inside higher education stress how the ability of leaders to use a multiple lens (or multiple cognitive "frame") approach in their work leads to more relevant solutions, and more importantly, to greater effectiveness and success. Cognitive frames determine how problems are defined, what questions are asked, what types of information are gathered, and what potential solutions are considered (Goleman, 1998). Because academic institutions are complex organizations with diverse members and represent an environment with multiple realities (Bolman & Deal, 1984; Birnbaum, 1988), leaders with the ability to utilize more than one cognitive frame will be more effective than those who analyze and deal with problems from a single perspective (Bolman & Deal, 1984; Bolman & Deal, 2003; Birnbaum, 1988; Bensimon, 1994). Given that it is in our universities' best interests to appoint deans with the ability to take a multiple cognitive frame approach to their administrative work, this study might serve the higher education decision-makers, such as deans or provosts of university graduate schools, by indicating which fields and disciplines they might consider more closely when considering candidates for the role of academic dean, or to help them as they weigh the potential abilities of candidates.

According to the data in this study, deans from low-consensus applied fields are more likely than deans from high-consensus fields to utilize a multi-framed cognitive approach in their administrative work. This group is followed by the deans from high-consensus applied fields, as the next group most likely to utilize a multi-framed approach. These significant findings indicate that it is the dichotomy of pure/applied, rather than the

dichotomy of high/low consensus that may well be the driving factor indicating likelihood of a dean's multi-framed approach. What these findings might indicate to decision-makers involved with making administrative appointments is that the individuals who have been socialized in applied rather than pure fields may be more likely to perform as multi-framed leaders.

One unexpected finding in the study that emerged as a result of the demographic data collected was in regard to gender and cognitive frame patterns. While male deans in the study were discovered to be more likely than female deans to utilize a dominant Political frame, they were very unlikely to utilize a multi-framed cognitive approach, and were also found to more rarely utilize a "paired" cognitive frame approach than female deans. While this finding may be tempered by the fact that multi-framed thinkers were more likely to be found among the ranks of the low-consensus applied fields, and the low-consensus applied field deans in my study were more likely to be women, it is still possible that university decision makers will want to consider my study's evidence of female deans being more likely to demonstrate a multi-framed cognitive approach when they are considering candidates for the role of dean. Indeed, there are currently a greater number of male deans heading our universities' academic schools and colleges, and university decision-makers may want to consider the impact of leadership style this may have on our institutions.

Because prior research has indicated that leadership is more effective when leaders are able to utilize a multi-frame cognitive approach, the survey coupled with the analysis methods honed and utilized in this study may be useful as a framework or an assessment tool in higher education in two ways. First, senior administrators who are

responsible for making decanal appointments may consider using such a tool to analyze the multi-framed capabilities of candidates. Furthermore, such a tool may be used to assess the multi-frame thinking of current deans or other administrators, for assessing administrative performance.

Another unexpected finding in the study was in regard to unit size and cognitive frame patterns. Overall, for deans with a disciplinary background in the High/Pure or Low/Pure categories, it was the number of departments in the deans' units, rather than disciplinary background or gender, that appeared most significant. This indicates that in these two disciplinary categories, unit size may be critical to a dean's ability to engage in more multi-framed leadership approaches. University policy makers may want to consider this relationship when they are determining the organizational structure of their academic schools and colleges. Could smaller unit sizes in the long run impact the quality of leadership by academic deans at the helm? Perhaps the recent trend toward greater efficiency through larger structural units might negatively impact the abilities of our leaders to take more multi-framed approaches in their work?

Finally, what is most concerning about this study's findings is the surprisingly low levels of academic deans who engage in multi-framed cognitive approaches at all. While many researchers have demonstrated the need for multi-framed thinking for effective and successful leadership, close to the majority of the deans in this study utilized no clear cognitive frame pattern whatsoever. Policy makers and practitioners at our nation's universities may want to heed the call to offer more substantial leadership training and preparation so that our academic deans are better prepared for the complex challenges of their role. Could the multi-framed approaches favored by deans from low-

consensus applied disciplines offer us insight into how to increase multi-frame thinking among those versed in other disciplinary categories? What aspects of the socialization process or methodological approaches that are inherent in the applied fields (versus pure fields) might we borrow to help train and prepare our current and future deans?

Limitations of the Study and Suggestions for Future Research

There are several limitations to this study, some of which indicate a potential to extend the knowledge through future research. Conclusions drawn from the data that my sample set produced provide a good degree of generalizability, however the results may be considered generalizable only to other universities in the same Carnegie classification, and not to small colleges, or other types of institutions where the administrative work of academic deans is crucial.

My survey was sent to just over 580 academic deans nationwide, however responses were received from 295 deans from 81 comprehensive doctoral research universities. The deans who responded to the survey may have been self-selecting. There were a considerable number of deans in the final data who represented low-consensus applied disciplines. I might speculate that this was perhaps due in part to their particular understanding of or response to the type of study I was conducting, or a disciplinary-based affinity with my subject and methodology. Indeed, in the open-ended question at the end of the survey that asked "Do you have any comments regarding specific survey items, or the survey in general?," more deans from non- low-consensus applied disciplines wrote comments to the researcher that questioned the meaning and methodology of the project than those from the low-consensus applied disciplines.

Related to this limitation is another drawback: the fact that there were not a large number or percentage of deans from high-consensus pure disciplines represented in the study. Further research on this group may be necessary to strengthen the conclusions of this study, particularly to assess the findings that deans from these disciplines tend to have low Collegial raw scores, high use of paired frames, and high use of the Dominant Bureaucratic frame. However, the low response rate of deans from these disciplines as well as from the low-consensus pure disciplines may be indicative of something altogether different. When individuals are appointed to be deans there is not typically any effort to draw them evenly from across the disciplines. I recommend that in order to further the knowledge on academic deans and leadership approaches, study be conducted to assess the percentage of deans nationwide who are drawn from each of the four disciplinary categories or paradigms.

While it may be tempting to draw the conclusion that it is the disciplines themselves that shape the cognitive frame differences revealed in this study, the fact that individuals are self-selecting in their attraction to and entrance into different disciplines (Holland, 1966, 1973, 1985, 1997) should be considered. In other words, it may not be the disciplines themselves that shape the individuals' cognitive thinking patterns, but rather that individuals with certain cognitive approaches are draw to specific fields (also described in the literature as "fit"). So while this study can report on interesting differences between the academic deans from different disciplinary categories, it does not provide evidence that these differences are directly due to the socialization processes of the disciplines.

This study has relied on a set of "self-reported" behaviors or motivations of academic deans. Ideally this information would be balanced by a surveying of the deans' supervisors and subordinates, and particularly the department chairs and faculty in their units. Such a study would compare the perceived effectiveness of deans' approaches to their administrative work according to their constituents, with their own assessed cognitive frame use. Such a study would be impossible at this magnitude (close to 600 deans times each dean's constituents and colleagues) so a study that would focus in on these groups would need to be smaller in scale. While prior research has indicated that a multi-framed cognitive approach is better for effective leadership, I would like to see research on a smaller scale which incorporates the perceptions of academic deans *and* their constituents.

Finally, the presidents and chancellors of our nation's universities have typically served in the role of academic dean, and prior, as faculty members socialized in one of the classified disciplinary paradigms. Future research that incorporates the single-, paired-, and multi-framed approach I have utilized here on the presidential group could deepen the research on preparation and cognitive leadership styles by extending it to this important leadership group.

Summary

"Universities are only as strong as their colleges, and colleges reflect the strength of their deans" (Wolverton et al. 2001, p. 97). This study has taken the critical first step needed to understanding the relationship between disciplinarity and cognitive leadership frame patterns among academic deans at our nation's universities. Prior studies have found the existence of disciplinary differences among faculty, deans, and in departmental

decision-making. In the higher education leadership literature, it has been noted that multiple cognitive frame use can indicate greater perceived levels of effectiveness and success. This study has merged the two areas, and taken a step toward creating an effective model of analysis for higher education leadership; one which combines four-frame cognitive approaches, single-, paired-, or multi-framed combinations, with the potential impact of disciplinarity.

From a theoretical perspective, the findings of this study may help generate discussion and debate on the impact that specific disciplinary backgrounds appear to have on leadership styles. But most importantly, this study can serve to inform policy and practice in higher education today, as we seek to strengthen our universities' leadership capabilities to face the increasing challenges of centralization, accountability, and efficiency.

APPENDIX A

Doctoral Form D-7B
HUMAN SUBJECTS REVIEW QUESTIONNAIRE

Lauren J. Way
Student's Name

(413) 565-1193 lway@baypath.edu
Local Telephone # **E-Mail Address**

Concentration: _____Policy and Leadership, Higher Education EPRA_____

Please answer the following questions:

1. How will human participants be used?
   Via online software I will distribute an email inviting approx 500 subjects from universities in the USA selected for the sample to participate in an online survey. The sample is selected via a stratified random sample, and subjects are academic deans whose email addresses will be obtained off public websites. Deans will be asked to complete the survey during the summer and fall of 2008.

2. How have you ensured that the rights and welfare of the human participants will be adequately protected?
   The results from the study will be presented in the aggregate, and not by individual: in this way no individual respondent can be identified. In fact, when a participant complete a survey, the researcher will not know who the respondent is, only that he or she is one of the 500 selected for the sample. Names of individuals selected for the survey will be kept on a password protected hard drive in a lockable, secure office. Identifying information will be discarded at the end of the project, all lists of invited subjects will be destroyed and any confidential materials shredded within 12 months of the completion of the study.

3. How will you provide information about your research methodology to the participants involved?
   A short description of the research methodology will be included in the initial emailed message and will be posted on the web with the on-line survey.

4. How will you obtain the informed voluntary consent of the human participants or their legal guardians? Please attach a copy of your consent form.
   Before the academic deans complete the survey I will ask them to read the consent form. By clicking on "I agree" they will be giving consent.

5. How will you protect the identity and/or confidentiality of your participants?
   I myself will not in fact know the identities of the respondents, only the list of people who were initially invited to participate in the survey. This identifying information will be discarded at the end of the project, all lists of invited subjects will be destroyed and any confidential materials shredded.

APPENDIX B

VOLUNTARY CONSENT FOR PARTICIPATION

Welcome

Thank you for participating in this important study on academic deans and leadership styles! Please review the following standard consent form before continuing.

CONSENT FOR VOLUNTARY PARTICIPATION

I volunteer to participate in this quantitative study and understand that:

1. I will be asked to complete this online survey.

2. The questions I will be answering address my views, motivations and experiences as an academic dean at a research university. I understand that the primary purpose of this research is to identify the potential impact of academic discipline on leadership styles.

3. My responses are completely confidential, and will be read only after being grouped with those of the other deans in the study. My responses will be reported only in the aggregate, my name will never be used, nor will I be identified personally, in any way or at any time. However, I understand that I may be assigned a unique i.d. number by the survey software that will be used only to verify completion of the survey.

4. All files in which I am identified will be kept in a confidential and secure location, and will be destroyed one year after the project completion.

5. I am free to participate or not to participate without prejudice.

6. I may withdraw from part or all of this study at any time.

7. I understand that results from this study will be included in Lauren Way's doctoral dissertation and may also be included in research presentations and manuscripts submitted to professional journals, books and monographs for publication.

8. I may contact the researcher, Lauren Way, at any time (lway@baypath.edu, 413.565.1193) or her dissertation adviser, Joseph Berger (jbberger@educ.umass.edu, 413.545.4184) should I have questions or concerns.

By clicking the "Next" button below you are agreeing to the above mentioned items, and can proceed directly to the survey.

APPENDIX C

PRE- LETTERS TO PARTICIPANTS

As part of the sample identification and data collection processes, the following "pre-letter" was sent out in advance of the email probes during the summer of 2008:

Dear Dean LAST NAME,

The role of the academic dean is one of the most important for the success of the modern university, yet perhaps the most difficult and complex role in academe today. Despite this fact, there has been very little research to date studying the support and preparation offered to academic deans, or their leadership styles.

As part of a pioneering effort to better understand the demanding role of the academic dean, you have been selected to participate in a nationwide survey that will study the complex leadership behaviors required by the position. A total of 500 individuals currently serving as academic deans at comprehensive universities across the country have been selected through the study's stratified random sample.

In the coming weeks you will be sent an email invitation to participate in the study, which will consist of an online survey. The survey will take approximately 15 minutes to complete, and your participation will be vital to the study's success. Your responses on the survey will be completely anonymous to the researchers, and reported only in the aggregate.

Because it is of national importance how university deans think and are trained for their roles, results of this study will be published in a University of Massachusetts doctoral dissertation and, more importantly, will be shared with the Association of American Colleges and Universities, the American Council on Education, and the Council of Graduate Schools. Please look for this important survey in your email next week, and I thank you in advance for your valuable time.

Sincerely,

Lauren J. Way
Doctoral Candidate in Educational Policy and Leadership
University of Massachusetts- Amherst

APPENDIX D

COMMUNICATIONS WITH PARTICIPANTS

As part of the sample identification and data collection processes, the following emails were sent out to identified participants during the summer of 2008:

From: Lauren Way
Subject: Coming soon: National Survey on Leadership Styles of the Academic Dean

Dear Colleague,

As part of a pioneering effort to better understand the demanding role of the academic dean, you have been selected to participate in a nationwide survey of 500 university deans that will study the complex leadership behaviors required by the position.

Next week you will be sent an email invitation to participate in the study, which will consist of an online survey only. The survey will take less than 15 minutes to complete.

If you believe you've received this email in error, and you are NOT CURRENTLY SERVING AS AN ACADEMIC DEAN at your university, please reply to this email and write "No longer a Dean" in the subject line.

With much gratitude for your time,

Lauren J. Way
Doctoral Candidate in Educational Policy and Leadership
at the University of Massachusetts Amherst
And Asst. Professor at Bay Path College

From: Lauren Way
Subject: Coming soon: National Survey on Leadership Styles of the Academic Dean

Dear Dean [Last Name],

The academic dean is one of the most important roles in the success of the modern university, yet as you know it is also perhaps the most difficult and complex role in academe today. Despite these facts, there has been very little research to date studying the support and preparation offered to academic deans, or their leadership styles.

As part of a pioneering effort to better understand the demanding role of the academic dean, you have been selected to participate in a nationwide survey that will study the complex leadership behaviors required by the position. A total of 500 individuals

currently serving as academic deans at comprehensive universities across the country have been selected via a stratified random sample selection process for the study.

The survey you are now invited to take will ask you to consider your thinking process and motivations on 22 behaviors typically performed by academic deans.

The survey will only take you approximately 15 minutes to complete. Should you be interrupted while completing the survey, the system will allow you to stop and then later pick up again where you left off.

Your responses on the survey will be completely confidential, and will be read and analyzed by the researcher only after the system groups them with those of the other academic deans in the study. Results will be reported only in the aggregate.

Because it is of national importance how university deans think and are trained for their roles, results of this study will be published in a University of Massachusetts doctoral dissertation and, more importantly, will be shared with the Association of American Colleges and Universities, the American Council on Education, and the Council of Graduate Schools - organizations who have the best interests of deans at heart.

Please click on the FIRST link below to begin. I thank you in advance for your very valuable time.

Sincerely,
Lauren J. Way
Doctoral Candidate in Educational Policy and Leadership
at the University of Massachusetts- Amherst

Click on the following link to take the survey: Click Here
Or copy and paste the following link in your browser to take the survey:
http://www.surveymethods.com/EndUser.aspx?9EA8D6CF9EDCCFCA95D5

Click on the following link to not take this and other surveys from us: Click Here
If clicking on the link does not work, copy and paste the following URL into your browser.
http://www.surveymethods.com/EndUser.aspx?9EA2D6CF9EDCCFCA95D5

APPENDIX E

SURVEY INSTRUMENT

The following text appeared on the survey instrument administered for this study. The survey was distributed via online website software at www.surveymethods.com during the summer and fall of 2008, and was preceded by P.O. mailed pre-letters and email invitations directing participants to the site.

Welcome

Thank you for participating in this important study on academic deans and leadership styles! Please review the following standard consent form before continuing.

CONSENT FOR VOLUNTARY PARTICIPATION

I volunteer to participate in this quantitative study and understand that:

1. I will be asked to complete this online survey.

2. The questions I will be answering address my views, motivations and experiences as an academic dean at a research university. I understand that the primary purpose of this research is to identify the potential impact of academic discipline on leadership styles.

3. My responses are completely confidential, and will be read only after being grouped with those of the other deans in the study. My responses will be reported only in the aggregate, my name will never be used, nor will I be identified personally, in any way or at any time. However, I understand that I may be assigned a unique i.d.

number by the survey software that will be used only to verify completion of the survey.

4. All files in which I am identified will be kept in a confidential and secure location, and will be destroyed one year after the project completion.

5. I am free to participate or not to participate without prejudice.

6. I may withdraw from part or all of this study at any time.

7. I understand that results from this study will be included in Lauren Way's doctoral dissertation and may also be included in research presentations and manuscripts submitted to professional journals, books and monographs for publication.

8. I may contact the researcher, Lauren Way, at any time (lway@baypath.edu, 413.565.1193) or her dissertation adviser, Joseph Berger (jbberger@educ.umass.edu, 413.545.4184) should I have questions or concerns.

By clicking the "Next" button below you are agreeing to the above mentioned items, and can proceed directly to the survey.

* Next *

PAGE 1 Your Leadership Style

INSTRUCTIONS:

The following 22 behaviors are typically performed by academic deans.

Following each behavior are four statements which may, or may not, relate to your own reasons for performing the behavior. Please give an indicator of the extent to which each of the four statements applies to you by rating each one according to the scale. (Please note that there are no right/wrong answers, or better/worse responses)

Please note that "unit" refers to the school or college you oversee.

(check one per line)

INSTRUCTIONS: The following 28 behaviors are typically performed by academic deans. Following each behavior are four statements which may, or may not, relate to your own reasons for performing the behavior. Please give an indicator of the extent to which each of the four statements applies to you by rating each one according to the scale below.

EXTENT TO WHICH EACH STATEMENT APPLIES TO YOU

1……2……..3……..……..…4……..….5

NOT AT ALL RARELY SOMETIMES OFTEN ALMOST ALWAYS

Please note that "unit" refers to the school or college you oversee.

(Circle One)

1. <u>I socialize informally with faculty:</u>

to determine the channels of informal communication.....1 2 3 4 5

to increase my awareness of their needs.....1 2 3 4 5

to send a message (e.g. support, accessibility).....1 2 3 4 5

as an opportunity to conduct business.....1 2 3 4 5

2. <u>I congratulate external constituents on an accomplishment/award:</u>

to send a message of concern/appreciation for their success.....1 2 3 4 5

to empower them as stakeholders in the institution.....1 2 3 4 5

to encourage their support of our programs.....1 2 3 4 5

to build the network required to get my job done 1 2 3 4 5

3. <u>I provide support to department chairs:</u>

to enable more efficient coordination between my office

and the departments.....1 2 3 4 5

to cultivate their support in return 1 2 3 4 5
out of concern for their personal and professional
development as individuals.....1 2 3 4 5
to show I am approachable, accessible, and amiable 1 2 3 4 5

4. <u>I show sympathy/support to someone in my organization who is upset:</u>

out of concern for the individual's well-being.....1 2 3 4 5

as a way of gaining that person's support.....1 2 3 4 5

to send a message of concern for the individual's well-being 1 2 3 4 5

since an appropriate response is called for by virtue

of my position 1 2 3 4 5

5. <u>I offer career advice to chairs and other administrators:</u>

out of concern for their personal success/advancement 1 2 3 4 5

to increase their value to the organization 1 2 3 4 5

as a way of alliance-building 1 2 3 4 5

to send a message that their professional development

is important 1 2 3 4 5

6. <u>I encourage individual faculty to participate in teaching development activities:</u>

out of concern for their success and advancement.....1 2 3 4 5

to influence increased institutional attention to the importance of teaching excellence 1 2 3 4 5

to continually improve the quality of teaching here.....1 2 3 4 5

to send the message that good teaching is valued here 1 2 3 4 5

7. <u>I handle conflict between department chairs or program heads and their faculty members:</u>

by working with the department chair or program head to develop his/her conflict management skills.....1 2 3 4 5

by relying on institutional policy/procedure to dictate resolution 1 2 3 4 5

by deferring to their decision, regardless of its soundness, as a symbol of their authority/autonomy 1 2 3 4 5

by negotiating a decision with affected parties.....1 2 3 4 5

8. <u>I handle the anger of an external constituent (such as an influential board member, etc.):</u>

by referring the person's issue to the appropriate institutional officer 1 2 3 4 5

by weighing the contributions of the board member.....1 2 3 4 5

by considering the well-being of those implicated/concerned.....1 2 3 4 5

by considering the message sent by the image of

a disgruntled board member.....1 2 3 4 5

9. <u>I communicate with chairs and staff about the importance of excellence:</u>

to ensure all understand their role in achieving

organizational excellence.....1 2 3 4 5

to reinforce excellence as the standard of performance here.....1 2 3 4 5

to influence their buy-in to the importance of

achieving excellence.....1 2 3 4 5

to make everyone feel their contribution to excellence is valued.....1 2 3 4 5

10. <u>I involve faculty in decision-making:</u>

to take advantage of the expertise they have to contribute.....1 2 3 4 5

so they will feel more a part of the organization.....1 2 3 4 5

to increase their buy-in of the final decision.....1 2 3 4 5

to send a message that collegiality and collaboration

are valued.....1 2 3 4 5

11. <u>I communicate my personal appreciation for faculty achievements:</u>

to reduce the chances that they will seek employment elsewhere.....1 2 3 4 5

as part of the promotion and tenure process 1 2 3 4 5

to make them feel valued.....1 2 3 4 5

to make examples of their success 1 2 3 4 5

12. <u>I credit chairs and program heads for helpful ideas and suggestions:</u>

to make them feel valued.....1 2 3 4 5

to recognize their contribution.....1 2 3 4 5

to let them know that I value participative decision-making.....1 2 3 4 5

to influence their commitment to the unit.....1 2 3 4 5

13. <u>I provide tangible rewards (resources, faster service, special favor)</u>

<u>to chairs and faculty in recognition of their contributions:</u>

so they will feel valued.....1 2 3 4 5

to make an example of success for others 1 2 3 4 5

in exchange for, or to influence, their support.....1 2 3 4 5

because it is required to meet organizational objectives 1 2 3 4 5

14. <u>My approach to organizational change is driven by:</u>

the personal needs of faculty……..1 2 3 4 5

the demands of various institutional interests groups

and coalitions 1 2 3 4 5

the priorities of the institution's long-range strategic plan.....1 2 3 4 5

The desire to improve the image and reputation of the unit.....1 2 3 4 5

15. <u>I review the strengths and weaknesses of the unit's goals:</u>

to examine the fit between program objectives and

college goals.....1 2 3 4 5

to enhance the visibility of the unit's successes and

achievements 1 2 3 4 5

to assure a good fit between faculty interests and

abilities with the unit goals 1 2 3 4 5

to leverage the competitive advantage of each program 1 2 3 4 5

16. <u>I address student reports of inappropriate faculty conduct:</u>

by engaging institutional processes to remedy such behavior.....1 2 3 4 5

by counseling the faculty member to help him/her

adjust behaviors.....1 2 3 4 5

by providing a forum to show that I take the student concerns

seriously.....1 2 3 4 5

by negotiating a proper resolution with the department chair 1 2 3 4 5

17. <u>I consult with faculty before making changes that affect them:</u>

so their needs are adequately considered.....1 2 3 4 5

to create a forum for them to express their views on the matter.....1 2 3 4 5

so they are more likely to buy into the final decision 1 2 3 4 5

because it is the proper procedure according to shared governance

protocol……..1 2 3 4 5

18. <u>I allow department chairs to handle problems in their own departments:</u>

to reinforce my expectations of their responsibilities

in this regard 1 2 3 4 5

in order to respect the administrative chain of demand.....1 2 3 4 5

to avoid my unnecessary involvement in conflict.....1 2 3 4 5

because the chair is the best judge of the needs of the department.....1 2 3 4 5

19. <u>I stay abreast of the work of department chairs or administrative heads in my unit:</u>

to ensure departmental objectives are being adequately

addressed.....1 2 3 4 5

to be sure their professional needs are being met 1 2 3 4 5

so I will not be caught off-guard by unresolved issues 1 2 3 4 5

as a way of communicating my support.....1 2 3 4 5

20. <u>I monitor campus activity outside my unit:</u>

Because it is my formal responsibility to do so 1 2 3 4 5

to increase the unit's competitive advantage in the

competition for resources 1 2 3 4 5

to convey an appropriate external image.....1 2 3 4 5

so we are better able to meet the needs of our own constituents 1 2 3 4 5

21. <u>I inform alumni and other constituents about our programs:</u>

to meet their need to be connected.....1 2 3 4 5

to motivate their continued interest, loyalty,

and financial support 1 2 3 4 5

to reinforce my unit's image in the community.....1 2 3 4 5

as a way of maintaining an effective alumni relations program 1 2 3 4 5

22. <u>I communicate my expectations to department chairs/administrative heads in my unit:</u>

so they will clearly understand their department's obligations, tasks,

and responsibilities.....1 2 3 4 5

to ensure their successful performance as individuals 1 2 3 4 5

to improve the competitive advantage of the unit.....1 2 3 4 5

to increase shared meaning about the unit priorities.....1 2 3 4 5

SECTION II. ABOUT YOU AND YOUR ADMINISTRATIVE EXPERIENCE

1. In what **discipline or field** is your highest degree? Please be as specific as possible:_____

2. With which discipline do you **currently** most closely i**dentify**?_____

3. Your gender: _____FEMALE _____MALE

4. Your age in years: _____

5. You most closely identify with which ethnic group (check *one*):

___ASIAN AMER/PACIFIC ISLANDER ___AMER INDIAN

___AFRICAN AMER ___HISPANIC ___WHITE NON-HISPANIC

___OTHER (please identify)_____

6. Please indicate the number of years you have served in each of the following **roles**:

Your current position:	__N/A	___1-3 YRS	___4-6 YRS	___7+ YRS
Dept. chair:	__N/A	___1-3 YRS	___4-6 YRS	___7+ YRS
Assoc or Asst dean:	__N/A	___1-3 YRS	___4-6 YRS	___7+ YRS
Prior deanship(s):	__N/A	___1-3 YRS	___4-6 YRS	___7+ YRS
Director of Center or Institute	__N/A	___1-3 YRS	___4-6 YRS	___7+ YRS

7. Which of the above roles if any would you say best prepared you for your current role as Dean? _____

8. Number of years as a faculty member?: _____

As a faculty member in this institution?: _____

9. How **many** academic departments are in your unit? Number: _____

10. Please rate the approach to organizational change taken by the Chief Academic Officer at your institution on a scale of 1-5, with 1 being "Not at all" and 5 being " Almost Always."

<u>My chief academic officer's approach to organizational change appears to be driven by</u>:

(Circle One)

the individual needs of the academic deans and faculty……1 2 3 4 5

the demands of various institutional interests groups and coalitions 1 2 3 4 5

the priorities identified in the institution's long-range
strategic plan.....1 2 3 4 5

The desire to improve the public image and reputation
of the institution…….....1 2 3 4 5

11. Do you have any comments regarding specific survey items, or the survey in general?

END

THANK YOU FOR YOUR GENEROUS TIME IN COMPLETING THIS SURVEY!

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