ABSTRACT

Maria Assunta Saccoccia Pharr, ORGANIZATIONAL EFFECTIVENESS IN COMMUNITY COLLEGES AND ITS RELATIONSHIP TO CULTURAL AND LEADERSHIP COMPLEXITY (Under the direction of Dr. David Siegel). Department of Educational Leadership, November 2014.

Higher education institutions are increasingly pressured to identify performance measures related to organizational effectiveness. Research has shown that theorists and practitioners have varying views on which criteria most appropriately measure effectiveness in higher education institutions, which has led to the development of a robust model that amalgamates concepts from the major theoretical models into a single framework. This model, known as the Competing Values Framework, accounts for the presence of the paradoxical attributes associated with the complex nature of higher education institutions. This study uses the Competing Values Framework to measure the relationships between measures of effectiveness and cultural and leadership complexity based on the perceptions of faculty and administrators in the North Carolina Community College System. Community colleges represent the largest sector in American higher education, and the North Carolina Community College System is one of the largest and most diverse systems of community colleges in the nation; therefore, it was chosen as a representative sample for this study. The results of the linear regression analyses revealed that significant relationships exist between dimensions of effectiveness and cultural and leadership complexity, with minimal variance between faculty and administrator perceptions. Specifically, effectiveness dimensions related to student satisfaction and development as well as dimensions related to institutional practices and functioning were perceived to be more effective with increasing cultural and leadership complexity. In contrast, effectiveness dimensions related to individual employee satisfaction and development were perceived to be more effective with decreasing cultural and leadership complexity. These results can inform higher education practitioners and theorists on programs and practices that address these findings.

ORGANIZATIONAL EFFECTIVENESS IN COMMUNITY COLLEGES AND ITS RELATIONSHIP TO CULTURAL AND LEADERSHIP COMPLEXITY

A Dissertation

Presented to

The Faculty of the Department of Educational Leadership

East Carolina University

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Education

by

Maria Assunta Saccoccia Pharr

November, 2014

ORGANIZATIONAL EFFECTIVENESS IN COMMUNITY COLLEGES AND ITS RELATIONSHIP TO CULTURAL AND LEADERSHIP COMPLEXITY

by

Maria Assunta Saccoccia Pharr

APPROVED BY:

DIRECTOR OF DISSERTATION:_____
David Siegel

COMMITTEE MEMBER:_____
Crystal Chambers

COMMITTEE MEMBER:_____
Cheryl McFadden

COMMITTEE MEMBER:_____
R. Scott Ralls

CHAIR OF THE DEPARTMENT OF EDUCATIONAL LEADERSHIP:

_____
William Rouse, Jr.

DEAN OF THE GRADUATE SCHOOL:

_____
Paul Gemperline

DEDICATION

Dedicated to the three people that are closest to my heart, my parents, Pasquale and Susie Saccoccia, and my husband, Jonathan Pharr. Mom and Dad, you have always been a constant source of encouragement and love. The gratitude that I have for your guidance and nurturing will take a lifetime to express. Jonathan, you have always believed in me and taught me that success is a product of hard work and determination. Your patience, love, and devotion have been my source of strength and contentment. I am truly blessed to have you all in my life.

ACKNOWLEDGEMENTS

Completion of this dissertation represents the culmination of devoted labors and contributions from many people. I would like to gratefully acknowledge all those who have provided assistance, offered insight, and remained patient and supportive during my educational endeavors.

I especially wish to thank my committee members for their provocative comments and skillful editing which helped me express my ideas and conclusions more meaningfully. I offer my sincere appreciation for the guidance and assistance provided by my dissertation chair, Dr. David Siegel. Dr. Siegel did not place limits on my abilities and thus helped me to raise my own expectations. He provided thorough and insightful critiques that stimulated scholarly cogitation and discourse. His impact on my academic growth was immeasurable. I also wish to gratefully acknowledge Dr. Crystal Chambers for guiding me to understand the research process. Her commitment to helping me navigate the complexities of the methodology was critical to my success. I extend my appreciation to Dr. Cheryl McFadden for her inspirational and enthusiastic commitment to the learning process. Her experiential teaching methods engendered durable and impactful learning. To my colleague and leadership mentor, Dr. Scott Ralls, I offer my heartfelt gratitude for encouraging me to begin this journey and for believing in my abilities throughout my vocational pathway. Your sagacity, visionary leadership, and commitment to ideals have provided a foundation of principled leadership that I strive to emulate. Finally, to my family, friends, and colleagues who have been a great source of comfort and support, I owe you my sincere and heartfelt indebtedness. Your patience and understanding have been incalculable.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE: INTRODUCTION

Higher education institutions are increasingly challenged to document results of institutional performance assessment as accountability demands escalate. In the midst of a recession economy, which has plagued the United States since 2008, the public sector has become more focused on effective and efficient use of public resources. Moreover, students have become progressively savvier in evaluating differences in the rate of return among higher education institutions in attempts to receive the highest value for their investment (Eff, Klein, & Kyle, 2012; Marcus, 2013). This view of higher education as a market commodity has evolved as for-profit institutions have expanded (National Center for Education Statistics [NCES], 2012), governmental support for education has decreased (State Higher Education Executive Officers [SHEEO], 2012), and globalization has intensified (American Association of Community Colleges [AACC], 2012; Levin, 2001). External demands on higher education have shifted the criteria for effectiveness of post-secondary education towards successful achievement of accountability goals. This shift created a need for researchers and practitioners to identify relevant indicators of effectiveness for higher education. A model that has received little attention in higher education effectiveness research yet incorporates effectiveness indicators that Cameron (1978) identified as having relevance for higher education institutions is the Competing Values Framework developed by Quinn and Rohrbaugh (1983). This study utilizes this framework to investigate perceptions of institutional effectiveness in higher education and its relationship to leadership role and campus culture complexity.

The concept of effectiveness in higher education is especially poignant in the community college sector. Two-year colleges comprise 59% of all public higher education institutions in the United States and enroll more than 7.2 million students, nearly half of all undergraduates in

public, non-profit, higher education institutions (NCES, 2012). As the largest sector of American higher education in terms of student enrollment and number of institutions, the effectiveness of community colleges impacts the overall effectiveness of American higher education more than any other institutional category. Additionally, President Obama has heightened the focus on community colleges and their importance by commissioning the White House Summit on Community Colleges in 2010, which was designed to suggest strategies to improve the applicability and relevance of the modern community college (*White House*, 2011).

The elevated profile of community colleges in America's higher education sector and the ubiquitous focus on accountability has intensified the importance of campus leaders, including presidents or chancellors and those charged with leading the major units of the institution, to improve the effectiveness of these institutions. Despite the increased need for assessing effectiveness in higher education, the prevalence of effectiveness research remains paltry. The majority of the research at the institutional level involves studies that relate cultural types (Smart & Hamm, 1993a; Ul Hassan, Shah, Ikramullah, Zaman, & Khan, 2011) or specific leadership elements (Bryman, 2007; Cameron, 1986; Cameron & Tschirhart, 1992; Siddique, Aslam, Khan, Fatima, 2011; Smart & Hamm, 1993b) to perceptions of organizational effectiveness. These streams of research suggest that evaluating the overall effectiveness of an institution requires assessing the performance of the senior administration and the nature of the campus culture.

The debates regarding public accountability of educational institutions have been long-standing. In 1983, the National Commission on Excellence in Education issued a report regarding the mediocrity of American high schools, colleges, and universities, which, in 1984, incited the Southern Association of Colleges and Schools Commission on Colleges to adopt institutional effectiveness standards as part of their comprehensive accreditation standards for

higher education institutions. Since that time, the concept of institutional effectiveness has become embedded in the framework of higher education strategic efforts (Goben, 2007) and constitutes the philosophical essence of all six regional educational accrediting agencies (Head, 2011). However, research indicates that the definition of institutional effectiveness is inconsistent among educational leaders and is often used synonymously with the terms assessment and evaluation (Head, 2011). Bauer (2001) asserts that higher education administrators assume different interpretations of assessment, further complicating the validity of effectiveness assessments across institutions. This ambiguity was noted earlier in effectiveness research by Cameron (1978), who recognized that the issue lies in the type of indicator and the source of the criteria used in the investigation (Cameron, 1978). The discordance noted by Cameron and other effectiveness researchers spurred Quinn and Rohrbaugh (1983) to develop a theoretical model that incorporated the effectiveness indicators that researchers and practitioners considered to be the most relevant. The resulting spatial model consists of three dimensions, focus, structure, and means-ends, which represent the competing core values associated with organizational effectiveness (Quinn & Rohrbaugh, 1983). Based on the antipodal nature of the dimensions, the model was aptly named the Competing Values Framework.

The Competing Values Framework has been used extensively in organizational effectiveness studies of non-academic entities. Its usefulness and pervasive applicability in identifying and organizing various aspects of organizational culture, leadership roles, core competencies, and human resource practices contributes to its popularity in organizational research (Cameron & Quinn, 2011). Despite its renown in the business sector, it has not been used extensively in higher education effectiveness studies. A contributing factor to its limited use in higher education studies is the reluctance by researchers and practitioners to judge the

academy by any measures that are commonly associated with a business model (Barrett, 1997; Harvey, 1995; Houston, 2007). More specifically, Cameron (1978) articulates several formidable obstacles that hinder the universal acceptability of effectiveness criteria and assessment practices by higher education practitioners. The obstacles identified by Cameron (1978) include the difficulty in developing clear, meaningful, and measurable outcomes, the perceptions from academicians that accountability assessments are an affront to academic freedom, the focus on resource efficiency rather than criteria of effectiveness, and the myriad of conceptual models for higher education that range from loosely coupled systems to structured bureaucracies. Yet, despite academia's reticence to employ the Competing Values Framework to study effectiveness, the robust nature of the model cannot be denied. Cameron, Quinn, DeGraff, and Thakor (2006) describe the Competing Values Framework as "a map, an organizing mechanism, a sense making device, a source of new ideas, and a learning system" (p. 6). The broad applicability of the framework is supported by decades of research that reveal consistent, underlying value dimensions of human behavior that exist in most human and organizational activities, including both business and academic endeavors. These dimensions form the axes and quadrants of the Competing Values Framework model and allow practitioners and researchers to identify dominant value sets within their organization, which precipitates an understanding of organizational culture, leadership roles, management theories, and organizational effectiveness (Cameron & Quinn, 2011).

Statement of the Problem

The Competing Values Framework is one of the most widely used research models in organizational effectiveness, management, and cultural studies since its inception (Hartnell, Ou, & Kinicki, 2011; Yu, 2009), but there remains a dearth of research using this framework to

evaluate the effectiveness of higher education institutions. The Social Sciences Citation Index (2013) reveals numerous studies that assess the organizational effectiveness of colleges and universities, but only Smart (2003) employs the Competing Values Framework to examine the relationship between stakeholders' perceptions of organizational effectiveness and the complexity of the organizational culture and leadership roles. Smart's study identified relationships between perceptions of organizational effectiveness at two-year colleges and the cognitive and behavioral complexity of the campus culture and the senior leadership roles. Smart surveyed faculty and the senior administrators of the fourteen Tennessee community colleges and revealed that institutions exhibiting a more complex culture as well as campuses led by senior administrators displaying more complex leadership roles were perceived as more effective. There were no statistically significant differences in the responses of faculty and senior administrators.

Although Smart (2003) did not find significant differences between the perceptions of faculty and senior administration, research reveals that employee groups often disagree on issues related to institutional effectiveness, leadership performance, and campus culture (McGoey, 2007; Skolits & Graybeal, 2007; Watson, Williams, & Derby, 2005). Skolits and Graybeal (2007) investigated the level of congruence between perceptions of institutional effectiveness processes held by faculty, staff, and administrators at a community college in Tennessee. The researchers found significant differences between the level of knowledge of institutional effectiveness processes held by employee groups, participation from each employee group in institutional effectiveness processes, and the perceived strengths, weaknesses, and usefulness of institutional effectiveness processes among the employee groups. McGoey's (2007) research found significant differences between the perceptions of faculty, staff, administrators, and

student leaders in regard to community college presidential effectiveness. While all stakeholder groups agreed on the same criteria by which to measure presidential effectiveness, they differed in the level of importance placed on the various criteria. Additional research by Watson, Williams, and Derby (2005) revealed differences in the perceptions of students, staff, faculty, and administrators regarding elements of campus culture. Their findings identified a significant difference between administrators' perceptions and perceptions held by other stakeholders regarding the racial climate on a community college campus.

Based on the relatively small number of studies regarding effectiveness in higher education, the increasing demands for accountability in higher education institutions, and the need to address the unique nature of higher education in effectiveness research, an empirical study that contributes to the literature and addresses the complexity of these institutions is vital. Using the Competing Values Framework, this study considers multiple variables, campus culture complexity and leadership role complexity, that research has shown contribute to perceptions of effectiveness. Much of the prior research evaluated the relationship of a particular culture type or a specific leadership role to organizational effectiveness, which did not acknowledge that multiple culture types and senior leadership roles are typically present within an institution. This study acknowledges the presence of four unique culture types and four different leadership roles that address the complexity typical in higher education institutions. In addition, this study considers potential differences in perceptions of institutional effectiveness between two significant stakeholder groups, faculty and senior administration.

Purpose of the Study

This study examines the relationship between the perceptions of organizational effectiveness held by employees from institutions in the North Carolina Community College

System and the behavioral and cognitive complexity of the organizational culture and the leadership roles of the senior administrators at their campuses within the context of the Competing Values Framework. The study is designed to answer the following research questions:

RQ1: What is the relationship of campus culture complexity and leadership role complexity to organizational effectiveness, based on the perceptions of faculty and senior administrators in the North Carolina Community College System?

RQ2: Do the faculty and senior administrators in the North Carolina Community College System perceive the relationship of campus culture complexity and leadership role complexity to organizational effectiveness differently?

Significance of the Study

This study has significant value for higher education practitioners that are increasingly pressured to improve institutional performance. The results from the study can be extrapolated to inform higher education researchers and practitioners on ways to enhance organizational effectiveness through programs that support the research findings. Leadership programs for current and future leaders can incorporate the findings to align training materials with the data associated with behavioral complexity and cultural understanding. The results of this study may also impact administrative organizational planning by providing data to decision makers that can facilitate the selection of leaders exhibiting the repertoire of leadership behaviors that positively impact organizational effectiveness.

The perceptions of campus stakeholders regarding the individual constructs of effectiveness, leadership, and culture as well as the impact that one construct may have on another are powerful and important areas for additional research. This study surveys the faculty

and senior administration in the North Carolina Community College System, which is one of the largest community college systems in the United States. The fifty-eight institutions within the North Carolina Community College System are located in both urban and rural settings and educate over 826,000 students annually (NCES, 2012). The size and diversity of the study's population represent a microcosm of the entire community college population, which enhances the generalizability of the results.

Theoretical Framework

The Competing Values Framework emerged from a series of empirical studies that sought to articulate the cognitive structures underlying the concept of organizational effectiveness (Cameron & Quinn, 2011; Quinn & Rohrbaugh, 1983). A literature review by Campbell (1977) yielded 30 organizational effectiveness criteria, which Quinn and Rohrbaugh (1983) submitted to a panel of organizational effectiveness experts to evaluate for relevancy. Quinn and Rohrbaugh (1983) analyzed the panel's responses using multidimensional scaling which resulted in a spatial model representing the basic value dimensions underlying the constructs of organizational effectiveness as shown in Figure 1 (Hartnell et al., 2011). These dimensions, *organizational focus* (internal-external), *organizational structure* (flexibility-control), and *organizational means-ends* (inputs-outputs), represent the competing core values associated with conceptualizations of organizational effectiveness (Quinn & Rohrbaugh, 1983).

The organizational focus dimension, depicted by the horizontal axis, represents how effectively the organization maintains continuity while managing environmental demands for change. The focus dimension differentiates effectiveness criteria that emphasize internal capabilities, consonance, and employee development from effectiveness criteria that emphasize an external orientation, differentiation, and development of the organization. The organizational

Flexibility and discretion

	Human Relations Model **Culture:** Clan **Leadership Role:** Motivator **Thrust:** Collaborate **Means:** Cohesion, participation, communication, empowerment **Ends:** Morale, people development, commitment	**Open Systems Model** **Culture:** Adhocracy **Leadership Role:** Vision Setter **Thrust:** Create **Means:** Adaptability, creativity, agility **Ends:** Innovation and cutting-edge technology	
Internal focus and integration	**Internal Process Model** **Culture:** Hierarchy **Leadership Role:** Analyzer **Thrust:** Control **Means:** Capable processes, process control, measurement **Ends:** Efficiency, timeliness, smooth functioning	**Rational Goal Model** **Culture:** Market **Leadership Role:** Task Master **Thrust:** Compete **Means:** Resource acquisition, customer focus **Ends:** Market share, profitability, goal achievement	**External focus and differentiation**

Stability and control

Note. Adapted from "Diagnosing and Changing Organizational Culture: Based on the Competing Values Framework," by Cameron & Quinn, 2011, p. 53. Copyright 2011 by John Wiley & Sons, Inc.

Figure 1. The competing values framework.

structure continuum, depicted by the vertical dimension, represents the way organizations govern their internal environment and respond to external challenges. The structure dimension differentiates between organizations that emphasize flexibility, discretion, and creativity from those that emphasize stability, order, and control. The means-ends dimension, which is delineated by the axes into four quadrants, distinguishes between organizations that value planning and goal setting from those that value productivity and efficiency (Cameron & Quinn, 2011).

The axes in the Competing Values Framework define four quadrants representing a group of effectiveness indicators that encompass the values, assumptions, and beliefs associated with organizational theory models. Each of these models is characterized by a distinct focus, structure, and means-ends that can also be attributed to a specific organizational culture type (Cameron & Quinn, 2011). The indicators identified in each quadrant contrast with the indicators in the diagonally situated quadrant.

The upper left quadrant classifies values that emphasize an internal, collaborative focus where an emphasis on cohesion and employee morale results in the primary goal of human resource development. This quadrant represents the *human resource model* and identifies the *clan culture type*. Effective leadership roles in organizations that identify with this quadrant are classified as facilitators, mentors, and team builders. The lower right quadrant classifies values that emphasize an external, competitive focus. The primary goal of high productivity, goal achievement, and profitability is achieved through an emphasis on control and service to external constituents. This quadrant represents the *rational goal model* and identifies the *market culture type*. Leaders that are viewed as drivers, competitors, and producers are considered effective in an organization dominated by this orientation. The upper right quadrant identifies values that

emphasize innovation and adaptability. Organizations that identify with this quadrant have an external focus and view adaptability and agility as a means to achieve their ultimate goals of resource acquisition, growth, and cutting-edge technology. This quadrant characterizes the *open systems model* and the *adhocracy culture type*. An innovative, entrepreneurial, and visionary leader is considered to be most effective within this classification. Finally, the lower left quadrant identifies values that emphasize control and consistency with the ultimate goal of achieving stability, order, and efficiency through information management, process control, and measurement. This quadrant represents the *internal process model* and the *hierarchy culture type*. Effective leadership roles in organizations that identify with this quadrant are viewed as monitors, coordinators, and organizers (Cameron & Quinn, 2011).

The Competing Values Framework was developed to integrate existing organizational effectiveness criteria from the literature into a single framework that had practical and generalizable capacity. The result was a robust model that organizes the values underlying organizational theory, organizational culture, and leadership roles thereby facilitating analysis of the relationships between these factors.

Research Design

This study surveys the faculty and senior administration from the North Carolina Community College System. The survey instrument, dispersed through Qualtrics survey software, includes three sections which each address the participants' perceptions of organizational effectiveness, leadership role performance, and campus culture, and a fourth section to gather demographic data. Cameron's (1978) nine dimensions of organizational effectiveness serve as the dependent variables, while complexity of the senior leadership roles, using Hart and Quinn's (1993) four leadership roles, is one of the independent variables, and

complexity of the campus culture, using Cameron and Quinn's (2011) four culture types, is the other independent variable. Using the Statistical Package for Social Sciences (SPSS) software, the quantitative survey data was analyzed to determine the relationship between the participants' perceptions of organizational effectiveness and their perceptions of leadership role and campus culture complexity. Further analyses examines potential differences between the employee groups in regard to the correlations between the dependent and independent variables.

Definitions of Terms

Given their perceptual nature, some of the potentially ambiguous terms and constructs found throughout the study are defined in this section. The section is organized conceptually to provide the reader with improved contextualization.

Senior Administration – The senior administration at the North Carolina Community College System institutions consists of those roles that include the President and his or her direct reports responsible for overseeing the major organizational units at the college, including Academic Affairs, Student Services, Administrative Services, and Institutional Advancement. The positions reporting directly to the President are generally titled as Vice-President, but may include Executive Vice-President, Dean, or Associate Vice-President. The senior administrative roles are responsible for policy development at the institution and comprise the main executive branch of the college.

Organizational Effectiveness - A perceived measure of the degree to which an organization is achieving expectations. The construct of effectiveness is based on one's definition of organization; therefore, the criteria upon which to base effectiveness studies are idiosyncratic (Scott & Davis, 2007). In this study, the construct of organizational effectiveness integrates Cameron's (1978) nine dimensions of effectiveness for higher education institutions.

The construct is used synonymously with the terms organizational performance and organizational quality, unless otherwise stated, and is analyzed at the institutional level.

Organizational Culture – The shared, basic, underlying assumptions of a group that are manifested through observable artifacts and mutually espoused values, norms, and rules of behaviors and that are perpetuated to new members of the group as the correct way to perceive, think, or feel (Schein, 2010). The organizational culture types within this study include the adhocracy, clan, hierarchy, and market culture types.

Adhocracy Culture – An organizational culture type that emphasizes innovation and creativity and is most effectively led by a visionary leader who values risk-taking and exhibits a commitment to experimentation and change. Organizations that exhibit this cultural inclination are structured to adapt quickly and focus on acquiring resources to produce cutting-edge outputs (Cameron & Quinn, 2011).

Clan Culture – An organizational culture type that emphasizes collaboration, partnerships across organizational boundaries, and decentralized decision-making. An ideal organizational form predominated by this culture type is concerned about solidifying an organizational culture to provide consistency in turbulent or uncertain environmental conditions. Successful management strategies include promoting participation, commitment, loyalty, and empowerment through mentorship, facilitation, and team building (Cameron & Quinn, 2011).

Hierarchy Culture – An organizational culture type that emphasizes efficient processing and reliable, uniform output. The environment that facilitates effectiveness within organizations dominated by the hierarchy culture is stable and predictable, supporting the integration and coordination of tasks that are considered desirable. Control and accountability mechanisms,

standardized processes and rules, and structured hierarchies of authority contribute to the effectiveness of hierarchical organizations (Cameron & Quinn, 2011).

Market Culture – An organizational culture type that considers criteria such as transaction costs, profitability, and competitive advantage as effectiveness indicators. The market culture type emphasizes a focus on external constituents to maintain competitiveness, productivity, and a strong customer base. The internal environment is competitive and demanding in order to gain a competitive advantage in a hostile external environment. The goals of an ideal organization dominated by the market culture are profitability, market niche strength, and outpacing the competition (Cameron & Quinn, 2011).

Organizational Effectiveness Dimensions – Empirically derived clusters of effectiveness criteria that relate to a specific aspect of an institution. Cameron (1978) identified nine effectiveness dimensions, which were subsequently validated and found reliable for use in higher education studies (Cameron, 1986; Smart, 2003; Smart & Hamm, 1993b; Smart & St. John, 1996):

1. *Student educational satisfaction (SES)* – criteria that evaluate the extent to which students are satisfied with their educational experiences at the institution.
2. *Student academic development (SAD)* – criteria that evaluate the extent of academic attainment, growth, and progress of students at the institution.
3. *Student career development (SCD)* - criteria that evaluate the extent to which the institution emphasizes career development for students and provides occupational opportunities and career development for students.
4. *Student personal development (SPD)* - criteria that evaluate the extent to which the institution emphasizes personal student development and provides nonacademic, non-

career oriented personal development opportunities for students.

5. *Faculty and administrator employment satisfaction (FAES)* - criteria that evaluate the extent to which faculty and administrators employed by the institution are satisfied.
6. *Professional development and quality of the faculty (PDQF)* - criteria that evaluate the extent of attainment and development of the faculty and the extent to which the institution encourages faculty professional development.
7. *Systems openness and community interaction (SOCI)* - criteria that evaluate the extent to which the institution emphasizes the interaction with, adaptation to, and service in the external environment.
8. *Ability to acquire resources (AAR)* - criteria that evaluate the extent to which the institution is able to acquire resources from the external environment.
9. *Organizational health (OH)* - criteria that evaluate the extent to which the institution's internal processes and practices exhibit benevolence, vitality, and viability.

Organizational Domains - Organizational domains are defined as the type of technology utilized by the organization to develop and render services, the stakeholder group served by the organization, and the types of services rendered by the organization (Meyer, 1975). These domains may be prescribed or they may be developed through negotiation of dominant coalition members (Cameron, 1981). Organizations typically operate in multiple domains and can be considered effective in some and ineffective in others (Cameron, 1981). Cameron (1981) identified four domains of effectiveness for higher education institutions, which incorporate the nine dimensions of organizational effectiveness he developed in previous research (Cameron, 1978):

1. *External adaptation domain* composed of student career development (SCD) and system openness and community interaction (SOCI) dimensions;
2. *Morale domain* consisting of the student educational satisfaction (SES), faculty and administrator employment satisfaction (FAES), and organizational health (OH) dimensions;
3. *Academic-oriented domain* composed of the student academic development (SAD), professional development and quality of the faculty (PDQF), and ability to acquire resources (AAR) dimensions; and
4. *Extracurricular domain* consisting of the student personal development (SPD) dimension.

Organizational Focus – The criteria to which an organization commits its resources. In the Competing Values Framework, the organizational focus is represented by a horizontal continuum of paradoxical focus criteria: internal capabilities versus external resources, integration and unity of processes versus differentiation and competitiveness, and employee development versus development of the organization.

Organizational Means/Ends – In the Competing Values Framework, the organizational means/ends are the preferred mechanisms and outcomes associated with each of the cultural types.

Organizational Structure – The criteria associated with an organization's approach to its operations. In the Competing Values Framework, the organizational structure is represented by a vertical continuum of paradoxical structural criteria: flexibility versus stability, adaptability versus predictability, and organic versus mechanistic.

Analyzer – A leadership role exemplified by skill in critically assessing proposed projects and programs to evaluate their contribution to efficient and effective internal operations. An analytical leader focuses on the internal operating system and on serving existing markets by setting standards of efficient and effective processing by which to operate (Hart & Quinn, 1993).

Motivator – A leadership role exemplified by skill in motivating the organization to find purpose in realizing the vision while maintaining emphasis on enduring organizational values. A motivating leader translates the organizational strategy into a meaningful cause and creates excitement within the organization to develop new competencies and to increase productivity (Hart & Quinn, 1993).

Task Master – A leadership role exemplified by skill in fulfilling the needs of external stakeholders by influencing decisions and processes that translate into high levels of performance and results that satisfy constituents in the capital marketplace (Hart & Quinn, 1993).

Vision Setter – A leadership role exemplified by skill in recognizing the identity and mission of the organization in order to create a compelling vision and to articulate that vision and establish the conditions that facilitate and encourage institutionalizing the vision. Vision setters continuously monitor emerging trends, analyze competitive markets, and develop or maintain contacts with internal and external constituents to define the future direction of the organization (Hart & Quinn, 1993).

Summary

The need for organizational effectiveness studies in higher education is critical as internal and external stakeholders seek increased levels of accountability for pecuniary, learning outcomes, and contemporary workforce training responsibilities. Community colleges are especially challenged to document performance as this sector of higher education is the most

pervasive in terms of enrollment and number of institutions, and its comprehensive mission provides the education and training for students pursuing a university parallel as well as a vocational pathway. Research that can assist practitioners in identifying variables that impact perceptions of organizational effectiveness in higher education is therefore increasingly critical as these demands escalate. However, the unique nature of higher education institutions and the discordance among practitioners and researchers regarding how best to assess these institutions resulted in a dearth of empirical studies within this stream of research. Auspiciously, the Competing Values Framework, which encompasses aspects of former models that did not independently address the challenges related to evaluating higher education institutions, was developed and provides a comprehensive and robust approach that holds promise for higher education effectiveness research.

Organization of the Study

This study is organized to provide the reader with a comprehensive understanding of the empirically derived variables, the quantitative methodology used to answer compelling research questions, detailed and reliable survey results from a representative population, and the conclusions, implications, and significance of the research findings.

This first chapter provides a succinct description of the theoretical, social, political, and economic context, which substantiates the need for this study. Included in this chapter is an overview of the theoretical framework, purpose, and significance of the study, which provide the rationale for the research design. The last section provides descriptions of the major terms and concepts used throughout the study.

Chapter two provides a review of the literature that details the historical development of effectiveness research, highlighting the ambiguity among research models especially as they

relate to higher education. It details the development of the variables used in this study and the resulting instruments that reliably measure perceptions of those variables. Chapter two concludes with a description of how the Competing Values Framework emerged from analysis of prior effectiveness research and provided a versatile model that incorporated value dimensions associated with organizational effectiveness, leadership role performance, and organizational culture.

Chapter three details the methodology of the study including the research questions, the basic demographics of the population sample, an explanation of the research instrument and study variables, the data collection procedures, and the analytical procedures. This chapter provides a detailed description of the research design that yields data to adequately answer the research questions and facilitates replication of the study.

Chapter four presents the findings from the study as they pertain to the research questions. Subsequent analyses are included that provide additional information to enhance the understanding of the data, further advancing the knowledge gained from the study. The data is presented in narrative and tabular formats to facilitate interpretations.

The fifth and final chapter provides a detailed discussion of the results as well as the conclusions and implications drawn from the analyses. It connects the study's findings to the broader field of effectiveness research and provides researchers and practitioners with recommendations for practice and future research. Limitations associated with the current study are also discussed with suggestions for further research.

CHAPTER TWO: LITERATURE REVIEW

This chapter provides an overview of the escalating demands for accountability measures in higher education and the historical development of a valid theoretical framework by which to measure effectiveness in higher education institutions. Exploring the evolution of the Competing Values Framework, which serves as the theoretical basis for this study, requires an examination of the original research related to the myriad of effectiveness models and the paradigmatic shifts that occurred throughout decades of effectiveness research. This literature review will detail the historical research that led to the development of the Competing Values Framework and provide the rationale for its applicability in higher education effectiveness research.

Demands for Higher Education Effectiveness Research

The need for a broadly applicable framework to measure organizational effectiveness emanated from the business sector, whose competitive nature required a comparative means to assess the performance of one organization against another (Cameron, 1980). A less frequently studied, but equally worthy sector of performance analysis, is the public, non-profit, higher education sector. Higher education institutions are increasingly challenged to demonstrate effective performance as competition for students increases, governmental support decreases, employer demands for workforce-ready skills escalates, and student expectations of the value of their degree heighten (Powell, Gilleland, & Pearson, 2012). However, the ambiguity regarding effectiveness criteria in higher education institutions is more profound than in the business sector. Higher education institutions are plagued by an absence of measurable goals; loose coupling of institutional units; multiple constituencies, which create divergent perspectives on the role of the institution; reticence towards using customer-focused definitions of performance;

and perceptions that accountability assessments contradict academic freedom (Cameron, 1978; Houston, 2007).

Despite these challenges, a governmental movement to develop a standardized approach to measure institutional effectiveness in higher education ensued in the 1980s through actions of accrediting agencies. The U.S. Department of Education recognizes several regional and national accrediting agencies, which develop evaluation criteria and conduct peer evaluations to determine institutional or programmatic accreditation status. The process of accreditation was developed to provide institutions with standards by which to measure aspects of programming, structure, and operation so that acceptable levels of performance are achieved (The Database of Accredited Postsecondary Institutions, 2013). In the early 1980s, these standards were modified to increase attention towards measures of institutional effectiveness (Head, 2011). This development was spurred by a 1983 report from the National Commission on Excellence in Education, which purported that American high schools, colleges, and universities were performing at a mediocre level. The Commission was charged with the following:

- assessing the quality of teaching and learning in our nation's public and private schools, colleges, and universities;
- comparing American schools and colleges with those of other advanced nations;
- studying the relationship between college admissions requirements and student achievement in high school;
- identifying educational programs which result in notable student success in college;
- assessing the degree to which major social and educational changes in the last quarter century have affected student achievement; and

- defining problems which must be faced and overcome if we are successfully to pursue the course of excellence in education. (Introduction, para. 3)

The Commission analyzed testimonies garnered through formal meetings and symposia from constituents, commissioned papers from educational experts, analytical research on educational issues, letters and comments from voluntary contributors, and program descriptions and strategic initiatives related to educational systems to develop their findings. The report indicated that the decline in educational performance resulted from inadequacies in the lack of focus and rigor of the curriculum, substandard expectations of student performance and commitment, reduced time in rigorous study as compared to other countries, and low quality of teacher applicants, preparation programs, and job conditions (National Commission on Excellence in Education, 1983). A year after this report was publicized, the Southern Association of Colleges and Schools Commission on Colleges adopted standards by which to assess institutional effectiveness, which later became philosophically embedded in all six regional accrediting agencies (Head, 2011). This standardization of quality measures by an external agency, however, created some tension in academia regarding the validity of such measures (Houston, 2007). Higher education practitioners failed to see direct relationships between the accountability mechanisms mandated by accreditation agencies and what they perceive as actual performance improvements. This incongruence between measures and perceptions of effectiveness is also evident among the diverse constituents of higher education, whose perspectives and value sets often differ widely (Houston, 2007). A lack of a consensual and valid approach to assessing effectiveness in colleges and universities has contributed to the dearth of research in this area despite the increasing level of accountability placed on these institutions.

Much of the renewed focus on accountability stemmed from the growth of colleges and universities in the mid to late twentieth century. During this time period, higher education enrollment surged, with the most rapid growth occurring in community colleges. The enrollment in public community colleges increased 134% between 1950 and 1960. By 1975, enrollment in community colleges reached 4.5 million, encompassing nearly half of all first time freshmen (Cohen, 1998; Drury, 2003). Enrollments continued to surge in the community college sector over the next several years, averaging a 39% increase in fall enrollments per decade from 1970 through 2010 (NCES, 2012). This era of rapid expansion also heralded a decline in student entrant qualifications and an increase in faculty specialization and curriculum options. The proportion of underprepared students entering post-secondary schools in the 1970s increased significantly resulting in approximately 38% of English classes and 33% of math classes at community colleges being classified as remedial (Cohen, 1998). In addition, the expansion of vocational studies increased, as the workforce demanded more technical skill and the student consumerism shifted the curriculum towards vocational education (Cohen, 1998). The community colleges were strongly impacted by these two developments, which elevated the profile of these institutions within the higher education sector. As the community college sector gained prominence, the expectations of accountability also surged. The Servicemen's Readjustment Act of 1944, also known as the GI Bill of Rights, and the Veteran's Readjustment Act of 1952 had a significant role in the growth of community colleges, but they also incorporated an emphasis on institutional quality by limiting financial benefits to institutions that were accredited through an agency recognized by the U.S. Office of Education (Cohen, 1998). To add to the demands for accountability, the government appropriations in higher education fluctuated from a high of $8,315 per full-time equivalency (FTE) in 2001 to a low of $6,290 per

FTE in 2011, with an overall 12.5% decrease in the last five years (SHEEO, 2012). State and federal government appropriations constitute approximately 53% of the revenue sources for community colleges (SHEEO, 2012); therefore, as this funding source diminished, community colleges were expected to provide more convincing evidence of pecuniary stewardship through assessment of performance measures (Dougherty & Reddy, 2011). Much of the debate, however, is on how to effectively measure performance. Powell, Gilleland, and Pearson (2012) posit a model, the Benchmark Model of Institutional Efficiency and Effectiveness, which links institutional characteristics, expenditures, efficiency, and effectiveness indicators in an effort to provide practitioners with a framework for measuring the impact of expenditures on performance outcomes. The study and resulting model identified graduation and retention rates as indicators of effectiveness, and the number of credit classes taught per semester, faculty workload, and student to faculty ratios as measures of efficiency. Many community college practitioners contend that these outcomes are not valid for their institutions, because students often enter the workforce or transfer to a university prior to degree completion, while other students have significantly delayed completions based on a pattern of dropping in and out of the institution due to life events (Reyna, Reindl, Witham, & Stanley, 2010). Reyna et al. (2010) examined several metrics associated with measuring higher education performance and determined that a more valid and reliable set of metrics for assessing higher education effectiveness was necessary, especially as requirements for accountability increased.

The demand for higher education accountability emanates from several factors. In addition to the public calls associated with stewardship and increased competition for scarce funding, student consumerism has also heightened the need for excellence in education. Levin (2001) articulates the evolution of this consumer mentality as a consequence of higher education

becoming more "economic in nature and capitalistic in ideology" (p. 19), shifting the mission towards "serving the economy, specifically serving the interests of capital by producing labor and reducing public sector spending" (p. 19). This vocationalism bolstered the explosive growth of proprietary, or for-profit, higher education institutions in the United States in the mid 20th century. The number of proprietary, degree-granting institutions increased 570% between 1980 and 2008, with enrollment numbers during the same time period growing from approximately 112,000 to nearly 1.5 million (NCES, 2012). The growth of this sector of American higher education has been attributed to an increased availability of federal funding for students attending proprietary institutions, the evolution of Internet-based distance education which broadened the student base exponentially, and the expansion of publicly owned, degree-granting educational corporations (Ward & Wolf-Wendel, 2006). Although American higher education is still mainly classified as public or private with non-profit status, the presence of the degree-granting, for-profit sector is becoming increasingly competitive comprising 25% of all degree-granting institutions and enrolling 8% of all degree-seeking students in the United States (NCES, 2012). Much of the popularity of proprietary schools is attributable to the flexibility and practicality of their programs. Many of the proprietary schools provide accelerated degree programs, a focused curriculum, which omits the liberal arts electives prominent in traditional education, and market-driven program offerings designed to produce career-ready students for the current economic condition (Lee & Topper, 2006). These program offerings are in direct competition with the vocational education and training mission of the community college and provide another incentive for community colleges to prove their value.

Demands for accountability in higher education continue to escalate. In 2010, President Obama commissioned the White House Summit on Community Colleges to develop strategies

that revitalize the community college to meet the requirements of the 21st century workforce, meet the educational preferences of contemporary students, and improve America's position in the global sector (*White House*, 2011). The resulting 21st Century Initiative yielded a report by the American Association of Community Colleges (AACC) titled, "Reclaiming the American Dream: Community Colleges and the Nation's Future." The goal of the initiative, heralded in President Obama's 2011 State of the Union Address, was to educate an additional five million Americans with higher education credentials in order to position the country as the most educated in the world. The report gathered information from various stakeholders including students, faculty, professional, paraprofessional, and administrative staff, senior officials, policy makers, and trustees from America's community colleges regarding the issues surrounding student access, institutional accountability, and financial considerations to develop strategies that enable community colleges to meet the goals of the President's charge. The report established a re-envisioned paradigm for community colleges which focuses on three strategies:

1. Redesign students' educational experiences by increasing completion rates while preserving the democratic ideals of the community college, doubling the number of students progressing from developmental to college-ready curricula, and aligning career and technical education with the skills and aptitudes of current and future workforce requirements of local and global industries.
2. Reinvent institutional roles by refocusing institutional missions and roles to align with current and future education and employment requirements, and investing in collaborative partnerships that support educational, financial, and economic goals.
3. Reset the system to create incentives for student and institutional success by targeting investments and creating policies and practices that help increase the rigor,

> transparency, and accountability of students and the institution in an effort to move the nation towards increasing prosperity (AACC, 2012).

The basic premise is to increase the education of the populace to create economic growth and a thriving democracy. Inherent in this challenge is a call for transformational leadership, collaborative partnerships, and a focus on institutional performance measures. As a means of assessing performance in community colleges, the AACC, in conjunction with the Association of Community College Trustees and the College Board, developed the Voluntary Framework of Accountability, which defines a set of community-college specific metrics related to student progress and achievement, implementation of career and technical education, and transparency in reporting outcomes (AACC, 2013). This program is currently being piloted at 58 colleges across the United States. The data derived from this type of objective assessment provides a means to evaluate certain aspects of institutional performance; however, many researchers have argued that comprehensive institutional effectiveness involves more complex measures of institutional characteristics, including stakeholder perceptions of leadership and organizational culture (Cameron, 1986; Cameron & Ettington, 1988; Cameron & Quinn, 2011; Cameron & Tschirhart, 1992; Smart & Hamm, 1993a*;* Smart, Kuh & Tierney, 1997; Smart & St. John, 1996; Winn & Cameron, 1998). The challenge, therefore, is to utilize a theoretical framework that is deemed to be both valid and reliable by educational practitioners – an effort prodigiously investigated and not easily resolved.

The research on the effectiveness of higher education institutions at the organizational level is sparse. Flurries of research activity span the decades, but researchers have nearly abandoned their study despite the call for accountability measures. An analysis of prior research

identifies some of the difficulties in evaluating higher education institutions and creates the intellectual opportunity to identify a relevant approach.

The 1950s heralded an emerging field of empirical study related to the concept of organization. Much of the early research focused on the empirical analyses of generalized knowledge regarding distinct aspects of organizations, including technical, rational, human, and social characteristics (Scott & Davis, 2007). The definition of organization and the criteria of effectiveness have since undergone extensive critical discourse and empirical study through decades of research leading to a myriad of theoretical suppositions that Morgan (2006) organized into a series of metaphors which view organizations mechanically, organically, culturally, politically, or in more abstract constructs. These various conceptualizations of organization contribute to the difficulties in assessing organizational effectiveness.

Although the myriad of research studies involved divergent means, outcomes, foci, and theoretical bases, Goodman and Pennings (1980) recognized that the research conducted at the organizational level of analysis was invariably linked to the construct of organizational effectiveness. However, the literature also reveals that the effectiveness criteria by which organizations are measured are as multifarious as those related to defining the concept of organization. Defining effectiveness is wrought with difficulties stemming from researchers identifying *a priori* criteria that do not systematically affiliate with a broad theoretical framework, the idiosyncratic association that effectiveness criteria has with individual values and beliefs, the inclination to focus on individual indicators rather than on relationships between multiple indicators, as well as the multitudinous conceptualizations of organization (Cameron, 1986; Cameron & Whetten, 1983; Georgopoulos & Tannenbaum, 1957; Morgan, 2006). The variability of effectiveness criteria has been so extensive, that Goodman, Atkin, and Schoorman

(1983) and Hannan and Freeman (1977) requested a moratorium on organizational effectiveness studies. Cameron and Whetton (1983) disputed the notion of a moratorium by arguing that organizational effectiveness is central to organizational theory and is a critical dependent variable in organizational research. In addition, pragmatic choices regarding effectiveness of organizations are necessary for decision-making. Cameron (1986) concurred in a later study by explicating the need for a convergent scheme of valid and reliable effectiveness criteria to empirically assess organizations rather than succumbing to conjectural measures routinely used by the public.

Organizational effectiveness studies in the 1960s through the 1980s revealed discordance among researchers regarding the definitions, criteria, and theoretical frameworks that were most valid for measuring organizational effectiveness. This lack of concordance among researchers spurred an abandonment of studies related to the construct of effectiveness and an emergence of studies focused on the construct of quality (Cameron & Whetten, 1996). For institutions of higher education, both streams of research have advantages and disadvantages; therefore, an examination of the literature related to organizational effectiveness and organizational quality is constructive for determining the most appropriate means of assessing performance.

Efforts to Assess Higher Education Institutions

Overview of effectiveness research

The literature from the 1970s and 1980s focused on identifying and measuring the construct of effectiveness resulting in increasingly complex models without any one emerging as the model of choice. Cameron and Whetten (1996) identified three main reasons for the discordance among researchers: (a) organizational effectiveness models are based on a researcher's particular construct of organization resulting in a lack of advantage of one model

over another; (b) the indicators, predictors, and outcomes of effective organizations are generally unknown; and (c) the best set of effectiveness criteria are unknowable, because there are too many variables that influence what is most applicable or useful. What was evident throughout this era of effectiveness research was that the construct of organizational effectiveness is complex and dependent on one's definition of organization. The resulting literature reflected four main approaches to organizational effectiveness analysis: the *rational goal approach*, the *systems resource approach*, the *internal process approach*, and the *strategic constituency approach*.

Rational goal approach. The rational goal approach theorizes that organizations are deliberate, rational, goal-seeking entities designed to achieve specified goals (Etzioni, 1964; Perrow, 1961). Their effectiveness depends on the extent to which the organization efficiently accomplishes its goals. The goals are specific, clear, and measurable, which provide unambiguous criteria for decision-making and contribute to the development of a structured scheme of roles and regulations that are defined independently from the personal attributes or human relations of individuals within the organization. This formalized structure results in predictable behaviors and discrete expectations (Scott & Davis, 2007). This approach is best represented by Taylor's (1911) scientific management theory, Fayol's (1919/1949) administrative theory, Weber's (1924/1947) bureaucracy theory, and Simon's (1947, 1997) administrative behavior theory.

The rational systems approach perceives organizations from a structural perspective, focusing on the specificity of goals and the formalization of roles and processes as a means to produce behavior that leads to achievement of predetermined goals. Rational organizations emphasize control and normative structures without consideration of the behavioral structure of

the organization (Scott & Davis, 2007). This approach assumes that goals are clear, measurable, and consensual, and achieving them requires indispensable resources. These assumptions reveal some of the limitations of this approach. The rigidity and formality associated with the rational goal model would not be appropriate for organizations with vague or dynamic goals, organizations that consist of loosely coupled subunits, or organizations that exist in turbulent or unstable environments.

Systems resource approach. The systems resource approach, introduced by Yuchtman and Seashore (1967), developed as a response to the lack of organismic character associated with the rational goal approach. Viewing an organization as a natural, open system gives credence to the relationship that the organization has with its environment. Inherent in this approach is the concept of equilibrium, which encompasses the flexibility of design and process that is required for organizational preservation. This perspective recognizes organizations as social entities and values the behavioral structure of the organization above the mechanistic view of organizations as instruments designed to achieve goals. It does not negate the value of goals as ends, but diminishes their importance as the premier determinants of effectiveness. Rather, the means of achieving goals gains prominence, and variability in measurement techniques for comparative evaluation of an organization's goals is supported (Scott & Davis, 2007). The complexity of defining goals is another characteristic of this approach, which is in stark contrast to the rational goal approach. Effectiveness in a rational model assumes clear, measurable goals, but systems resource theorists posit that organizational goals are more complex and reliant on environmental conditions. Therefore, effectiveness is associated with the extent to which the organization responds appropriately to environmental conditions.

In addition to the complexity and reliance on goals, the systems resource approach differs from the rational goal approach in regard to the formality of the organizational structure. The systems resource model acknowledges an informal structure that recognizes the personal attributes and characteristics of individuals within the organization. This approach recognizes that the contributions, values, beliefs, and abilities of individuals coalesce to define the overall operation of the organization. From a broader perspective, the individuals, the units within the organization, and the organization itself form parts of a supersystem, where the effectiveness of each impacts the effectiveness of the whole (Scott & Davis, 2007).

The seminal works of Mayo (1945), Barnard (1938), and Selznick (1948) exemplified the systems resource approach. Mayo (1945) developed the human relations model based on his interpretation of the Hawthorne studies, where he concluded that commitment and loyalty significantly influenced organizational behavior. This concept contrasted the prevailing notion that self-interest and formal sanctions were the most significant motivators. Mayo's research spurred other researchers to study the impact of informal structure within organizations, including Homans (1950), Katz, Maccoby, and Morse (1950), Likert (1961), and Whyte (1951, 1959) who analyzed small-group behavior, and Cartwright (1965), Stogdill and Coons (1957), and White and Lippitt (1953) who studied the extent to which the traits of leaders and their relationships with their subordinates positively impacted performance. The systems resource approach also stimulated a body of research related to organizational cooperation (Scott & Davis, 2007). Barnard (1938) depicts an organization as a collective, recognizing its rational system characteristics while embracing individual contributions. Barnard maintains some of the facets of the rational systems model, including the formation of goals by superiors, but concludes that the willingness of the subordinates to achieve those goals validates the authority of a leader.

According to Bernard, an effective organization successfully develops a common purpose which becomes morally binding on the actors within the organization.

The development of a collective purpose as motivation and the infusion of values into organizational structures influenced the development of Selznick's (1948) institutional theory. This theory recognizes the dominance of non-rational dimensions of organizations based on the influence that individual attributes and commitments have on rational decision making processes. Selznick's concept of organization reflects the adaptive nature required for organizational survival as it responds to external influences and to the characteristics and commitments of internal participants.

The systems resource approach focuses on the means to achieving goals, rather than the goals themselves. Robbins (1990) contends that process variables such as *clear internal communication* or *responsiveness to environmental change* are not easily measured through valid and reliable processes. Furthermore, the systems resource approach relies on a clear connection between acquired resources from the environment and the output of the organization (Scott & Davis, 2007). Its premise is that effectiveness can be achieved when an organization can acquire optimal resources, but acquiring a high volume of resources does not ensure their effective usage. Additionally, an organization may be perceived as effective even when it is not able to acquire the most desirable resources, or when the connections between its inputs and outputs are not distinctly evident (Cameron, 1980).

Internal process approach. The internal process approach focuses on the internal processes and operations of an organization that increase the ability of the organization to respond to environmental changes. Organizational effectiveness is defined as smooth internal functioning assessed through effective communication in both a horizontal and a vertical

direction, a positive work environment where individuals value and exhibit trust and amity, a lack of internal strain, and an integrated network of subunits (Argyris, 1964; Bennis, 1966). The alignment of internal processes serves as an effective means to accomplish the organizational mission. Perrow (1961) contends that organizations that maintain coordination of and control over their internal operations increase productivity and efficiency, which are measures of organizational effectiveness. Organizations that maintain internal efficiency and a positive work environment are often viewed as healthy, but others may argue that adaptability to the turbulent external environment in which organizations exist requires some degree of diversification to survive, and organizations with convergent thought processes and a lack of conflict tend to stifle the ingenuity that could bolster their viability (Cameron, 1980).

Strategic constituencies approach. The strategic constituencies approach defines an organization as an association of political arenas, formed by groups of stakeholders with varying degrees of power and influence, each competing for resource control (Cameron, 1980). An effective organization is able to satisfy those constituents that provide the most critical support for the organization's survival. Organizations modeling this approach develop goals that represent the interests of those stakeholders most influential in the organization's perpetuity. An area of contention between theorists adopting this approach concerns how to prioritize the interests of competing constituency groups (Zammuto, 1984). Connolly, Conlen, and Deutsch (1980) utilize a conceptual minimalist approach in which the organization's performance is based on idiosyncratic analysis of effectiveness criteria specifically associated with the stakeholder group making the judgment. Therefore, effectiveness assessments at the organizational level of analysis are not possible. While Connolly et al. propose a relativist model, Pennings and Goodman (1977) suggest a dominant coalition model arguing that

dominant coalition members negotiate a set of effectiveness criteria, and the most powerful coalition members are able to exert their influence over less powerful members resulting in a set of effectiveness criteria that supports their preferences. Effectiveness, therefore, reflects the extent to which the organization satisfies the demands of the most powerful coalition members. Hrebiniak (1978) and Pfeffer and Salancik (1974) adopted a power perspective similar to Pennings and Goodman (1977), but they align with Connolly et al. (1980) concerning the idiosyncratic nature of determining effectiveness resulting in an inability to judge effectiveness at the organizational level.

Organizational effectiveness using the strategic constituency approach depends on identifying the stakeholder groups by the levels of power and influence they exert on the organization. While some of the most powerful constituency groups may be obvious to the organization, the power or influence level of other groups may be less evident. As environmental conditions change, the value of the resources can also fluctuate shifting the balance of power among stakeholder groups and creating limitations for this approach.

Organizational domains. Each of these approaches to evaluating organizational effectiveness has some level of applicability for most organizations; however, higher education institutions have unique characteristics that limit the usefulness of many of these effectiveness approaches at the institutional level of analysis. Cohen, March, and Olsen (1972) classified higher education institutions as *organized anarchies* based on their loosely coupled subunits that operate autonomously. This classification is characterized by ill-defined, dynamic, and contradictory goals that may exist separately from the broader institutional goals, unclear means-ends connections, multiple strategies that are associated with a common outcome, and a lack of a defined feedback loop to connect inputs and outputs. The loose coupling and autonomous nature

associated with the institutional subunits creates differential impacts of environmental influences and distinct criteria of success for each subsystem. The difficulty in assessing higher education institutions by a limited number of effectiveness criteria led Cameron (1981) to examine the construct of domains.

Organizational domains are defined as the type of technology utilized by the organization to develop and render services, the stakeholder group served by the organization, and the types of services rendered by the organization (Meyer, 1975). These domains may be prescribed or they may be developed through negotiation of dominant coalition members (Cameron, 1981). Organizations typically operate in multiple domains and can be considered effective in some and ineffective in others (Cameron, 1981).

Identifying domains in higher education institutions is problematic based on the fact that the institutions are plagued with vague goals, multiple constituencies with competing interests, and ambiguous sources and types of criteria by which to empirically assess effectiveness (Cameron, 1978). Many researchers recognized the challenges that colleges and universities encountered when attempting to utilize traditional approaches to organizational effectiveness assessment, including Cameron (1978, 1981, 1986), Dew (2009), Houston (2007), March and Olsen (1976), Smart (2003), Smart and Hamm (1993b), and Weick (1976). Cameron (1978) cited the type of criteria and the source of criteria as being the major obstacles to empirically evaluating effectiveness of higher education institutions. Determining the type of effectiveness criteria is especially challenging for higher education institutions because it is difficult to identify clear, measurable goals and outcomes. Similarly, the source of effectiveness criteria is equally arduous for higher education institutions because of the challenges in determining the dominant coalition or strategic constituency, recognizing the most appropriate level of analysis specified

by the criteria, and achieving consensus regarding whether organizational records or perceptual criteria are more relevant (Cameron, 1978). These obstacles spurred Cameron (1978) to investigate the concept of organizational effectiveness in higher education institutions and derive valid dimensions by which to assess institutional effectiveness.

Cameron (1978) conducted a two-part study to establish nine dimensions of effectiveness for higher education institutions. The first part of the study was designed to assess the reliability and validity of effectiveness criteria, and the second part of the study was designed to refine and improve the psychometric properties of the instruments. Cameron interviewed internal dominant coalition members from six institutions with enrollments ranging from 1,000 to 10,000 students. The survey participants were asked to respond to questions regarding their perceptions of institutional effectiveness criteria gleaned from relevant literature. Analyses of the data from the interviews yielded nine clusters of criteria:

1. *Student educational satisfaction (SES)* – criteria that evaluate the extent to which students are satisfied with their educational experiences at the institution.
2. *Student academic development (SAD)* – criteria that evaluate the extent of academic attainment, growth, and progress of students at the institution.
3. *Student career development (SCD)* - criteria that evaluate the extent to which the institution emphasizes career development for students and provides occupational opportunities and career development for students.
4. *Student personal development (SPD)* - criteria that evaluate the extent to which the institution emphasizes personal student development and provides nonacademic, non-career oriented personal development opportunities for students.

5. *Faculty and administrator employment satisfaction (FAES)* - criteria that evaluate the extent to which faculty and administrators employed by the institution are satisfied.
6. *Professional development and quality of the faculty (PDQF)* - criteria that evaluate the extent of attainment and development of the faculty and the extent to which the institution encourages faculty professional development.
7. *Systems openness and community interaction (SOCI)* - criteria that evaluate the extent to which the institution emphasizes the interaction with, adaptation to, and service in the external environment.
8. *Ability to acquire resources (AAR)* - criteria that evaluate the extent to which the institution is able to acquire resources from the external environment.
9. *Organizational health (OH)* - criteria that evaluate the extent to which the institution's internal processes and practices exhibit benevolence, vitality, and viability.

Cameron (1978) incorporated these nine dimensions into a questionnaire designed to measure the organizational effectiveness of colleges and universities. Cameron subjected the nine dimensions to measures of internal consistency and discovered eight items, which he eventually eliminated due to their low correlations with each other, with their individual effectiveness dimension and with other effectiveness dimensions. The reliability coefficients that were calculated after his revision ranged from 0.63 to 0.92 (Cameron, 1978). Subsequent studies have confirmed the validity and reliability of these dimensions for use in higher education (Cameron, 1986; Smart, 2003; Smart & Hamm, 1993b; Smart & St. John, 1996). The development of a valid assessment instrument for use in higher education helped ignite further research regarding organizational effectiveness in colleges and universities.

Cameron (1981) utilized the instrument to survey 41 higher education institutions in an effort to identify domains for higher education. The results of the survey were subjected to analytical procedures that sought to determine if distinct dimensions of organizational effectiveness could be identified for each institution, if clustering of dimensional data emerged to form domains, whether the institutions could be identified to clearly excel in a particular domain, and whether the institutional characteristics possessed by a group were exclusive. The analyses revealed four distinct domains of effectiveness encompassing all nine effectiveness dimensions:

1. *External adaptation domain* composed of student career development (SCD) and system openness and community interaction (SOCI) dimensions;
2. *Morale domain* consisting of the student educational satisfaction (SES), faculty and administrator employment satisfaction (FAES), and organizational health (OH) dimensions;
3. *Academic-oriented domain* composed of the student academic development (SAD), professional development and quality of the faculty (PDQF), and ability to acquire resources (AAR) dimensions; and
4. *Extracurricular domain* consisting of the student personal development (SPD) dimension.

The results of Cameron's (1978, 1981) studies reveal that higher education is a multidomain construct, and the application of any one of the principal organizational effectiveness models is delimiting. However, despite these advancements in higher education effectiveness research, a shift in the literature began to reveal abandonment of the construct of effectiveness and an emergence of studies that related to the construct of quality.

Overview of Quality Research

In 1995, the need to establish a forum to discuss institutional performance models and associated criteria spurred the creation of the journal *Quality in Higher Education*. This international journal provided a medium to have scholarly discourse regarding issues and potential recommendations for defining quality and measuring performance of higher education institutions. Early contributors focused on defining quality, including Melrose's (1998) three paradigms of curriculum evaluation – functional, transactional, and critical – that describe the underlying philosophies of extant curriculum evaluation models and Harvey and Green's (1993) five interrelated concepts of quality, which are exceptional, perfection, fitness for purpose, value for money, and transformative. More recent studies include those by Tam (2001), Lomas (2002), and Iacovidou, Gibbs and Zopiatis (2009). Tam (2001) analyzed various models, including the production model approach, which identifies direct relationships between inputs and outputs; the value-added approach, which measures the benefits students receive as a result of higher education; and the total quality experience approach, which attempts to capture the entire learning experience of students throughout their higher education involvement.

Lomas (2002) utilized four out of five quality definitions proposed by Harvey and Green (1993) to examine whether the democratization of higher education was bringing about an end to quality. The results of the study revealed that the most appropriate definitions of quality were fitness for purpose and transformation, although the difficulties in measuring quality as transformation limit the practical application of this approach.

Iacovidou et al. (2009) sought to assess quality in a Cypriot university. The study examined the importance of certain factors in determining institutional performance as perceived by students and teaching staff, which yielded incongruent results regarding the importance of

certain quality measures between the two stakeholder groups. Students regarded the programs and courses of study that the institution offered and the teaching and learning that results as the most important measures of quality, whereas the teaching staff placed more emphasis on the student support services, teaching and learning facilities, and student examination and assessment as measures of quality.

Numerous studies explored the applicability of business models, such as Total Quality Management (TQM), for higher education. Research by Barrett (1996) and Houston (2007) dismissed the value of business models for assessing higher education, positing that TQM is an ineffective model to use for higher education institutions. Barrett (1996) argued against identifying students as customers and associating quality constructs in the business sector with those in higher education. Additionally, Houston (2007) contended that TQM could only be an effective means of measuring quality in higher education institutions through major revisions of either the TQM model or through reconceptualization of higher education as an organization.

However, some researchers, including Winchip (1996) and DeJager and Nieuwenhuis (2005), argued that adaptations of well-known business models, such as TQM, have some redeeming value for higher education. Winchip (1996) argued that five of Deming's (1986) themes – purpose, cooperative systems, improvement, leadership, and methods-processes – were applicable to higher education, whereas DeJager and Nieuwenhuis (2005) concluded, through their study of linkages between TQM and outcomes-based assessment in South African higher education institutions, that the quality assurances in some academic programs are appropriately based on the TQM model because of the centrality placed on learners as partners in the learning process.

Although the investigative focus in organizational research shifted from effectiveness to quality, the issues related to consensual definitions among researchers remained because no objective referents existed for either construct. The early definitions of quality referred to attributes of products and services, whereas later definitions involved a more comprehensive perspective including inputs, processes, outcomes, constituency preferences, and paradox. However, the construct of quality integrated many of the attributes of the effectiveness models and became perceived as a set of values regarding work and people. Thus, values, an element of culture, became infused within the comprehensive perspective of organizational quality.

Cameron and Whetten (1996) described three eras of evolving quality culture in the research, the *error detection culture*, the *error prevention culture*, and the *creative quality and continuous improvement culture*. During the era of the error detection culture, the focus was on quality control measures designed to detect and efficiently repair errors, produce products in a timely manner, and avoid incensing customers. For higher education, this translated to a reliance on audits, student assessment and outcome achievement, faculty publication counts, and satisfying accreditation standards. Dill (2000) argued that institutional audits improved the ability of colleges and universities to document the quality of their degrees and student learning. He concluded that auditing facilitated the development of institutional systems designed to assure quality, supported the focus on improving teaching and learning, reinforced the efforts of campus leaders to support a culture of quality, provided comprehensive information regarding best practices, and enhanced transparency of quality pursuits. However, Cheng (2009), in her study of academics at a university in England, revealed that the bureaucratic nature of auditing was an affront to the professionalism of the academician.

The error prevention culture shifted the focus to avoidance of error by emphasizing root causes, process controls, and accountability at all levels and by satisfying or exceeding customer expectations (Cameron & Whetten, 1996). In higher education, this is reflected through a focus on pursuing excellence in processes and methods to avoid reduced performance and an emphasis on continuous evaluation of those processes through feedback loops. Franke (2002) identified the importance of follow-up processes and continual input and participation from students in his study of the Swedish national quality evaluation system. However, Ewell (2002) cautioned that the assessment system must be based on integrity and validity, and that the input and results be truthfully analyzed to ensure appropriate interventions.

The creative quality and continuous improvement culture emphasized a formative approach to error detection and prevention through the initiation of small changes as well as larger, innovative changes to continually improve processes and products (Cameron & Whetten, 1996). For higher education, this culture is reflected in the identification of and the endeavor to achieve optimal outcomes as well as the continual assessment of processes that lead to improvement. Faculty and staff strive for excellence through continual assessment, perpetual learning, and innovative thinking. The constantly changing environment within and around a university creates a need to routinely evaluate the current condition and respond in ways that promote adaptability. Tam (1999) investigated the leadership approach that facilitates the transformation required in universities undergoing systemic change. Her research revealed that empowering faculty and staff to participate in the evolution of improved processes and promoting a spirit of inquiry and perpetual learning were critical for success.

While both the effectiveness models and the quality models have enduring assets for studying higher education, they also have some limitations. The effectiveness models lacked

concordance among researchers, integration, and comprehensiveness. The unique nature of higher education, which includes loosely coupled autonomous, subsystems, unclear or ill-defined goals, multiple constituencies with unique expectations, and inputs and outputs that are not clearly connected, limits the applicability of any one of the effectiveness models for use at the institutional level of analysis. The construct of quality seems to have ameliorated many of these limitations by integrating key attributes of the effectiveness models as well as the tools and methods to evaluate means and outcomes into a unified approach. However, the construct of quality incorporates a normative perspective, lacks conceptual boundaries, and employs the notion of customer to evaluate preferences and levels of satisfaction. These issues also limit the broad applicability of quality models for use in higher education assessment. The dynamic nature of customer satisfaction, a primary attribute in the quality literature, can be as problematic as the issues related to the diverse expectations of multiple constituencies associated with the effectiveness literature. In the higher education literature, the representation of a constituent as a customer incites hostility among those academicians who abhor such correlations.

The question then becomes which model is most applicable and pragmatic for assessing the performance of higher education institutions? The effectiveness literature continued to evolve as the quality literature uncovered weaknesses related to the construct of effectiveness. The development of dimensions and domains in the effectiveness literature provided opportunities to examine organizations within specific environmental conditions, and the centrality of leadership and cultural paradox as effectiveness indicators began to emerge.

Paradox Approach to Organizational Effectiveness

The concept of paradox in organizational research gained prominence as studies utilizing the multiple constituencies approach revealed antipodal, yet equally persuasive, depictions of

effectiveness. Effective organizations routinely balanced competing demands from multiple stakeholders and adapted to turbulent environmental conditions to maintain or improve viability. Peters and Waterman (1982, 2006) found that organizations that could successfully manage paradox, including loose and tight coupling, productivity through participation and non-participation, and the endorsement of both entrepreneurship and stability, were most effective. Denison, Hooijberg, and Quinn (1995) explored the paradoxes and competing values inherent in leadership behavior and concluded that the most effective leaders were those who exhibited more complex, contradictory, and paradoxical behaviors.

To address the existence of paradox in organizations, Quinn and Rohrbaugh (1983) developed the Competing Values Framework, which not only addressed the antipodal character of organizational effectiveness criteria but also integrated prior models of organizational effectiveness into a single framework that had practical and generalizable capacity.

Development of the Competing Values Framework

The Competing Values Framework was developed as an attempt to amalgamate the various conceptualizations of organizational effectiveness criteria gleaned from the literature. The theoretical model that evolved became an organizing mechanism by which to evaluate such organizational elements as organizational effectiveness, organizational culture, and organizational leadership (Cameron & Quinn, 2011).

The need for an integrated approach to the study of organizational effectiveness had been clearly explicated throughout the organizational research. One of the challenges to developing a consensually agreed upon model was based on the various conceptualizations of organization and resulting plethora of effectiveness criteria associated with each organizational concept. Campbell (1977) perused the research and identified 30 separate organizational effectiveness

criteria, which Quinn and Rohrbaugh (1983) subjected to a panel of organizational experts to evaluate for validity and relevance. Through multidimensional scaling, Quinn and Rohrbaugh analyzed the panel's responses and identified three dimensions of organizational effectiveness underlying the panel's responses: organizational structure, focus, and outcomes. The spatial model that Quinn and Rohrbaugh developed to incorporate these dimensions revealed four quadrants that each represented clusters of value sets deemed to be important indicators of effectiveness.

The axes in the Competing Values Framework model represent the organizational focus and organizational structure dimensions. As shown in Figure 1, the vertical axis characterizes the organizational structure dimension and differentiates between organizations with an orientation towards flexibility, discretion, and dynamism from organizations that emphasize stability, order, and control. The horizontal axis denotes the paradoxical nature of organizational focus that differentiates between organizations with an internal orientation and emphasis on integration and unity of processes, internal capabilities, and employee development from an organization with an external orientation and emphasis on differentiation, competitiveness, and development of the organization. The outcomes dimension is embedded within the quadrants and contrasts concern for productivity with concern for processes (Quinn & Rohrbaugh, 1983). The two axes form four quadrants, each representing a set of organizational effectiveness indicators that people deem important when assessing organizational performance (Cameron & Quinn, 2011). These indicators represent what is perceived as being appropriate, good, and right in an organization, thereby defining what is considered effective. These quadrants with their associated criteria characterize the culture of the organization, which Schein (2010) defines as

> a pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration, which has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems. (p. 18)

The four culture types delineated by the quadrants include the *hierarchy culture*, the *market culture*, the *clan culture*, and the *adhocracy culture* (Figure 1). These culture types and their descriptors emerged from analyses of organizational science literature that produced similar categorizations (Cameron and Quinn, 2011).

Culture Type and the Competing Values Framework

Hierarchy Culture

The hierarchy culture, depicted by the lower left quadrant, identifies many of the attributes that Weber (1924/1947) classified as indicative of an ideal bureaucracy: rules, specialization, meritocracy, hierarchy, separate ownership, impersonality, and accountability. Ideal organizations dominated by a hierarchy culture are considered effective when they maximize efficient processing and reliable, uniform output. The environment that facilitates effectiveness within organizations dominated by the hierarchy culture is stable and predictable, supporting the integration and coordination of tasks that are considered desirable. Control and accountability mechanisms, standardized processes and rules, and structured hierarchies of authority contribute to the effectiveness of hierarchical organizations (Cameron & Quinn, 2011).

Market Culture

The work of Williamson (1975) and Ouchi (1981) heralded another organizational culture type that considered criteria such as transaction costs, profitability, and competitive advantage as effectiveness indicators. The market culture type, associated with the lower right

quadrant, emphasizes a focus on external constituencies to maintain competitiveness, productivity, and a strong customer base. The internal environment is competitive and demanding in order to gain a competitive advantage in a hostile external environment. The goals of an ideal organization dominated by the market culture are profitability, market niche strength, and outpacing the competition (Cameron & Quinn, 2011).

Clan Culture

The clan culture emphasizes teamwork, corporate commitment to employees, and employee engagement. Research conducted by Lincoln (2003), Ouchi (1981), Pascale and Athos (1981), and Wilkins and Ouchi (1983) recognized the differences in typical Japanese organizations that operated within a framework of human and social capital investment rather than through the hierarchical or market designs that characterized many U.S. organizations. Their research highlighted the economic success of the Japanese organizational design, which peaked the interest of American companies that were concerned with falling behind their global competitors (Cameron & Quinn, 2011). The clan culture type, depicted in the upper left quadrant of the Competing Values Framework, emphasizes collaboration, partnerships across organizational boundaries, and decentralized decision-making. An ideal organizational form predominated by this culture type is concerned about solidifying an organizational culture to provide consistency in turbulent or uncertain environmental conditions. Successful management strategies include promoting participation, commitment, loyalty, and empowerment through mentorship, facilitation, and team building (Cameron & Quinn, 2011).

Adhocracy Culture

Organizations that exhibit the adhocracy culture type gained prominence as the information age created the need for rapid product development, innovative solutions to quickly

emerging needs, and hypertubulent environmental conditions from technological advancements. The adhocracy culture, depicted in the upper right quadrant in Figure 1, emphasizes innovation, creativity, and visionary leadership, which requires risk-taking and a commitment to experimentation and change. Organizations that exhibit this cultural inclination are structured to adapt quickly and focus on acquiring resources to produce cutting-edge outputs (Cameron & Quinn, 2011).

Organizational culture is an essential construct in the study of organizational effectiveness (Ouchi, 1981; Peters & Waterman, 1982; Smart, 2003; Smart & Hamm, 1993a; Ul Hassan et al., 2011). Schein (2010) articulates three levels of analysis by which to evaluate organizational culture: artifacts, espoused beliefs and values, and basic underlying assumptions. He purports that the pattern of shared assumptions is the root of the culture and is manifested through the observable artifacts, behaviors, and espoused values. Schein (2010) also argues that culture and leadership are "two sides of the same coin" (p. 3) meaning that the culture emanates from the assumptions, values and beliefs held by the leader, while also providing the structure and meaning for the group to the point of specifying what type of leadership will be acceptable. Schein concludes that the essential role of a leader is to create and manage culture. Cameron and Quinn (2011) confirm the relationship between culture and leadership through their collective analysis of prior research concluding that congruence exists between an organization's dominant culture type and effective leadership competencies that support the cultural orientation. This provides some generalizability of the Competing Values Framework in relation to leadership roles.

Leadership Roles and the Competing Values Framework

Hart and Quinn (1993) and Denison et al. (1995) explored the paradoxes and competing values inherent in leadership behavior and concluded that the most effective leaders were those that can think multi-dimensionally and perform complex roles in an integrated and complementary manner. Building on the Competing Values Framework, Hart and Quinn (1993) derived four fundamental roles of leaders that associated with each of the Competing Values Framework domains: *vision setter*, *motivator*, *analyzer*, and *task master* as shown in Figure 1.

The vision setter creates a sense of mission and vision through analysis of emerging trends, competitors, and markets to position the organization on the cutting-edge. Vision setters foster entrepreneurship, creativity, and flexibility to adapt to new opportunities and function most effectively within the adhocracy culture (Hart & Quinn, 1993).

The motivator creates meaning through translation of the vision and strategic direction into a motivating cause. Motivators provide clarity of purpose and emphasize shared values and goals to promote cohesion, teamwork, loyalty, and commitment. Organizations dominated by the clan culture function most effectively when led by a motivator (Hart & Quinn, 1993).

The analyzer functions most effectively in a hierarchical culture. Analyzers are good coordinators and organizers, and they efficiently manage the internal functions of an organization to satisfy existing markets. Process control and critical analyses of functions facilitate the analyzer's objective of efficient and smooth internal processing (Hart & Quinn, 1993).

The task master maintains a focus on the external environment to ensure that organizational performance and competitive position are optimal. The emphasis of a task master is on profitability, stretch targets, and resource acquisition to maintain the competitive

advantage. Task masters are most effective in organizations dominated by the market culture (Hart & Quinn, 1993).

Correlating Culture Type and Leadership Roles in the Competing Values Framework

Organizational culture and leadership roles are important variables in the study of organizational effectiveness (Cameron & Ettington, 1988; Cameron & Freeman, 1991; Fjortoft & Smart, 1994; Joyce, 2009; Ouchi, 1981; Rukmani, Ramesh, & Jayakrishnan, 2010; Smart, 2003; Smart & Hamm, 1993a, 1993b; Ul Hassan et al., 2011; Wilkins & Ouchi, 1983; Yukl, 2008). The Competing Values Framework integrated these elements into a unified framework which increased the broad applicability of the model for effectiveness research. This comprehensive and integrated model mitigated the limitations of the former models associated with the effectiveness and quality approaches by incorporating the elements of the human relations, open systems, internal processes, and rational goal effectiveness models as well as addressing the focus on processes, culture, and paradox inherent in the quality models as shown in Figure 1.

Although the Competing Values Framework provides a framework by which to address the complex and divergent characteristics of organizational effectiveness that characterize higher education organizations, the prevalence of organizational effectiveness research regarding higher education remains paltry. The majority of the research at the institutional level involves studies that relate cultural types or specific leadership elements to perceptions of organizational effectiveness. The cultural studies focus on identifying the most effective dominant culture type (Cameron & Ettington, 1988; Cameron & Freeman, 1991; Smart & Hamm, 1993a; Smart & St. John, 1996), exploring the relationship between culture type and mission agreement to organizational effectiveness (Fjortoft & Smart, 1994), and examining the relationships between

institutional culture, decision-making approaches, and organizational effectiveness (Smart & Hamm, 1993b; Smart, Kuh, & Tierney, 1997). In general, the research reveals that the institutions exhibiting a dominant clan or adhocracy culture type are perceived to be the most effective, especially when there are high levels of mission agreement and decision making approaches that support the values inherent in those cultures.

Research regarding the relationship of leadership roles to organizational effectiveness in higher education centers on the types of management strategies (Cameron, 1986; Cameron & Tschirhart, 1992) and the decision-making approaches (Smart et al., 1997) that enhance perceptions of organizational effectiveness. The research reveals that many of the indicators of effectiveness are under the control of campus leaders. Cameron (1986) and Cameron and Tschirhart (1992) discovered that the strategic orientation of the senior management, the admissions requirements that determine the level of student quality, and the proactivity of strategy implementation, especially in a turbulent environment, contribute positively to perceptions of organizational effectiveness. Cameron and Tschirhart (1992) and Smart et al. (1997) concluded that participative decision making processes contribute more positively to organizational effectiveness than centralized, autocratic decision making processes.

Although these studies contributed to the generalized knowledge regarding the relationship of institutional culture and leadership roles to organizational effectiveness, none of them used the Competing Values Framework as an organizing scheme. Smart (2003) pioneered the use of the Competing Values Framework to examine the extent to which the perceptions of institutional effectiveness of the faculty and the administrators in the aggregate of Tennessee community colleges was related to the complexity of their institutional culture and the complexity of the leadership roles of the senior administration. His findings demonstrated that a

positive linear relationship existed between the perceptions of cultural complexity and leadership role complexity and the perceptions of effectiveness in eight of the nine effectiveness dimensions proposed by Cameron (1978). Smart's (2003) study was a significant advancement in the higher education effectiveness research. His use of the Competing Values Framework, which integrated previous effectiveness models to provide a more applicable and valid approach for use in higher education institutions, recognition of the existence and importance of all four culture types as indicators of effectiveness, and incorporation of previous research findings regarding the complexity and paradox of both culture and leadership roles as they relate to organizational effectiveness, was a significant contribution to effectiveness research.

Limitations of Prior Research and Significance of Current Study

Smart's (2003) study, which utilized the Competing Values Framework, indicated that improved institutional and managerial performance is intricately related to the leader's ability to develop a campus culture that balances attributes associated with the clan, adhocracy, market, and hierarchy culture types. However, there were limitations in his study that are ameliorated in the current study to improve the generalizability of the results.

Smart (2003) surveyed faculty and senior administrators from Tennessee's community colleges, which are located mainly in rural areas of Tennessee. The fourteen institutions in his study enrolled 111,602 students. The North Carolina Community College System, which comprises the sampling frame of this study, includes 58 institutions and enrolls 826,471 students (NCCCS, 2012). The institutions in the North Carolina Community College System are located across the 100 counties of North Carolina, incorporating urban and rural sites, and have locations situated so that most North Carolina citizens would not have to travel more than 30 minutes to attend one of the institutions. The large size of the North Carolina Community College System

and the diversity of urban and rural locations enhance the generalizability of data. In addition, the term "senior administration" was not defined in Smart's study, which may have led to confusion for the respondents regarding who they were assessing. This study clearly identifies this employee category to limit such ambiguity.

The results of Smart's (2003) study did not yield a significant difference between the perceptions of faculty and administrators; however, research by Skolits and Graybeal (2007), McGoey (2007), and Watson, Williams, and Derby (2005) found significant differences in perceptions of stakeholder groups regarding leadership effectiveness, institutional effectiveness, and campus culture. Skolits and Graybeal (2007) investigated the different perceptions of faculty, staff, and senior administration regarding aspects of institutional effectiveness within community colleges. The results of their study revealed that each stakeholder group differed in regard to their "knowledge and support of institutional effectiveness, participation in institutional effectiveness process activities, and perceptions of institutional effectiveness strengths, weaknesses, and usefulness" (Skolits & Graybeal, 2007, p. 302). McGoey (2007) examined the differences in perceptions of presidential effectiveness between different stakeholder groups in 36 higher education institutions in Ohio. The survey group included faculty senate chairpersons, academic deans, senior-level institutional officers, and student leaders. Results indicated that deans differed significantly from vice-presidents regarding the importance placed on a president's ability to attract resources, and the provosts/presidents differed significantly from the deans, faculty, and vice-presidents (with the exception of the vice-president of academic affairs) regarding the importance placed on the management and leadership skills of the president. Additional research by Watson et al. (2005) found that students, staff, faculty, and administrators in community colleges differed in their perceptions of cultural elements, specifically the racial

climate, with results indicating that administrators' perceptions differed significantly from those of faculty and students. Outside of academia, Johnson (2000) conducted a study to identify the importance placed on several aspects of organizational culture and climate as perceived by supervisors and non-supervisors in a large government service agency. Her results revealed that the supervisors rated all 19 aspects of culture and climate significantly more positively than the non-supervisors.

The need for additional research regarding the relationships between organizational effectiveness, campus culture complexity, and leadership role complexity is based on a dearth of studies in the field, an increased focus on organizational effectiveness in higher education, and the compelling interest of academicians regarding the interaction of leadership, culture, and effectiveness in higher education. Revealing the similarities and differences in perceptions between faculty and senior administration facilitates the dialogue and interventions that can support increased levels of satisfaction that emanate from high levels of perceived organizational effectiveness.

Summary

Higher education institutions are becoming increasingly pressured through social, economic, and political forces to document performance data as a means of judging institutional effectiveness. This is especially critical for community colleges, which constitute the largest sector of American higher education. Despite the demands for accountability, the research regarding organizational effectiveness in higher education is sparse, mainly due to the difficulty in defining appropriate effectiveness criteria. The ambiguity among researchers is long-standing and spurred Cameron (1978) to develop empirically derived effectiveness criteria by which to assess higher education institutions. The nine effectiveness dimensions that emerged from

Cameron's research have been used extensively in higher education effectiveness studies and serve as the dependent variables in the current study.

As organizational research matured through the decades, the concept of organization and organizational effectiveness evolved into multiple conceptualizations that highlighted the paradox that existed among effectiveness criteria that constituents deemed valuable. This led to the development of the Competing Values Framework, which incorporated the major tenets of the most prevalent effectiveness models and provided a versatile framework for use in most types of organizations, including higher education. The quadrants in the Competing Values Framework depict the effectiveness indicators that subsume the values, assumptions, and beliefs associated with an organizational model. Therefore, the quadrants represent distinct organizational culture types, which research has found to be reliably correlated. Additionally, each quadrant includes criteria associated with leadership qualities, which research has determined to correlate to each of the culture types and theoretical models within the respective quadrants. The integration of organizational effectiveness criteria, culture types, and leadership qualities bolsters the applicability and versatility of the Competing Values Framework for effectiveness research.

Despite the robustness of the Competing Values Framework for higher education effectiveness research and the growing demands to demonstrate improved performance within the higher education sector, the body of knowledge remains meager. This study utilizes the Competing Values Framework to examine relationships between organizational effectiveness, leadership role complexity, and campus culture complexity across the North Carolina Community College System to enhance the literature and provide compelling implications for practitioners in higher education.

CHAPTER THREE: METHOD

This study is a quantitative analysis of the relationships between perceptions of organizational effectiveness and perceptions of campus culture and senior leadership role complexity held by the faculty and senior administration from the North Carolina Community College System. The survey instrument is an amalgamation of research instruments, which have each been validated for use in assessing organizational effectiveness, leadership role performance, and campus culture in two-year institutions. Cameron's (1978) nine dimensions of organizational effectiveness serve as the dependent variables in this study and have been used extensively in higher education effectiveness research. Leadership role complexity, using Hart and Quinn's (1993) four leadership roles, and campus culture complexity, using Cameron and Quinn's (2011) organizational culture types, serve as the independent variables. The Competing Values Framework, which has broad applicability for use in effectiveness research, was used as the organizing framework for the study.

The sampling frame consists of a highly diverse population from a large network of institutions, which substantiates representativeness of the sample. This improves the generalizability of the research findings.

In addition to an overall descriptive assessment, the data were analyzed to determine the relationship between perceptions of leadership role complexity and campus culture complexity and perceptions of organizational effectiveness. Further analysis determined whether or not the employee groups that constitute the sample population perceive these relationships differently. Regression analyses were used to test predictive validity among factors.

Research Questions and Hypotheses

The following research questions and hypotheses were examined and tested in this study:

RQ1: What is the relationship of campus culture complexity and leadership role complexity to organizational effectiveness, based on the perceptions of faculty and senior administrators in the North Carolina Community College System?

$H_0$1: There is no relationship between campus culture complexity and leadership role complexity and organizational effectiveness, based on the perceptions of faculty and senior administrators in the North Carolina Community College System.

RQ2: Do the faculty and senior administrators in the North Carolina Community College System perceive the relationship of campus culture complexity and leadership role complexity to organizational effectiveness differently?

$H_0$2: The faculty and senior administrators in the North Carolina Community College System do not perceive the relationship of campus culture complexity and leadership role complexity to organizational effectiveness differently.

Sampling Frame

The sampling frame for this study included full-time faculty in the North Carolina Community College System and the senior administrators from the community colleges in the North Carolina Community College System. The senior administration included the President and his or her direct reports who are responsible for policy development and leadership of the major organizational units at the college, including Academic Affairs, Student Services, Administrative Services, and Institutional Advancement.

The North Carolina Community College System was chosen based on the prodigious number of institutions within the system, the diversity of the system demographics, and the size

of the institutions based on numbers of employees and student enrollment. There are 58 institutions in the North Carolina Community College System, making it the third largest community college system in the United States (The University of Texas at Austin, 2013). The colleges are situated in 100 counties across North Carolina and incorporate both urban and rural locations. The system employs nearly 16,000 full-time employees and educates over 826,000 students annually (NCCCS, 2012).

Instrument and Variables

This study utilized a survey instrument (Appendix C) that contains sections related to organizational effectiveness, organizational culture, leadership role performance, and demographic information. Cameron's (1978) nine dimensions of effectiveness in higher education institutions serve as the dependent variables in this study. The independent variables are the behavioral complexity of the senior administration using Hart and Quinn's (1993) four leadership roles and the complexity of the campus culture based on Cameron and Quinn's (2011) organizational culture types. Demographic data was collected to test for representativeness of the sample and to examine and compare the respondents' perceptions based on employee category.

The first section of the instrument, titled "The Performance and Action of Your College," contains a set of 36 items that require responses along a five- or seven-item Likert scale and measures perceived levels of institutional performance along Cameron's (1978) nine dimensions of organizational effectiveness. The items in this section were derived from Cameron's (1984) National Center for Higher Education Management Systems (NCHEMS) effectiveness instrument, and later modified by Smart and Hamm (1993b) for use in community college research. Cameron (1978) subjected his instrument to measures of internal consistency which

revealed reliability coefficients ranging from 0.63 to 0.92. In a subsequent study, Cameron (1986) determined the internal reliability coefficients for the instrument to range from 0.72 to 0.92.

Although Cameron's (1978) instrument was designed for four-year institutions, its adaptability to two-year institutions was revealed by Smart and Hamm (1993b), who utilized an abridged and modified version with inclusion of several questions derived from the Institutional Performance Survey instrument developed by the Organizational Studies Division at the NCHEMS (Krakower & Niwa, 1985). Smart and Hamm's (1993b) factor analytic results supported the construct validity of the instrument for use with two-year institutions with reliability estimates ranging from 0.65 to 0.85. A subsequent study by Anderson, Nippert, Patterson, and Smith (2003) adopted Smart and Hamm's (1993b) instrument and determined reliability estimates of the measurement scales to range from 0.66 to 0.87. Table B1 (see Appendix B) maps the questionnaire items from the instrument used in the current study to Cameron's (1978) dimensions of effectiveness.

The second section of the instrument, labeled "Type of College," contains 16 items designed to measure respondents' perceptions of organizational culture associated with the Competing Values Framework (Cameron & Ettington, 1988; Cameron & Quinn, 2011). The questions were derived from Cameron and Ettington's (1988) ipsative model and modified by Anderson et al. (2003) to a five-item Likert scale.

The reliability of organizational culture scales corresponding to the four culture types has been established through several studies in the higher education literature. Fjortoft and Smart (1994) and Smart and St. John (1996) revealed reliability coefficients for the culture types ranging from 0.67 to 0.83. Anderson et al. (2003) measured reliability coefficients for the four

culture types ranging from 0.60 to 0.80. Table B2 in Appendix B displays the questionnaire items related to the organizational culture types.

The third set of 32 items, titled "Leadership Effectiveness," was developed by Quinn (1988) and measures respondents' perceptions of Hart & Quinn's (1993) four leadership roles. Anderson et al. (2003) subjected Quinn's instrument to factor analytic procedures to determine the construct validity for use in two-year higher education institutions. Results revealed eigenvalues greater than 1.0 for three components and an eigenvalue of 0.88 for the fourth. Eighty-four percent of the survey items loaded as hypothesized, which substantiated the construct validity of the leadership scales for use in two-year higher education institutions. Table B3 in Appendix B presents the alignment of the survey instrument questions to Hart and Quinn's (1993) leadership roles.

The last section of the survey, "Respondent Information," provides demographic information to further analyze the results of the study based on employee category, institution, highest degree held, gender, ethnicity, and number of years employed at the institution. The options for employee category, gender, degree attainment, and ethnicity were set up as value labels in SPSS to facilitate differentiation among respondents. Under the employee category, 1 was assigned to senior administration, 2 was assigned to full-time faculty, 3 was assigned to part-time faculty, and 4 was assigned to retired faculty. Gender value labels were 1 for male and 2 for female. The value labels associated with degree attainment were 1 for less than bachelor, 2 for bachelor, 3 for master, 4 for doctorate, and 5 for education specialist. Ethnicity categories were 1 for American Indian/Alaska Native, 2 for Asian, 3 for Black, 4 for Hawaiian/Pacific Islander, 5 for Hispanic, 6 for Multiple, 7 for Unknown, and 8 for White.

Data Collection Procedures

The data collection procedures were accomplished through two processes. Recruitment methods to encourage participation of the senior administrators at each institution were through direct contact with the Presidents of each community college in the North Carolina Community College System. Faculty recruitment was through the President of the North Carolina Community College Faculty Association and through the Chief Academic Officers at each of the colleges.

The Presidents of each community college in the North Carolina Community College System received a letter explaining the purpose of the research and a brief description of the research process. This letter was distributed through the U.S. Postal Service, and subsequent phone calls were scheduled with the Presidents or their designees to gain additional support for full participation from the senior administrators at their institution.

The President of the North Carolina Community College Faculty Association was contacted by phone to explain the purpose and methods of the study and to request contact information for the faculty in the association. A letter, distributed through the U.S. Postal Service, and email correspondence followed. The Chief Academic Officers at each of the North Carolina community colleges were contacted by email to request their assistance in distributing the survey to their full-time faculty. Each of the Chief Academic Officers had already taken part in the survey as senior administrators; therefore, they were cognizant of the content of the survey and the time commitment necessary for their faculty to complete the survey.

The survey instrument was distributed electronically using Qualtrics survey software, and reminders to participate were disseminated through the software email system. The use of an online survey and email distribution has gained prominence based on the economic advantage of

the delivery mode, the efficiency of distribution and collection, ease of use for participants, and robustness of potential data analyses (Van Selm & Jankowski, 2006). The survey remained active for four weeks. Schaefer and Dillman (1998) suggest that periodic reminders have the potential to increase response rates; therefore, at the conclusion of the first and third weeks, a reminder email was distributed to encourage greater participation. The researcher created the reminder emails and forwarded them through Qualtrics software to all subjects that had not yet participated. At the conclusion of the survey period, the responses were evaluated for representativeness. While high response rates are desirable, Cook, Heath, and Thompson (2000) suggest that representativeness of the sample population is more important than the response rate.

Analyses

Preliminary Analyses

SPSS software was used for data analysis. Prior to running the descriptive statistics, dummy variables were determined for the demographic items, as discussed in the Instrument section. The data were initially filtered to ensure that only the responses from the populations under study were included. To facilitate interpretation of some of the survey items that were written as negative statements, Likert-scale responses were reverse coded (e.g., 1=7, 2=6, 3=5, 4=4, 5=3, 6=2, 7=1).

Scales were created in SPSS for each of the nine dimensions of organizational effectiveness, the four culture types, and the four leadership roles by computing the mean of each of the constituent items associated with the scales. Creating the scales required standardization of the scores since the survey items employed different Likert-scale ranges of responses. All responses were converted to a five-point Likert scale.

To assess complexity of the predictor variables, the means for each of the leadership roles and the culture types were calculated and then used to determine the complexity levels by calculating the number of instances in which each individual had a score above the mean for each culture type or each leadership type. The new measure was then used to calculate the final measure of complexity, which ranged from one to five. Complexity level five equates to *highly complex* and represents scoring above the mean on all four culture types or leadership roles. Complexity level four equates to *complex* and represents scoring above the mean on three culture types or leadership roles. Complexity level three equates to *moderately complex* and represents scoring above the mean on two culture types or leadership roles. Complexity level two equates to *slightly complex* and represents scoring above the mean on one culture type or leadership role, and complexity level one equates to *lacking complexity* and represents scoring below the mean on all four culture types or leadership roles. Dummy variables were created for the culture type complexity levels and the leadership role complexity levels to permit comparisons between categories and to avoid perfect multicollinearity. Preventing multicollinearity required omitting one response category, which was chosen to be level three based on the fact that this category had a large sample size and is considered a middle-of-the-road response.

Regression Analyses

Ordinary least squares multiple regression analyses were conducted on the data. Two separate linear regressions were performed for each of the organizational effectiveness scales. This consisted of an initial model incorporating only dummy variables for the level of culture and leadership, along with a second model which also included group membership as well as interactions between all culture and leadership dummy variables and group membership. Additionally, F-change statistics were calculated to determine whether the addition of the main

effect of group membership as well as their associated interactions produced a statistically significant improvement in model fit. In all regression models, the third level of culture and leadership were omitted from the analyses as the comparison category, with dummy variables for all other levels included in these models.

When calculating the interaction effects, all measures were centered in order to reduce multicollinearity in the regression models themselves. This was done by first subtracting the mean for each of the constituent measures before multiplying them in order to calculate the interaction effect. Next, group was recoded into a dummy variable for the purposes of the regression analysis. Separate regressions were conducted for each of the organizational effectiveness measures, with a series of two regressions conducted for each outcome. Specifically, this consisted of hierarchical regressions which served to determine whether the addition of group membership as well as the entire set of interaction effects significantly improved these regression models. A set of diagnostics were also conducted, including tests of multicollinearity, the Durbin-Watson coefficient, histograms and other plots used to test for the presence of non-normal residuals, outliers, and linearity, as well as a plot to test for heteroscedasticity, with distance measures also saved in these analyses. In total, these tests were done in order to determine whether the assumptions of linear regression were violated. Next, a series of descriptive statistics were conducted on these variables, which consisted of frequency tables for the categorical measures, and the mean, median, standard deviation, range, and minimum and maximum scores calculated for the continuous items. A final set of syntax was then included to calculate the minimum and maximum scores of the saved measures of distance associated with the regression analyses in order to determine whether any influential outliers were present.

In cases where a significant change was found between the two regression models, additional regression analyses were run separately on the dependent variable, and Cronbach's alpha reliability was calculated for these scale measures. Correlations were then conducted between these variables. One-sample Kolmogorov-Smirnov tests were conducted in order to determine whether these measures were significantly non-normal, which would suggest the use of a non-parametric correlation coefficient as compared with Pearson's correlation coefficient. With regard to this test, a significant result would indicate significant non-normality. In addition to this, measures of skewness and kurtosis were also calculated for these measures. Measures of skewness and kurtosis divided by their respective standard errors, which are above 3 or below -3, would indicate non-normality. When non-normality was determined, Spearman's rho, a non-parametric correlation coefficient, was used instead of Pearson's *r*.

Summary

After a review of the literature, compelling questions emerged in regard to indicators of organizational effectiveness in higher education. These research questions became the foundation for the study design. The design employs a quantitative approach that utilizes a valid and reliable survey instrument consisting of questions related to organizational effectiveness, leadership role performance, campus culture typology, and demographic information. The survey, distributed to the faculty and senior administrators in the North Carolina Community College System, produced data that was subjected to statistical analyses to determine the relationship between perceptions of organizational effectiveness and perceptions of campus culture and administrative leadership role complexity. Further analyses that determine if faculty and senior administrators vary in regard to their perceptions enhanced the findings and provided

substantive data that can benefit higher education practitioners in strategic and operational planning.

CHAPTER FOUR: RESULTS

Introduction

This study was designed to measure whether a relationship exists between perceptions of leadership role and campus culture complexity and perceptions of organizational effectiveness among faculty and senior administrators in the North Carolina Community College System. The following research questions and hypotheses were addressed in this study:

RQ1: What is the relationship of campus culture complexity and leadership role complexity to organizational effectiveness, based on the perceptions of faculty and senior administrators in the North Carolina Community College System?

$H_0$1: There is no relationship between campus culture complexity and leadership role complexity and organizational effectiveness, based on the perceptions of faculty and senior administrators in the North Carolina Community College System.

RQ2: Do the faculty and senior administrators in the North Carolina Community College System perceive the relationship of campus culture complexity and leadership role complexity to organizational effectiveness differently?

$H_0$2: The faculty and senior administrators in the North Carolina Community College System do not perceive the relationship of campus culture complexity and leadership role complexity to organizational effectiveness differently.

The results indicated that the majority of the correlations conducted between culture level, leadership level, group membership, and all subscale scores were statistically significant. The results of the regression analyses indicated statistical significance with respect to culture and leadership level, while group membership achieved statistical significance in a number of cases.

The addition of group membership as well as the interactions between group membership and culture and leadership level rarely provided significant improvement to model fit.

Descriptive Statistics

Survey Sample

The survey was distributed by email through Qualtrics survey software to senior administrators and full-time faculty in the North Carolina Community College System. A total of 355 surveys were distributed to the senior administrators. Nine of those surveys bounced back to yield a total of 346 total surveys distributed to this group. The response rate of the surveys distributed to the senior administrators was 45%. However, comparing the demographic data of the senior administrator respondents to the entire population of senior administrators in the North Carolina Community College System yields a similar demographic structure as shown in Table 1. Therefore, the sample population of senior administrators is an acceptable representation of the entire population.

The survey was also distributed to the North Carolina Community College System full-time faculty. There are 7,017 full-time faculty employed in the system with a demographic structure as shown in Table 2. A total of 357 full-time faculty completed the survey, yielding a 5% response rate; however, the demographics of the survey respondents closely matched the demographics of the entire full-time faculty population to produce a representative sample.

Variables

Initially, a series of descriptive statistics were conducted on the data to better describe the sample of respondents and the data analyzed. Table 3 summarizes the descriptive statistics conducted on the continuous variables included within this study. As shown, subscale means and medians were found to range from approximately two to four. Standard deviations were

Table 1

Demographic Data of Senior Administrators

Characteristic		*Senior Administrators NCCCS		Senior Administrators Survey Respondents	
		No. of individuals	Percentage	No. of individuals	Percentage
Gender					
	Female	150	47%	73	47%
	Male	168	53%	83	53%
Ethnicity					
	American Indian/ Alaska Native	1	<1%	2	1%
	Asian	1	<1%	0	0%
	Black	39	12%	17	11%
	Hawaiian Pacific Islander	0	0%	0	0%
	Hispanic	2	<1%	2	1%
	Multiple	0	0%	5	3%
	Unknown	3	<1%	1	<1%
	White	272	86%	129	83%
Years of Service					
	Under 6 years	96	30%	51	33%
	6-10 years	65	20%	23	15%
	11-15 years	49	15%	33	21%
	16-20 years	29	9%	19	12%
	21-25 years	41	13%	16	10%
	26 or more years	38	12%	14	9%
Highest Degree Earned					
	Less than Bachelor	3	<1%	1	<1%
	Bachelor	34	1%	9	6%
	Master	153	3%	70	45%
	Doctorate	126	16%	72	46%
	Education Specialist	2	3%	4	3%

Note. *Adapted from "2011-12 Annual Statistical Reports," by the North Carolina Community College System, 2012.

Table 2

Demographic Data of Full-Time Faculty

Characteristic		*Full-Time Faculty NCCCS No. of individuals	*Full-Time Faculty NCCCS Percentage	Full-Time Faculty Survey Respondents No. of individuals	Full-Time Faculty Survey Respondents Percentage
Gender					
	Female	4,101	58%	238	67%
	Male	2,916	42%	119	33%
Ethnicity					
	American Indian/ Alaska Native	54	<1%	6	2%
	Asian	54	<1%	5	1%
	Black	786	11%	20	6%
	Hawaiian Pacific Islander	5	<1%	0	0%
	Hispanic	95	1%	0	0%
	Multiple	19	<1%	9	3%
	Unknown	120	2%	9	3%
	White	5,884	84%	308	86%
Years of Service					
	Under 6 years	2,233	32%	77	22%
	6-10 years	2,012	29%	94	26%
	11-15 years	1,399	20%	89	25%
	16-20 years	633	9%	47	13%
	21-25 years	444	6%	27	8%
	26 or more years	296	4%	23	6%
Highest Degree Earned					
	Less than Bachelor	1,072	15%	21	6%
	Bachelor	1,409	20%	37	10%
	Master	3,984	57%	239	67%
	Doctorate	522	7%	53	15%
	Education Specialist	30	<1%	7	2%

Note. *Adapted from "2011-12 Annual Statistical Reports," by the North Carolina Community College System, 2012.

Table 3

Descriptive Statistics: Continuous Variables

Variable	*N*		Mean	Median	Std. Dev.	Range	Min.	Max.
	Valid	Missing						
OE: SES	516	9	4.026	4.000	0.751	4.000	1.000	5.000
OE: SAD	507	18	3.201	3.250	0.480	2.821	1.750	4.571
OE: SCD	504	21	2.279	2.143	0.575	3.036	1.071	4.107
OE: SPD	469	56	3.467	3.571	0.713	4.071	0.929	5.000
OE: FAES	515	10	2.119	1.964	0.731	4.107	0.893	5.000
OE: PDQF	508	17	2.934	3.036	0.725	3.929	0.893	4.821
OE: SOCI	520	5	3.605	3.667	0.808	4.000	1.000	5.000
OE: AAR	501	24	3.194	3.286	0.620	3.357	1.464	4.821
OE: OH	277	248	3.249	3.571	1.180	4.286	0.714	5.000
CT: Clan	518	7	3.255	3.250	0.983	4.000	1.000	5.000
CT: Adhocracy	517	8	3.350	3.500	0.939	4.000	1.000	5.000
CT: Hierarchy	511	14	3.356	3.500	0.777	4.000	1.000	5.000
CT: Market	504	21	3.387	3.500	0.622	4.000	1.000	5.000
LR: Vision Setter	487	38	3.394	3.281	0.853	3.594	1.406	5.000
LR: Taskmaster	493	32	3.676	3.750	0.818	3.750	1.250	5.000
LR: Analyzer	490	35	3.468	3.438	0.815	3.750	1.250	5.000
LR: Motivator	490	35	3.278	3.125	0.962	3.750	1.250	5.000

found to be moderate in comparison to these mean and median values. The ranges and minimum and maximum scores presented represent the majority of the possible range associated with each of the subscales.

Table 4 presents the sample sizes and percentages of response associated with the categorical variables included in this study. Each category of response related to culture level represented close to 20% of the entire sample. In regard to leadership level, slightly over 36% of respondents were in the initial category and close to 29% were in the highest category. Each of the remaining categories associated with leadership level represented slightly above 10% of the entire sample. Finally, with regard to group membership, faculty represented nearly 70% of the entire sample, while administrators represented close to 30%.

Inferential Statistics

The scales that were created for the organizational effectiveness dimensions and the culture and leadership complexity levels were analyzed for reliability using Cronbach's alpha. The results are summarized in Table 5. Cronbach's alpha values of 0.70 or higher would indicate acceptable model fit. As shown in Table 5, all scales were found to have acceptable or marginally acceptable model fit with the exception of SAD, AAR, and Market.

Spearman's correlations were conducted between culture level, leadership level, and all subscale scores. The results of these analyses are shown in Table 6. Among these analyses, Spearman's correlations were conducted with culture level and leadership level as both of these measures are ordinal, while Pearson's correlations were conducted with group membership as group membership was dichotomous with the remaining measures being continuous. In regard to the analysis conducted with organizational effectiveness, statistical significance was indicated in all cases with respect to culture level. The correlation with the OH subscale was found to be

Table 4

Descriptive Statistics: Categorical Variables

Measure	*N*	%
Culture Level		
1	101	19.2
2	110	21.0
3	96	18.3
4	99	18.9
5	119	22.7
Total	525	100.0
Leadership Level		
1	191	36.4
2	63	12.0
3	60	11.4
4	60	11.4
5	151	28.8
Total	525	100.0
Group		
Faculty	357	69.7
Administrator	155	30.3
Total	512	100.0

Table 5

Reliability Analyses

Scale	N Items	α
OE SES	3	0.871
OE SAD	4	0.084
OE SCD	4	0.704
OE SPD	4	0.681
OE FAES	4	0.835
OE PDQF	4	0.706
OE SOCI	3	0.662
OE AAR	4	0.352
OE OH	6	0.913
CT Clan	4	0.839
CT Adhocracy	4	0.848
CT Hierarchy	4	0.715
CT Market	4	0.486
LR Vision Setter	8	0.919
LR Taskmaster	8	0.917
LR Analyzer	8	0.910
LR Motivator	8	0.942

Table 6

Correlations

Variable	Culture Level	Leadership Level	Group
OE: SES	0.339***	0.409***	-0.264***
OE: SAD	-0.118**	-0.080	-0.023
OE: SCD	-0.223***	-0.267***	0.035
OE: SPD	0.452***	0.421***	-0.133**
OE: FAES	-0.552***	-0.574***	0.260***
OE: PDQF	-0.332***	-0.327***	-0.082
OE: SOCI	0.446***	0.428***	-0.131**
OE: AAR	0.413***	0.361***	-0.122**
OE: OH	0.684***	0.731***	-0.257***
CT: Clan	0.786***	0.672***	-0.243***
CT: Adhocracy	0.751***	0.651***	-0.138**
CT: Hierarchy	0.821***	0.570***	-0.081
CT: Market	0.635***	0.311***	0.081
LR: Vision Setter	0.678***	0.851***	-0.253***
LR: Taskmaster	0.658***	0.865***	-0.182***
LR: Analyzer	0.673***	0.865***	-0.246***
LR: Motivator	0.684***	0.854***	-0.328***

Note. *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$.

positive and strong, while the correlations with the SES, SPD, SOCI, and AAR subscales were found to be positive and moderate in strength. A strong, negative correlation was indicated with the FAES subscale, while a negative, moderate correlation was indicated with PDQF. Finally, weak, negative correlations were found with SAD and SCD.

In regard to leadership, all correlations with organizational effectiveness were found to achieve statistical significance with the exception of the correlation conducted with SAD. Specifically, a strong, positive correlation was found with OH, with moderate, positive correlations indicated with SES, SPD, SOCI, and AAR. Additionally, a strong, negative correlation was found with FAES, while a moderate, negative correlation was indicated with PDQF. Additionally, a weak, negative correlation was found with SCD.

Finally, the correlations conducted with group membership achieved statistical significance with respect to the SES, SPD, FAES, SOCI, AAR, and OH subscales of organizational effectiveness. Statistical significance was also indicated in regard to the Clan and Adhocracy subscales of Culture Type (CT) as well as all subscales of Leadership Role (LR). Significant, weak, and negative correlations were found in all of these cases with the exception of the correlations conducted with FAES and the Motivator subscale of LR. Specifically, the correlation conducted with FAES was found to be positive, weak, and statistically significant, while the correlation conducted with the Motivator subscale was found to be negative, moderate, and statistically significant.

A set of regression analyses was then conducted on the data. As shown in Table 7, statistical significance was indicated in the first model for SES with respect to the first level of culture as well as the first and fifth levels of leadership. In regard to culture, it was found that having a culture level of one was associated with a predicted score on SES 0.341 units lower as

Table 7

Linear Regression Analysis: OE SES

Variable	*B*	*SE*	Beta	*t*	*p*	Tol.	VIF
Model 1							
(Constant)	4.053	0.109		37.173	0.000		
Culture Level 1	-0.341	0.106	-.0179	-3.226	0.001	0.515	1.942
Culture Level 2	-0.086	0.099	-0.046	-0.865	0.387	0.551	1.816
Culture Level 4	-0.010	0.100	-0.005	-0.101	0.920	0.581	1.720
Culture Level 5	0.009	0.102	0.005	0.089	0.929	0.490	2.040
Leadership Level 1	-0.236	0.106	-0.151	-2.238	0.026	0.349	2.865
Leadership Level 2	0.130	0.123	0.057	1.053	0.293	0.549	1.821
Leadership Level 4	0.228	0.128	0.097	1.785	0.075	0.535	1.868
Leadership Level 5	0.341	0.114	0.206	3.001	0.003	0.337	2.971
Model 2							
(Constant)	4.022	0.112		35.772	0.000		
Culture Level 1	-0.302	0.109	-0.159	-2.763	0.006	0.473	2.116
Culture Level 2	-0.088	0.100	-0.048	-0.880	0.379	0.535	1.870
Culture Level 4	-0.018	0.102	-0.010	-0.178	0.858	0.546	1.833
Culture Level 5	0.079	0.105	0.044	0.751	0.453	0.453	2.210
Leadership Level 1	-0.266	0.112	-0.170	-2.376	0.018	0.306	3.270
Leadership Level 2	0.048	0.129	0.021	0.375	0.708	.0493	2.030
Leadership Level 4	0.120	0.132	0.051	0.907	0.365	0.489	2.046
Leadership Level 5	0.206	0.121	0.125	1.704	0.089	0.291	3.431

Table 7 (continued)

Variable	*B*	*SE*	Beta	*t*	*p*	Tol.	VIF
Group: Administrator	0.288	0.073	0.176	3.942	0.000	0.786	1.273
Culture Level 1 * Group	-0.148	0.257	-0.031	-0.574	0.566	0.526	1.902
Culture Level 2 * Group	0.084	0.219	0.020	0.381	0.703	0.553	1.807
Culture Level 4 * Group	-0.040	0.203	-0.010	-0.196	0.844	0.556	1.800
Culture Level 5 * Group	0.133	0.221	0.033	0.602	0.548	0.514	1.944
Leader. Level 1 * Group	0.191	0.283	0.051	0.675	0.500	0.271	3.688
Leader. Level 2 * Group	0.119	0.306	0.025	0.390	0.697	0.395	2.534
Leader. Level 4 * Group	0.125	0.300	0.026	0.419	0.676	0.408	2.449
Leader. Level 5 * Group	0.193	0.276	0.057	0.701	0.484	0.235	4.248

Note. Model 1: Adjusted $R^2 = 0.182$, $F(8, 507) = 15.279$, $p \leq 0.001$; Model 2: Adjusted $R^2 = 0.197$, $\Delta F(9, 498) = 2.095$, $p \leq 0.05$.

compared with having a culture level of three. With regard to leadership level, it was found that having a leadership level of one was associated with a predicted score on SES 0.236 units lower as compared with having a leadership level of three. Additionally, having a leadership level of five was found to be associated with a predicted score on SES 0.341 units higher as compared with having a leadership level of three.

In the second linear regression model in Table 7, statistical significance was indicated with respect to the effects of having a culture level of one, a leadership level of one, as well as group membership. In this analysis, it was found that having a culture level of one was associated with a predicted score on SES 0.302 units lower as compared with having a culture level of three. Additionally, having a leadership level of one was found to be associated with a predicted score on SES 0.266 units lower as compared with having a leadership level of three.

With regard to group membership, it was found in this analysis that administrators had predicted scores on SES 0.288 units higher as compared with faculty members. While the second model was found to significantly improve upon the first model conducted, the interaction effects specified in this model were not found to achieve significance or to approach statistical significance at the 0.05 alpha level. Therefore, it was determined that no important interactions were present with respect to SES.

Table 8 summarizes the results of the linear regression models conducted on SAD. In the first model, statistical significance was only indicated with respect to the effect of having a culture level of one. These respondents were found to have a score on SAD 0.156 units higher as compared with those having a culture level of three. In the second linear regression model, no significant results were indicated. Additionally, the second model was not found to be a significant improvement over the first linear regression model conducted.

Table 8

Linear Regression Analysis: OE SAD

Variable	*B*	*SE*	Beta	*t*	*p*	Tol.	VIF
Model 1							
(Constant)	3.148	0.077		40.635	0.000		
Culture Level 1	0.156	0.075	0.129	2.087	0.037	0.516	1.939
Culture Level 2	0.087	0.070	0.074	1.240	0.216	0.557	1.795
Culture Level 4	0.018	0.071	0.015	0.253	0.800	0.582	1.718
Culture Level 5	-0.022	0.073	-0.020	-0.309	0.757	0.492	2.034
Leadership Level 1	0.019	0.075	0.019	0.256	0.798	0.342	2.922
Leadership Level 2	-0.043	0.089	-0.029	-0.486	0.627	0.553	1.807
Leadership Level 4	0.042	0.091	0.028	0.463	0.644	0.536	1.866
Leadership Level 5	-0.001	0.081	-0.001	-0.018	0.985	0.336	2.979
Model 2							
(Constant)	3.141	0.081		38.929	0.000		
Culture Level 1	0.134	0.078	0.111	1.713	0.087	0.471	2.121
Culture Level 2	0.070	0.072	0.059	0.980	0.328	0.543	1.840
Culture Level 4	0.001	0.073	0.001	0.012	0.991	0.546	1.831
Culture Level 5	-0.028	0.076	-0.024	-0.364	0.716	0.455	2.199
Leadership Level 1	0.030	0.081	0.030	0.370	0.712	0.302	3.311
Leadership Level 2	-0.051	0.094	-0.034	-0.540	0.590	0.502	1.994
Leadership Level 4	0.058	0.095	0.038	0.609	0.543	0.495	2.021
Leadership Level 5	-0.002	0.087	-0.002	-0.022	0.982	0.292	3.426

Table 8 (continued)

Variable	*B*	*SE*	Beta	*t*	*p*	Tol.	VIF
Group: Administrator	0.055	0.053	0.052	1.041	0.299	0.785	1.275
Culture Level 1 * Group	0.034	0.186	0.011	0.181	0.856	0.527	1.896
Culture Level 2 * Group	0.072	0.157	0.027	0.455	0.649	0.561	1.783
Culture Level 4 * Group	-0.075	0.146	-0.030	-0.511	0.610	0.555	1.800
Culture Level 5 * Group	-0.233	0.159	-0.091	-1.469	0.143	0.515	1.943
Leader. Level 1 * Group	-0.085	0.203	-0.036	-0.420	0.675	0.275	3.642
Leader. Level 2 * Group	-0.233	0.220	-0.074	-1.056	0.291	0.408	2.454
Leader. Level 4 * Group	-0.048	0.217	-0.015	-0.221	0.825	0.424	2.358
Leader. Level 5 * Group	0.020	0.197	0.009	0.104	0.917	0.238	4.205

Note. Model 1: Adjusted $R^2 = 0.007$, $F(8, 498) = 1.416$, $p > 0.05$; Model 2: Adjusted $R^2 = 0.001$, $\Delta F(9, 489) = 0.676$, $p > 0.05$.

The linear regression models in Table 9 were conducted on SCD. The first regression model found statistical significance with respect to having a culture level of one as well as having a leadership level of one. Specifically, individuals having a culture level of one were found to have predicted scores on SCD 0.218 units higher than those having a culture level of three, while individuals having a leadership level of one were found to have predicted scores on SCD 0.243 units higher as compared with those having a leadership level of three.

In the second linear regression model, statistical significance was again indicated with respect to having a culture level of one and a leadership level of one, with no additional significant results being indicated. Specifically, in this model, individuals with a culture level of one were found to have predicted scores on SCD 0.185 units higher as compared with those having a culture level of three. Individuals with a leadership level of one were found to have predicted scores on SCD 0.252 units higher as compared with those having a leadership level of three. Additionally, this second model was not found to significantly improve upon the first linear regression model conducted.

The results of the two linear regression analyses conducted on SPD are shown in Table 10. In the first model, statistical significance was indicated with respect to having a culture level of one, four, or five, as well as having a leadership level of four. With respect to culture, individuals having a culture level of one had predicted scores on SPD 0.240 units lower as compared with those having a culture level of three. Additionally, respondents having a culture level of four had predicted scores on SPD 0.211 units higher as compared with those having a culture level of three, while individuals having a culture level of five were found to have predicted scores on SPD which were 0.342 units higher as compared with those having a culture level of three. With regard to leadership level, respondents having a leadership level of four

Table 9

Linear Regression Analysis: OE SCD

Variable	*B*	*SE*	Beta	*t*	*p*	Tol.	VIF
Model 1							
(Constant)	2.142	0.089		23.951	0.000		
Culture Level 1	0.218	0.087	0.149	2.517	0.012	0.514	1.947
Culture Level 2	0.051	0.081	0.036	0.627	0.531	0.542	1.845
Culture Level 4	0.117	0.081	0.080	1.436	0.152	0.584	1.713
Culture Level 5	-0.024	0.083	-0.018	-0.291	0.771	0.492	2.034
Leadership Level 1	0.243	0.086	0.204	2.830	0.005	0.346	2.887
Leadership Level 2	-0.005	0.103	-0.003	-0.051	0.960	0.566	1.766
Leadership Level 4	0.010	0.104	0.006	0.099	0.921	0.534	1.873
Leadership Level 5	-0.073	0.093	-0.058	-0.787	0.432	0.330	3.030
Model 2							
(Constant)	2.142	0.093		22.943	0.000		
Culture Level 1	0.185	0.091	0.127	2.039	0.042	0.467	2.139
Culture Level 2	0.038	0.082	0.027	0.464	0.643	0.526	1.900
Culture Level 4	0.097	0.084	0.066	1.148	0.252	0.542	1.847
Culture Level 5	-0.041	0.088	-0.030	-0.466	0.641	0.446	2.241
Leadership Level 1	0.252	0.092	0.211	2.745	0.006	0.306	3.273
Leadership Level 2	-0.019	0.108	-0.010	-0.172	0.864	0.515	1.943
Leadership Level 4	0.033	0.109	0.019	0.306	0.759	0.491	2.036
Leadership Level 5	-0.074	0.100	-0.059	-0.742	0.459	0.285	3.503

Table 9 (continued)

Variable	*B*	*SE*	Beta	*t*	*p*	Tol.	VIF
Group: Administrator	0.059	0.060	0.047	0.978	0.329	0.781	1.281
Culture Level 1 * Group	0.131	0.215	0.036	0.609	0.543	0.531	1.885
Culture Level 2 * Group	-0.053	0.179	-0.017	-0.296	0.767	0.553	1.807
Culture Level 4 * Group	-0.098	0.167	-0.033	-0.586	0.558	0.560	1.786
Culture Level 5 * Group	-0.304	0.181	-0.099	-1.682	0.093	0.517	1.934
Leader. Level 1 * Group	-0.120	0.231	-0.042	-0.520	0.603	0.274	3.655
Leader. Level 2 * Group	-0.127	0.253	-0.033	-0.501	0.617	0.421	2.377
Leader. Level 4 * Group	0.161	0.246	0.043	0.654	0.513	0.416	2.403
Leader. Level 5 * Group	0.054	0.226	0.021	0.240	0.811	0.234	4.266

Note. Model 1: Adjusted $R^2 = 0.095$, $F(8, 495) = 7.629$, $p \leq 0.001$; Model 2: Adjusted $R^2 = 0.091$, $\Delta F(9, 486) = 0.750$, $p > 0.05$.

Table 10

Linear Regression Analysis: OE SPD

Variable	*B*	*SE*	Beta	*t*	*p*	Tol.	VIF
Model 1							
(Constant)	3.398	0.108		31.575	0.000		
Culture Level 1	-0.240	0.105	-0.130	-2.296	0.022	0.525	1.905
Culture Level 2	-0.089	0.097	-0.051	-0.915	0.361	0.543	1.843
Culture Level 4	0.211	0.097	0.117	2.179	0.030	0.578	1.729
Culture Level 5	0.342	0.100	0.201	3.420	0.001	0.487	2.052
Leadership Level 1	-0.198	0.104	-0.131	-1.894	0.059	0.348	2.870
Leadership Level 2	0.020	0.121	0.009	0.165	0.869	0.544	1.838
Leadership Level 4	0.272	0.124	0.125	2.193	0.029	0.513	1.950
Leadership Level 5	0.144	0.112	0.093	1.292	0.197	0.324	3.087
Model 2							
(Constant)	3.402	0.113		30.159	0.000		
Culture Level 1	-0.237	0.109	-0.128	-2.180	0.030	0.483	2.069
Culture Level 2	-0.095	0.098	-0.055	-0.976	0.330	0.532	1.879
Culture Level 4	0.191	0.100	0.107	1.907	0.057	0.536	1.866
Culture Level 5	0.352	0.104	0.207	3.383	0.001	0.449	2.228
Leadership Level 1	-0.207	0.112	-0.138	-1.845	0.066	0.300	3.334
Leadership Level 2	-0.014	0.129	-0.006	-0.106	0.916	0.480	2.082
Leadership Level 4	0.208	0.131	0.096	1.586	0.113	0.456	2.193
Leadership Level 5	0.109	0.121	0.070	0.897	0.370	0.273	3.664

Table 10 (continued)

Variable	*B*	*SE*	Beta	*t*	*p*	Tol.	VIF
Group: Administrator	0.079	0.073	0.051	1.080	0.281	0.756	1.323
Culture Level 1 * Group	-0.041	0.254	-0.009	-0.160	0.873	0.538	1.860
Culture Level 2 * Group	0.074	0.213	0.019	0.346	0.729	0.566	1.767
Culture Level 4 * Group	-0.051	0.198	-0.014	-0.257	0.797	0.543	1.841
Culture Level 5 * Group	0.339	0.218	0.089	1.559	0.120	0.514	1.946
Leader. Level 1 * Group	0.041	0.287	0.011	0.142	0.887	0.256	3.910
Leader. Level 2 * Group	-0.176	0.313	-0.037	-0.562	0.574	0.378	2.646
Leader. Level 4 * Group	-0.047	0.302	-0.011	-0.156	0.876	0.362	2.763
Leader. Level 5 * Group	0.109	0.283	0.034	0.385	0.700	0.209	4.778

Note. Model 1: Adjusted $R^2 = 0.214$, $F(8, 460) = 16.955$, $p \leq 0.001$; Model 2: Adjusted $R^2 = 0.216$, $\Delta F(9, 451) = 1.136$, $p > 0.05$.

were found to have predicted scores on SPD 0.272 units higher as compared with those having a leadership level of three.

The second model found statistical significance with respect to having a culture level of one or five, with no other statistically significant results being found. In this regression model, having a culture level of one was found to be associated with a predicted score on SPD 0.237 units lower as compared with having a culture level of three, while having a culture level of five was found to be associated with predicted scores on SPD 0.352 units higher as compared with having a culture level of three. The second regression model was not found to significantly improve upon the first regression model conducted.

Table 11 displays the results of the two linear regression analyses conducted on FAES. The first model indicates statistical significance with respect to having a culture level of one or two as well as having a leadership level of one, four, or five. Individuals with a culture level of one were found to have a predicted score on FAES 0.537 units higher as compared with those having a culture level of three, while individuals with a culture level of two were found to have a predicted score on FAES 0.330 units higher as compared with those having a culture level of three. Individuals with a leadership level of one were found to have predicted scores on FAES 0.356 units higher as compared with those having a leadership level of three, while respondents with a leadership level of four had predicted scores on FAES that were 0.249 units lower as compared with those having a leadership level of three. In addition, respondents with a leadership level of five were found to have predicted scores on FAES that were 0.235 units lower as compared with respondents having a leadership level of three.

In the second linear regression model conducted, statistical significance was indicated with respect to having a culture level of one or two, having a leadership level of one, as well as

Table 11

Linear Regression Analysis: OE FAES

Variable	*B*	*SE*	Beta	*t*	*p*	Tol.	VIF
Model 1							
(Constant)	1.948	0.092		21.285	0.000		
Culture Level 1	0.537	0.089	0.287	6.012	0.000	0.520	1.924
Culture Level 2	0.330	0.083	0.185	3.968	0.000	0.548	1.826
Culture Level 4	-0.064	0.083	-0.035	-0.768	0.443	0.586	1.707
Culture Level 5	-0.115	0.086	-0.066	-1.342	0.180	0.495	2.022
Leadership Level 1	0.356	0.089	0.235	4.023	0.000	0.349	2.864
Leadership Level 2	0.043	0.105	0.019	0.409	0.683	0.560	1.787
Leadership Level 4	-0.249	0.108	-0.107	-2.307	0.021	0.550	1.817
Leadership Level 5	-0.235	0.095	-0.146	-2.460	0.014	0.335	2.985
Model 2							
(Constant)	2.001	0.095		21.112	0.000		
Culture Level 1	0.506	0.093	0.271	5.449	0.000	0.475	2.106
Culture Level 2	0.332	0.084	0.186	3.959	0.000	0.532	1.880
Culture Level 4	-0.073	0.086	-0.039	-0.851	0.395	0.548	1.825
Culture Level 5	-0.168	0.089	-0.096	-1.880	0.061	0.453	2.206
Leadership Level 1	0.347	0.094	0.228	3.688	0.000	0.305	3.275
Leadership Level 2	0.070	0.110	0.031	0.636	0.525	0.505	1.979
Leadership Level 4	-0.201	0.112	-0.086	-1.791	0.074	0.503	1.987
Leadership Level 5	-0.160	0.102	-0.100	-1.568	0.118	0.289	3.455

Table 11 (continued)

Variable	*B*	*SE*	Beta	*t*	*p*	Tol.	VIF
Group: Administrator	-0.204	0.062	-0.128	-3.291	0.001	0.780	1.282
Culture Level 1 * Group	0.201	0.219	0.043	0.916	0.360	0.530	1.885
Culture Level 2 * Group	0.023	0.185	0.006	0.125	0.900	0.559	1.788
Culture Level 4 * Group	-0.144	0.170	-0.039	-0.844	0.399	0.563	1.777
Culture Level 5 * Group	-0.087	0.187	-0.022	-0.466	0.642	0.515	1.941
Leader. Level 1 * Group	0.010	0.239	0.003	0.043	0.966	0.272	3.677
Leader. Level 2 * Group	0.177	0.261	0.036	0.680	0.497	0.415	2.411
Leader. Level 4 * Group	0.161	0.254	0.033	0.634	0.526	0.421	2.378
Leader. Level 5 * Group	0.158	0.232	0.048	0.680	0.497	0.234	4.275

Note. Model 1: Adjusted $R^2 = 0.390$, $F(8, 506) = 42.047$, $p \leq 0.001$; Model 2: Adjusted $R^2 = 0.398$, $\Delta F(9, 497) = 1.732$, $p > 0.05$.

group membership. In this analysis, individuals with a culture level of one were found to have predicted scores on FAES which were 0.506 units higher as compared with those having a culture level of three, while individuals having a culture level of two were found to have predicted scores on FAES 0.332 units higher as compared with those having a culture level of two. Respondents having a leadership level of one were found to have predicted scores on FAES which were 0.347 units higher as compared with those having a leadership level of three. In regard to group membership, administrators had predicted scores on FAES, which were 0.204 units lower as compared to faculty members. None of the interaction effects included within this analysis were found to achieve significance or to approach statistical significance at the 0.05 level. Additionally, this regression model failed to significantly improve upon the first linear regression analysis conducted.

Table 12 displays the results of the two linear regression analyses focusing on PDQF. In the first regression model, statistical significance was indicated with respect to having a culture level of five as well as having a leadership level of one. The result found in relation to culture indicated that individuals having a culture level of five had predicted scores on PDQF which were 0.289 units lower as compared with those having a culture level of three, while individuals having a leadership level of one were found to have predicted scores on PDQF which were 0.246 units higher as compared with those having a leadership level of three.

The second linear regression analysis indicated statistical significance with respect to having a culture level of five or a leadership level of one, while significance was also found with respect to having a leadership level of five as well as the effect of group membership. The first model indicated that having a culture level of five was associated with predicted scores on PDQF which were 0.205 units lower as compared with those having a culture level of three, while

Table 12

Linear Regression Analysis: OE PDQF

Variable	*B*	*SE*	Beta	*t*	*p*	Tol.	VIF
Model 1							
(Constant)	2.871	0.111		25.917	0.000		
Culture Level 1	0.174	0.105	0.094	1.654	0.099	0.522	1.917
Culture Level 2	0.132	0.099	0.074	1.339	0.181	0.553	1.809
Culture Level 4	-0.005	0.100	-0.003	-0.052	0.958	0.589	1.698
Culture Level 5	-0.289	0.102	-0.167	-2.846	0.005	0.492	2.034
Leadership Level 1	0.246	0.107	0.163	2.298	0.022	0.337	2.967
Leadership Level 2	-0.019	0.125	-0.008	-0.149	0.881	0.539	1.857
Leadership Level 4	0.164	0.130	0.072	1.263	0.207	0.529	1.889
Leadership Level 5	-0.123	0.115	-0.077	-1.063	0.288	0.324	3.087
Model 2							
(Constant)	2.810	0.113		24.943	0.000		
Culture Level 1	0.195	0.108	0.106	1.801	0.072	0.476	2.101
Culture Level 2	0.146	0.098	0.082	1.483	0.139	0.536	1.866
Culture Level 4	0.023	0.102	0.012	0.227	0.821	0.553	1.808
Culture Level 5	-0.205	0.104	-0.119	-1.972	0.049	0.453	2.208
Leadership Level 1	0.231	0.112	0.154	2.073	0.039	0.298	3.354
Leadership Level 2	-0.051	0.129	-0.023	-0.395	0.693	0.490	2.040
Leadership Level 4	0.136	0.133	0.059	1.025	0.306	0.489	2.044
Leadership Level 5	-0.254	0.121	-0.160	-2.109	0.035	0.285	3.507

Table 12 (continued)

Variable	*B*	*SE*	Beta	*t*	*p*	Tol.	VIF
Group: Administrator	0.250	0.073	0.157	3.435	0.001	0.781	1.280
Culture Level 1 * Group	0.100	0.256	0.022	0.390	0.697	0.529	1.889
Culture Level 2 * Group	0.223	0.216	0.056	1.035	0.301	0.554	1.805
Culture Level 4 * Group	0.261	0.202	0.070	1.289	0.198	0.563	1.776
Culture Level 5 * Group	-0.155	0.218	-0.040	-0.712	0.477	0.515	1.942
Leader. Level 1 * Group	0.272	0.281	0.075	0.965	0.335	0.271	3.690
Leader. Level 2 * Group	0.144	0.303	0.030	0.474	0.636	0.403	2.480
Leader. Level 4 * Group	0.408	0.298	0.086	1.368	0.172	0.416	2.405
Leader. Level 5 * Group	-0.009	0.273	-0.003	-0.032	0.975	0.235	4.264

Note. Model 1: Adjusted $R^2 = 0.138$, $F(8, 499) = 11.108$, $p \leq 0.001$; Model 2: Adjusted $R^2 = 0.170$, $\Delta F(9, 490) = 3.141$, $p \leq 0.001$.

individuals having a leadership level of one were found to have predicted scores on PDQF 0.231 units higher as compared with those having a leadership level of three. With regard of group membership, it was indicated in this model that administrators had predicted scores on PDQF which were 0.250 units higher as compared with faculty members. While the second model was found to have significant improvement over the initial regression model conducted, none of the interaction effects incorporated into this model were found to achieve significance or to approach significance at the 0.05 alpha level.

Table 13 displays the linear regression analyses that were conducted on SOCI. In the first model, statistical significance was found with respect to having a culture level of one or five, as well as having a leadership level of one. The results of this model indicated that individuals with a culture level of one had predicted scores on SOCI which were 0.527 units lower as compared with those having a culture level of three. Additionally, respondents having a culture level of five were found to have predicted scores on SOCI 0.227 units higher as compared with those having a culture level of three. In regard to leadership, individuals having a leadership level of one were found to have predicted scores on SOCI which were 0.449 units lower as compared with those having a leadership level of three.

In the second regression model conducted, statistical significance was indicated with respect to having a culture level of one or five, as well as having a leadership level of one. In this model, it was found that having a culture level of one was associated with predicted scores on SOCI which were 0.500 units lower as compared with those having a culture level of three. Additionally, it was also found in this model that those having a culture level of five had predicted scores on SOCI, which were 0.250 units higher as compared with those having a culture level of three. With respect to leadership, it was indicated that respondents who had a

Table 13

Linear Regression Analysis: OE SOCI

Variable	*B*	*SE*	Beta	*t*	*p*	Tol.	VIF
Model 1							
(Constant)	3.856	0.113		34.192	0.000		
Culture Level 1	-0.527	0.109	-0.255	-4.817	0.000	0.523	1.912
Culture Level 2	-0.149	0.102	-0.075	-1.459	0.145	0.552	1.813
Culture Level 4	0.130	0.103	0.063	1.261	0.208	0.587	1.703
Culture Level 5	0.227	0.105	0.118	2.164	0.031	0.494	2.024
Leadership Level 1	-0.449	0.109	-0.267	-4.102	0.000	0.348	2.875
Leadership Level 2	-0.145	0.128	-0.059	-1.133	0.258	0.549	1.823
Leadership Level 4	-0.095	0.132	-0.038	-0.721	0.471	0.535	1.869
Leadership Level 5	-0.027	0.118	-0.015	-0.230	0.819	0.334	2.990
Model 2							
(Constant)	3.836	0.117		32.674	0.000		
Culture Level 1	-0.500	0.114	-0.243	-4.385	0.000	0.480	2.084
Culture Level 2	-0.159	0.104	-0.080	-1.532	0.126	0.535	1.868
Culture Level 4	0.119	0.106	0.058	1.121	0.263	0.550	1.819
Culture Level 5	0.250	0.109	0.130	2.282	0.023	0.455	2.199
Leadership Level 1	-0.433	0.117	-0.257	-3.704	0.000	0.304	3.288
Leadership Level 2	-0.163	0.135	-0.066	-1.205	0.229	0.492	2.031
Leadership Level 4	-0.149	0.138	-0.059	-1.074	0.283	0.489	2.047
Leadership Level 5	-0.034	0.127	-0.019	-0.272	0.786	0.289	3.460

Table 13 (continued)

Variable	*B*	*SE*	Beta	*t*	*p*	Tol.	VIF
Group: Administrator	0.092	0.076	0.052	1.208	0.227	0.782	1.280
Culture Level 1 * Group	-0.202	0.269	-0.040	-0.751	0.453	0.529	1.889
Culture Level 2 * Group	-0.137	0.228	-0.031	-0.601	0.548	0.555	1.802
Culture Level 4 * Group	-0.127	0.211	-0.031	-0.603	0.547	0.562	1.778
Culture Level 5 * Group	0.067	0.229	0.016	0.293	0.769	0.518	1.931
Leader. Level 1 * Group	-0.206	0.296	-0.051	-0.694	0.488	0.270	3.705
Leader. Level 2 * Group	0.001	0.320	0.000	0.003	0.997	0.394	2.536
Leader. Level 4 * Group	-0.482	0.314	-0.092	-1.535	0.125	0.408	2.452
Leader. Level 5 * Group	-0.002	0.288	0.000	-0.005	0.996	0.233	4.295

Note. Model 1: Adjusted $R^2 = 0.238$, $F(8, 511) = 21.251$, $p \leq 0.001$; Model 2: Adjusted $R^2 = 0.239$, $\Delta F(9, 502) = 1.046$, $p > 0.05$.

leadership level of one had predicted scores on SOCI which were 0.433 units lower as compared with those having a leadership level of three. No other significant effects were found in this regression analysis, with the second model not having a significant improvement over the first regression model conducted with this dependent variable.

The two linear regression analyses shown in Table 14 were conducted on AAR. In the first model, statistical significance was indicated with respect to having a culture level of one or five. It was found that individuals who had a culture level of one had predicted scores on AAR 0.431 units lower as compared with those having a culture level of three, while respondents having a culture level of five had predicted scores on AAR 0.182 units higher as compared with those having a culture level of three.

In the second linear regression analysis, statistical significance was indicated again with respect to the effects of having a culture level of one or five. In this model, having a culture level of one was associated with predicted scores on AAR 0.402 units lower as compared with those having a culture level of three. Additionally, individuals with a culture level of five had predicted scores on AAR 0.207 units higher as compared with those having a culture level of three. No other significant results were found in this model, with this model not achieving a significant improvement over the first linear regression analysis conducted on these data.

The final two linear regression analyses conducted with respect to this initial set of analyses focused upon OH and is displayed in Table 15. In the first model, statistical significance was indicated with respect to the effects of all four categories of culture level as well as having a leadership level of one or five. Individuals with a culture level of one were found to have predicted scores on OH which were 0.632 units lower as compared with those having a culture level of three. Respondents with a culture level of two were found to have predicted

Table 14

Linear Regression Analysis: OE AAR

Variable	*B*	*SE*	Beta	*t*	*p*	Tol.	VIF
Model 1							
(Constant)	3.209	0.091		35.196	0.000		
Culture Level 1	-0.431	0.089	-0.275	-4.846	0.000	0.506	1.978
Culture Level 2	-0.028	0.084	-0.018	-0.335	0.738	0.539	1.857
Culture Level 4	0.051	0.084	0.033	0.613	0.540	0.574	1.743
Culture Level 5	0.182	0.086	0.124	2.120	0.034	0.477	2.098
Leadership Level 1	-0.084	0.088	-0.065	-0.948	0.344	0.346	2.890
Leadership Level 2	0.018	0.105	0.009	0.172	0.863	0.568	1.760
Leadership Level 4	0.004	0.107	0.002	0.042	0.967	0.534	1.872
Leadership Level 5	0.171	0.095	0.126	1.797	0.073	0.331	3.024
Model 2							
(Constant)	3.220	0.095		33.929	0.000		
Culture Level 1	-0.402	0.093	-0.256	-4.325	0.000	0.464	2.154
Culture Level 2	-0.015	0.085	-0.010	-0.177	0.860	0.525	1.906
Culture Level 4	0.070	0.087	0.044	0.805	0.421	0.536	1.864
Culture Level 5	0.207	0.090	0.141	2.302	0.022	0.436	2.294
Leadership Level 1	-0.123	0.094	-0.096	-1.314	0.189	0.307	3.261
Leadership Level 2	-0.034	0.110	-0.017	-0.310	0.756	0.516	1.938
Leadership Level 4	-0.067	0.112	-0.035	-0.601	0.548	0.490	2.040
Leadership Level 5	0.129	0.102	0.095	1.259	0.209	0.287	3.483

Table 14 (continued)

Variable	*B*	*SE*	Beta	*t*	*p*	Tol.	VIF
Group: Administrator	0.067	0.061	0.049	1.089	0.277	0.793	1.261
Culture Level 1 * Group	-0.206	0.218	-0.052	-0.944	0.346	0.526	1.900
Culture Level 2 * Group	-0.277	0.185	-0.081	-1.494	0.136	0.553	1.808
Culture Level 4 * Group	-0.019	0.172	-0.006	-0.111	0.912	0.547	1.828
Culture Level 5 * Group	0.002	0.188	0.000	0.008	0.994	0.500	1.999
Leader. Level 1 * Group	0.273	0.236	0.089	1.156	0.248	0.275	3.638
Leader. Level 2 * Group	0.309	0.259	0.074	1.193	0.233	0.419	2.384
Leader. Level 4 * Group	-0.029	0.252	-0.007	-0.115	0.908	0.416	2.403
Leader. Level 5 * Group	0.252	0.232	0.090	1.088	0.277	0.236	4.245

Note. Model 1: Adjusted $R^2 = 0.188$, $F(8, 492) = 15.430$, $p \leq 0.001$; Model 2: Adjusted $R^2 = 0.186$, $\Delta F(9, 483) = 0.915$, $p > 0.05$.

Table 15

Linear Regression Analysis: OE OH

Variable	*B*	*SE*	Beta	*t*	*p*	Tol.	VIF
Model 1							
(Constant)	3.361	0.183		18.349	0.000		
Culture Level 1	-0.632	0.168	-0.214	-3.757	0.000	0.439	2.278
Culture Level 2	-0.463	0.160	-0.155	-2.900	0.004	0.501	1.994
Culture Level 4	0.441	0.147	0.152	2.989	0.003	0.549	1.820
Culture Level 5	0.354	0.150	0.127	2.360	0.019	0.494	2.025
Leadership Level 1	-0.810	0.181	-0.327	-4.464	0.000	0.265	3.769
Leadership Level 2	-0.088	0.211	-0.022	-0.416	0.678	0.523	1.914
Leadership Level 4	0.340	0.200	0.097	1.705	0.089	0.439	2.279
Leadership Level 5	0.503	0.179	0.203	2.810	0.005	0.273	3.661
Model 2							
(Constant)	3.295	0.194		16.944	0.000		
Culture Level 1	-0.538	0.176	-0.182	-3.056	0.002	0.390	2.563
Culture Level 2	-0.392	0.166	-0.131	-2.361	0.019	0.452	2.212
Culture Level 4	0.511	0.156	0.177	3.277	0.001	0.478	2.091
Culture Level 5	0.389	0.156	0.139	2.493	0.013	0.444	2.251
Leadership Level 1	-0.785	0.194	-0.317	-4.042	0.000	0.225	4.437
Leadership Level 2	-0.102	0.222	-0.025	-0.462	0.644	0.461	2.170
Leadership Level 4	0.316	0.209	0.090	1.512	0.132	0.390	2.561
Leadership Level 5	0.539	0.193	0.217	2.795	0.006	0.229	4.358

Table 15 (continued)

Variable	*B*	*SE*	Beta	*t*	*p*	Tol.	VIF
Group: Administrator	0.086	0.121	0.033	0.710	0.478	0.629	1.591
Culture Level 1 * Group	-0.215	0.401	-0.028	-0.536	0.592	0.504	1.983
Culture Level 2 * Group	-0.036	0.371	-0.005	-0.097	0.923	0.537	1.863
Culture Level 4 * Group	0.485	0.298	0.085	1.628	0.105	0.513	1.950
Culture Level 5 * Group	0.723	0.315	0.118	2.298	0.022	0.524	1.909
Leader. Level 1 * Group	0.245	0.497	0.040	0.492	0.623	0.214	4.676
Leader. Level 2 * Group	0.089	0.541	0.010	0.164	0.870	0.385	2.601
Leader. Level 4 * Group	-0.136	0.492	-0.018	-0.276	0.783	0.317	3.158
Leader. Level 5 * Group	0.311	0.451	0.062	0.689	0.492	0.171	5.836

Note. Model 1: Adjusted $R^2 = 0.607$, $F(8, 268) = 54.286$, $p \leq 0.001$; Model 2: Adjusted $R^2 = 0.617$, $\Delta F(9, 259) = 1.789$, $p > 0.05$.

scores on OH 0.463 units lower as compared with those having a culture level of three, while those with a culture level of four had predicted scores on OH 0.441 units higher as compared with those having a culture level of three. Additionally, respondents with a culture level of five had predicted scores on OH 0.354 units higher as compared with those who had a culture level of three. In regard to leadership, individuals with a leadership level of one were found to have predicted scores on OH 0.810 units lower as compared with those having a leadership level of three, while individuals with a leadership level of five had predicted scores on OH 0.503 units higher as compared with those having leadership level of three.

In the second model, statistical significance was again indicated with respect to all four culture levels, as well as having a leadership level of one or five. Additionally, statistical significance was also indicated with respect to the interaction between having a culture level of five and group membership. Having a culture level of one was found to be associated with predicted score on OH 0.538 units lower as compared with having a culture level of three. Respondents with a culture level of two had predicted scores on OH 0.392 units lower as compared with those having a culture level of three, while respondents with a culture level of four had predicted scores on OH 0.511 units higher as compared with those having a culture level of three. Finally, individuals with a culture level of five had scores on OH 0.389 units higher as compared with those having a culture level of three. With respect to leadership, respondents with a leadership level of one were found to have predicted scores on OH 0.785 units lower as compared with those having a leadership level of three, while respondents with a leadership level of five were found to have predicted scores on OH 0.539 units higher as compared with those having a leadership level of three. Statistical significance with a positive coefficient was indicated with respect to the interaction between having a culture level of five

and group membership. This positive coefficient indicates that the effect of having a culture level of five on group membership is significantly greater among administrators as compared with faculty members. While this one interaction was found to achieve statistical significance, the results indicated that the second model did not significantly improve upon the first regression model conducted.

Separate linear regression analyses were conducted for the two cases in which significant improvement was indicated between the first and second linear regression models, on the basis of respondent group. Table 16 summarizes the results of these analyses conducted on SES. Among administrators, no significant results were indicated, while among faculty members, significance was found with respect to having a culture level of one. Specifically, faculty members with a culture level of one had predicted values on SES 0.346 units lower as compared with those having a culture level of three. Additionally, both of these regression models were found to achieve statistical significance.

Table 17 summarizes the results of the separate regression analyses conducted on PDQF. No significant results were found with respect to administrators, while among faculty members, statistical significance was indicated with respect to the effect of having a leadership level of one. Specifically, it was found that faculty members with a leadership level of one had predicted values on PDQF which were 0.312 units higher as compared with those having a leadership level of three. Additionally, these results indicated that only the regression model conducted on faculty members was found to achieve statistical significance.

Among all regression models conducted, problematic levels of multicollinearity were not found, while measures of Cook's *D* and leverage found no substantial outliers. Additionally, normality was indicated with respect to the residuals in all models conducted, while linearity and

Table 16

Linear Regression Analysis: OE SES: By Group

Variable	*B*	*SE*	Beta	*t*	*p*	Tol.	VIF
Model 1							
(Constant)	4.426	0.186		23.749	0.000		
Culture Level 1	-0.199	0.188	-0.103	-1.059	0.292	0.619	1.616
Culture Level 2	-0.147	0.153	-0.098	-0.960	0.339	0.569	1.759
Culture Level 4	0.010	0.130	0.008	0.076	0.940	0.595	1.680
Culture Level 5	-0.014	0.149	-0.010	-0.097	0.923	0.569	1.759
Leadership Level 1	-0.400	0.215	-0.270	-1.864	0.064	0.281	3.560
Leadership Level 2	-0.036	0.225	-0.021	-0.158	0.874	0.342	2.926
Leadership Level 4	0.032	0.214	0.019	0.148	0.882	0.362	2.760
Leadership Level 5	0.071	0.197	0.060	0.357	0.722	0.211	4.744
Model 2							
(Constant)	3.972	0.137		29.088	0.000		
Culture Level 1	-0.346	0.130	-0.188	-2.653	0.008	0.468	2.138
Culture Level 2	-0.063	0.126	-0.033	-0.500	0.618	0.522	1.915
Culture Level 4	-0.030	0.137	-0.014	-0.219	0.826	0.576	1.736
Culture Level 5	0.119	0.137	0.065	0.866	0.387	0.415	2.410
Leadership Level 1	-0.209	0.123	-0.133	-1.702	0.090	0.382	2.619
Leadership Level 2	0.084	0.152	0.035	0.551	0.582	0.593	1.688
Leadership Level 4	0.157	0.163	0.062	0.966	0.335	0.566	1.766
Leadership Level 5	0.264	0.148	0.141	1.777	0.076	0.374	2.671

Note. Model 1: Adjusted $R^2 = 0.101$, $F(8, 144) = 3.141$, $p \leq 0.01$; Model 2: Adjusted $R^2 = 0.151$, $F(8, 354) = 9.050$, $p \leq 0.001$.

Table 17

Linear Regression Analysis: OE PDQF: By Group

Variable	*B*	*SE*	Beta	*t*	*p*	Tol.	VIF
Model 1							
(Constant)	3.229	0.195		16.585	0.000		
Culture Level 1	0.124	0.200	0.063	0.623	0.534	0.632	1.581
Culture Level 2	-0.011	0.160	-0.007	-0.070	0.945	0.568	1.760
Culture Level 4	-0.160	0.138	-0.121	-1.162	0.247	0.599	1.668
Culture Level 5	-0.096	0.156	-0.066	-0.614	0.540	0.569	1.756
Leadership Level 1	0.040	0.226	0.027	0.178	0.859	0.284	3.520
Leadership Level 2	-0.152	0.235	-0.087	-0.646	0.519	0.355	2.821
Leadership Level 4	-0.151	0.225	-0.088	-0.670	0.504	0.373	2.683
Leadership Level 5	-0.248	0.206	-0.210	-1.204	0.231	0.214	4.668
Model 2							
(Constant)	2.739	0.136		20.192	0.000		
Culture Level 1	0.224	0.126	0.122	1.784	0.075	0.476	2.103
Culture Level 2	0.212	0.122	0.114	1.738	0.083	0.524	1.908
Culture Level 4	0.100	0.134	0.046	0.750	0.454	0.586	1.706
Culture Level 5	-0.251	0.133	-0.138	-1.886	0.060	0.415	2.409
Leadership Level 1	0.312	0.121	0.201	2.577	0.010	0.368	2.714
Leadership Level 2	-0.008	0.151	-0.003	-0.054	0.957	0.576	1.737
Leadership Level 4	0.257	0.162	0.100	1.588	0.113	0.560	1.787
Leadership Level 5	-0.257	0.146	-0.138	-1.755	0.080	0.360	2.775

Note. Model 1: Adjusted $R^2 = 0.032$, $F(8, 141) = 1.609$, $p > 0.05$; Model 2: Adjusted $R^2 = 0.201$, $F(8, 349) = 12.215$, $p \leq 0.001$.

normality were also indicated with respect to the relationships between the predictors and outcome measures.

Summary

Regarding the first research question and hypothesis included within this study, the results of the analyses conducted indicated that there was an important relationship between campus culture complexity, leadership role complexity, and organizational effectiveness. This initial null hypothesis was rejected based on the analyses conducted. With regard to the second research question, the effect of respondent group on the dependent variables analyzed was found to generally not be significant in these analyses. Therefore, based on the results of the analyses conducted, the null hypothesis associated with the second research question was not rejected.

CHAPTER FIVE: DISCUSSION

Summary of Findings

This study examined the relationship of perceptions of organizational effectiveness to perceptions of campus culture complexity and leadership role complexity across the North Carolina Community College System. The findings indicated that relationships exist between campus culture complexity and each of the nine dimensions of organizational effectiveness described by Cameron (1978). In addition, relationships were also indicated between leadership role complexity and each of the nine dimensions of organizational effectiveness, with the exception of Student Academic Development. Specifically, significant, positive correlations were indicated between cultural and leadership complexity and the effectiveness dimensions related to Student Educational Satisfaction, Student Personal Development, Systems Openness and Community Interaction, Ability to Acquire Resources, and Organizational Health. In contrast, significant, negative correlations were found between cultural and leadership complexity and the Faculty and Administrator Employment Satisfaction, Professional Development and Quality of the Faculty, and Student Career Development effectiveness dimensions. The effect of respondent group on the outcomes measured was generally not significant.

The results of the study revealed that lower levels of cultural and leadership role complexity were generally associated with lower predicted scores across the organizational effectiveness dimensions, while higher levels of cultural and leadership complexity were more likely to be associated with higher predicted scores of organizational effectiveness. The addition of group membership did not yield significant improvement in the predictive models, with the exception of Student Educational Satisfaction and the Professional Development and Quality of

the Faculty. Although it was found that administrators had improved scores on these dimensions, regressing group membership on these two organizational effectiveness dimensions did not reveal significant interactions.

Prior research revealed similar results regarding the relationship between the response and predictor variables; however, much of the research was conducted in a university setting and generally incorporated either culture type or leadership type as the predictor. This study provides a model for two-year colleges that is shown to be reliable for predicting organizational effectiveness through measures of leadership role complexity and campus culture complexity. The reliability estimates for the scales utilized in the analyses are sufficiently strong to yield findings with reasonable confidence. Although low estimates were identified in three of the scales used in this study, prior research consistently found strong reliability estimates for those particular scales (Cameron, 1978, 1986; Smart, 2003; Smart & Hamm, 1993b; Smart & St. John, 1996).

Comparative Analyses of Current Study to Prior Research

Much of the prior research, which was mainly conducted in a university setting, confirmed relationships between perceptions of organizational effectiveness and either the dominant culture type of an institution or a specific leadership role of the senior administration. Smart (2003) investigated the relationship between levels of leadership role complexity and perceptions of organizational effectiveness and levels of campus culture complexity and perceptions of organizational effectiveness in Tennessee's fourteen community colleges. He identified strong, significant relationships between Cameron's (1978) dimensions of organizational effectiveness, with the exception of Student Career Development, and the levels of campus culture and leadership role complexity. He discovered that perceptions of

organizational effectiveness increased with the level of complexity for both culture and leadership. This study identified significant relationships between each of Cameron's effectiveness dimensions, with the exception of Student Academic Development, and the levels of complexity for both campus culture and leadership role performance. However, the results of this study did not find that each of those relationships was positively correlated. As also indicated in Smart's study, perceptions of effectiveness increased with increasing levels of cultural and leadership complexity in regard to Student Educational Satisfaction, Student Personal Development, Systems Openness and Community Interaction, Ability to Acquire Resources, and Organizational Health. However, the strong or moderate negative correlations found in this study between Faculty and Administrator Employment Satisfaction and Professional Development and Quality of the Faculty effectiveness dimensions and the levels of culture and leadership complexity were in contrast to Smart's study. The strongest correlations in this study include the positive correlation between perceptions of Organizational Health and levels of cultural and leadership complexity and the negative correlation between perceptions of Faculty and Administrator Employment Satisfaction and levels of cultural and leadership complexity.

Organizational Health

This effectiveness dimension incorporates the benevolence, vitality, and viability in the internal processes and practices at the institution. It relates to perceptions of equitable treatment, levels of trust and collegiality, productivity and smoothness of internal processes, levels of conflict and friction, recognition and reward for success, and the amount of information and feedback received. The results of this study indicated that a campus culture and leadership style that reflects more of these elements in a positive way would result in improved perceptions of

organizational effectiveness among the faculty and administrators. This assumption is confirmed through Smart's (2003) study and is also supported through the combined research of Mitchell (1987), Murry and Stauffacher (2001), Smart and Hamm (1993a), Trocchia and Andrus (2003), and Ul Hassan et al. (2011), who each focused on the relationships between individual aspects of the Organizational Health dimension and either leadership or campus culture as a predictor. Mitchell, Murry and Stauffacher, and Trocchia and Andrus identified leaders who promoted trust and cooperation, equitable treatment, and fair and honest assessment as effective. Smart and Hamm and Ul Hassan et al. (2011) identified a complex campus culture that exhibited adaptability, creativity, cohesion, empowerment, and communication as more effective.

Student Educational Satisfaction

This dimension of effectiveness refers to the degree of satisfaction students have with their educational experience at the institution, which impacts retention and general feelings towards the institution. The results of this study indicated that the faculty and administrators relate perceptions of increasingly positive student educational satisfaction to increasing levels of cultural and leadership complexity. Although much of the prior research shows that students base their levels of satisfaction and resulting perceptions of institutional effectiveness on their achievement of learning outcomes and the programs and courses of study offered at the institution (Iacovidou et al., 2009; Tam, 2001), the combination of prior findings and the results of this study can link student achievement in preferred courses of study to an environment that exhibits cultural and leadership complexity. An institution that exhibits creative, agile, and student focused curriculum programming, with faculty that feel empowered to create the optimal educational environment for student success, as well as systems that run smoothly and efficiently for increased student support would provide the environment that research reveals is viewed as

effective. This type of environment would incorporate elements from each of the culture types and leadership roles in the Competing Values Framework.

Student Personal Development

This effectiveness dimension relates to student development in non-academic, non-career oriented areas. The emphasis is on personal development and opportunities for social, emotional, or cultural growth. The results of this study found that faculty and administrators related perceptions of effectiveness to the emphasis placed on student personal development, which increased with increasing levels of cultural and leadership complexity. Prior research supports the relationship between perceptions of effectiveness and the emphasis institutions placed on student personal development opportunities. Astin (1999) concluded that effective institutions emphasized and supported student involvement in non-academic activities. He also found that frequent student-faculty interactions were more strongly associated with student satisfaction and retention than any other type of involvement or institutional characteristic. Iacovidou et al. (2009) similarly found that institutions that emphasized student support services were viewed as more effective. Student support services include activities, processes, spaces, and interactions that enhance social, emotional, or cultural growth. Supporting student development services that enrich the non-academic lives of students requires the commitment of resources and time to the planning and implementation of activities, structures, and processes by the faculty, staff, and administration. Often efficiencies must be identified in order to implement services that are not revenue producing, time must be committed to identifying relevant and student-focused needs, and creativity and resourcefulness is typically required to provide the services within budgetary restrictions. To support student development services adequately, a focus on adaptability, creativity, customer needs, resource acquisition, and efficiency is

necessary. This requires a campus culture and leadership profile that exhibits aspects associated with each quadrant of the Competing Values Framework.

System Openness and Community Interaction

This dimension of effectiveness incorporates elements of college interactivity and responsiveness to external constituents. The results of this study indicated that faculty and administrators relate effectiveness to the adaptability and responsiveness of their institution in regard to meeting the needs of external constituents through relevant community-oriented programs and activities, and their perception of effectiveness in this dimension increased with increasing leadership and cultural complexity. Perceptions of effectiveness based on the proactivity of leadership in response to external demands were also identified by Cameron (1986) and Cameron and Tschirhart (1992). These prior studies were conducted in a university setting; however, the unique atmosphere of the community college setting provides additional considerations when examining how culture and leadership relate to perceptions of effectiveness in regard to this dimension.

Community colleges have a multifarious mission that supports community enrichment, university transfer education, remedial education, and business training and support. The majority of the services provided require interactivity with external constituents to gauge their needs and to tailor programs to meet those needs. Therefore, community colleges that exhibit higher levels of campus culture and leadership complexity would yield more relevant and customer focused activities for the various constituents that require services. The business and industry stakeholders would expect agility to meet the changing needs of their industry, efficiency to limit the productivity down-time required for training, and high levels of customer service to retain their involvement. Community members comprise the voting, private donor,

and advocacy populations and often populate the personal enrichment programs. Their expectations would be that programs are relevant, cost-effective, customer focused, and supportive of the needs of the community. Students seeking education or training credentials would expect efficient, adaptable, cutting-edge, and sufficiently funded programs. Government officials focus on stewardship and performance measurement as measures of effectiveness. To meet the needs of the various constituencies of a community college, institutions should exhibit cultural and leadership elements from across all quadrants of the Competing Values Framework.

Ability to Acquire Resources

This effectiveness dimension relates to the ability of the college to obtain financial resources, highly qualified faculty, and top-level students. The results of this study indicated that faculty and administrators relate higher levels of campus culture and leadership role complexity to increased perceptions of effectiveness in regard to the ability to acquire resources. Prior research confirms the relationship between complex leadership and increased levels of effectiveness related to resource acquisition (Ambrose et al., 2005; Bland, Weber-Main, Lund, & Finstad, 2005; Lindholm, 2003; Siddique et al., 2011). However, much of the research was conducted at the university, which has different criteria for determining some aspects of this dimension, specifically the ability to acquire qualified faculty.

Universities and community colleges occupy separate niches in higher education. While both the universities and the community colleges offer the freshman and sophomore levels of a bachelor's degree, the community college also has a distinct focus on occupational and workforce development education and training that requires an associate's degree or less. The required credentials and research expectations of faculty at universities and community colleges differ as well, which impacts the quality criteria deemed important by each type of institution.

Typically, requirements of university faculty include a doctorate degree and research publications, whereas requirements of community college faculty generally include a master's degree for transfer curriculum and bachelor's or associate's degrees for the vocational areas, with preferences for applied teaching methods, additional vocational credentials, or industry experience. These differences reflect the disparate missions and student demographics of each type of institution. Therefore, the resources that are associated with this dimension may differ when considering the type of higher education institution, although the dimension specifically refers to the *ability* to acquire resources without a distinction as to the exact nature of the resources. In that regard, the findings from university level research can be applied to conclusions drawn from research at the community college level.

Recruiting highly regarded researchers has a positive impact on the reputation of the university (Bland et al., 2005). The enhanced reputation influences the ability of those universities to retain highly qualified faculty (Matier, 1990; Johnsrud & Heck, 1994). Several researchers found that providing faculty with the resources, which include both funding and safeguarding time for scholarly endeavors, enhanced the motivation and morale of the faculty, thus increasing retention (Ambrose et al., 2005; Bland et al., 2005; Lindholm, 2003; Siddique et al., 2011). The findings of this prior research related the recruitment and retention of highly qualified faculty to perceptions of leadership effectiveness.

Other research has shown that the ability to acquire funding, especially in a turbulent environment (Cameron, 1986), and providing the appropriate processes that attract more highly qualified students (Cameron & Tshirhart, 1992) lead to increased perceptions of effectiveness. The ability to develop and implement processes that target high quality faculty and students, emphasize the innovative environment that supports research endeavors, focus on factors that

enhance the morale and thereby increase retention of faculty, and prioritize funding for activities that support the mission of the institution requires the leadership and culture of the institution to exhibit aspects from each culture and leadership type across the quadrants of the Competing Values Framework.

Faculty and Administrator Employment Satisfaction

This dimension incorporates elements related to the satisfaction that faculty and administrators have with their jobs and with employment at their institutions. The results of this study found that a relationship existed between faculty and administrators perceptions of effectiveness as it relates to employment satisfaction and levels of cultural and leadership complexity. The relationship indicated that faculty and administrators related increased perceptions of effectiveness in regard to this dimension to decreasing levels of cultural and leadership complexity. These results may be indicative of the multifarious mission of the community college, which creates distinct divisions with diverse functions and stakeholders. Although the study was designed to measure effectiveness at the institutional level, the faculty and staff may have addressed this section from an individualized perspective. Cohen, March, and Olsen's (1972) concept of organized anarchies, in which the institution is viewed as loosely coupled subunits that operate autonomously and with dynamic and contradictory goals, is a common perspective of the community college employee. Therefore, the factors they considered as contributors to their satisfaction may have been related to the particular micro-culture of the division in which the employee works. While this may have been the case, there is research that supports the results of this study.

Employment satisfaction is strongly impacted by employee morale (Siddique et al., 2011) and other internal factors, and colleges can be perceived as effective despite their external

environments (Cameron, 1986). In addition, several researchers found evidence that employment satisfaction is contingent on a dominant culture type, rather than a complex culture, and leadership may not be as influential as the culture. Schein (2011) argued that the single most fundamental construct in the internal dynamics of higher education is culture, diminishing the effect that leadership has on those same dynamics. Cameron and Ettington (1988), Smart et al. (1997), and Smart and St. John (1996) found a clear relationship between increased levels of internal morale and effectiveness and a campus culture that exhibited a dominant clan or adhocracy culture type, and decreased perceptions of effectiveness for colleges that exhibited a hierarchy culture type.

When taking into account the individualized perspective by which respondents may have viewed this dimension and the diversity of divisions within a community college, each with a unique mission that is best supported by a particular cultural or leadership type, the results are not surprising. Prior research indicates that clan or adhocracy cultures and motivating or vision setting leaders are viewed as most effective by those engaged in the traditional academic endeavors (associate-degree, transfer education) or the community support and enrichment activities (military support services, remedial education, unemployment/underemployment services, cultural or social enhancement programs), while market cultures led by individuals exhibiting the qualities of the task master role are viewed as most effective by those engaged in the entrepreneurial services (small business centers, business and industry training) of the community college. In this way, complexity of the sub-culture or divisional leadership would not be positively correlated to perceptions of effectiveness related to employee satisfaction.

Professional Development and Quality of the Faculty

The elements of this effectiveness dimension relate to the number of faculty on an annual basis who submit publications or other peer-reviewed work, teach at the cutting edge, engage in research or graduate level work, or attend professional development activities. Although many of the elements in this dimension do not necessarily correspond to the requirements of the faculty within the North Carolina Community College System who have full teaching workloads and are not required to submit peer-reviewed work, the relationship was moderately strong.

The results of the study indicated that the faculty and administration related increased levels of effectiveness in regard to this dimension to decreasing cultural and leadership complexity. Although prior research finds that leaders who support faculty development are viewed as more effective (Ambrose et al., 2005; Bland et al., 2005; Lindholm, 2003; Siddique et al., 2011) and institutions dominated by clan or adhocracy cultures that support personal development and cutting edge technology are viewed as more effective (Cameron & Ettington, 1988; Smart et al., 1997; Smart & St. John, 1996), only Smart (2003) relates increasing levels of cultural and leadership complexity to increased perceptions of effectiveness related to professional development of the faculty. The results of this study indicate that institutions dominated by one or two cultural types or leadership roles provide a more effective environment for faculty development.

Student Career Development

This effectiveness dimension relates to the extent of occupational development of students and the emphasis placed on career development for students. The results showed a weak, negative relationship between perceptions of effectiveness related to this dimension and levels of cultural and leadership complexity. The population sample in this study included

faculty and senior administrators; however, the employee group that is most closely associated with career development in the community college is the student services personnel, who did not take part in this study. While inclusion of that population may have provided individuals with more extensive knowledge of the career development throughout a student's educational experience, it is very difficult to obtain information from students subsequent to graduation. Therefore, the results of this analysis are to be considered with discretion.

Perceptions of Faculty and Administrators

The results of this study found an improved predictive model for faculty in regard to only culture level one of the Student Educational Satisfaction effectiveness scale and leadership level one on the Professional Development and Quality of the Faculty effectiveness scale. For the other analyses conducted, the addition of group membership as well as the interactions between group membership and culture and leadership level did not provide significant improvement to model fit. Therefore, the results generally indicated that perceptions of the relationship of organizational effectiveness to levels of cultural and leadership complexity in community colleges are consistent between faculty and senior administrators. In prior research, several researchers found discordance between higher education stakeholder groups' perceptions of effectiveness criteria. McGoey (2007) found that deans differed from vice presidents in regard to the importance placed on the ability to acquire resources. Watson et al. (2005) found differences between perceptions of administrators and those of faculty and students regarding certain cultural elements. However, Smart (2003) found no significant differences between faculty and senior administrators perceptions of Cameron's (1978) effectiveness dimensions and levels of cultural and leadership complexity, confirming the results of this study.

Implications

This study was guided by the premise of the Competing Values Framework that higher education institutions have elements of the paradoxical values associated with the clan, adhocracy, hierarchy, and market cultures, and that leaders of those institutions exhibit characteristics associated with the motivator, vision setter, analyzer, and task master roles. The findings revealed that institutions that exhibit elements from multiple quadrants within the framework, which represents cultural and leadership complexity, are perceived as more effective. The implications drawn from this conclusion have an impact on multiple areas and functions within the institution.

Administratively, employment practices should focus on targeting and hiring a diverse population that includes individuals exhibiting qualities from multiple profiles. While many individuals may align more closely with the elements from one or two of the quadrants, the overall population should show equal diversity of qualities from across the framework. The leadership team of senior administrators should especially reflect diversity based on their roles as policy makers and enforcers. Because diverse groups may encounter challenges as they work together, it is imperative to develop guidelines that support equitable treatment of ideas. Recognizing and discussing the differences is equally important in maintaining productive teams; therefore, continual professional development in this area would be advantageous.

An organizationally healthy college and one that is perceived as responsive to both the internal and external environments requires cultural and leadership qualities that support equitable treatment and rewards, smooth internal functioning, activities and behaviors that promote general levels of trust among employees, minimal levels of conflict, adequate recognition for good work, appropriate feedback and information shared between employees,

and adaptability to external challenges. To create an environment where the faculty and senior administration feel that the college is healthy and meeting the needs of its constituents, several processes and foci should be emphasized across the college that exhibit cultural and leadership complexity. Implementing processes to reward and recognize employees across divisions and categories, developing communication plans that are timely and informative, and setting inclusive goals and priorities that meet the needs of the greater good are critical to improving the effectiveness of an institution.

Rewards must be relevant to be meaningful, and practices that reward others for valuable work should be implemented across divisions and employee groups. It is important to discover what employees deem valuable so that rewards are related to their preferences. Making a concerted effort to poll employees to determine those preferences will help establish an inventory of possibilities, and developing criteria, through a consensual process, by which employees are rewarded will provide some structure and set expectations regarding how employees are rewarded. A structured program of reward, the participatory process by which the structure is developed, and the focus on individual preferences draws from values associated with several quadrants of the Competing Value Framework.

The overall internal functioning of the college and its responsiveness to external constituencies can be enhanced by determining the needs of both internal and external stakeholders and developing diverse focus groups that work together to establish goals and objectives that meet those needs. The goals and objectives should be prioritized and include funding, time, and personnel commitments and measures to assess successful attainment of the goals. Periodic and scheduled updates as well as opportunities for critical input should be provided to all constituent groups. This system of needs analysis, inclusive and participatory

development of goals and objectives, process to emphasize continuous improvement, and innovative strategy development to meet the needs of diverse stakeholders requires a culture and leadership approach that incorporates elements from each culture type and leadership role.

The environment for students is an important consideration when measuring effectiveness. A high level of satisfaction with the educational experience and with the non-academic services leads to improved morale and retention of students, which has a positive impact on the reputation of the institution. The improved institutional stature would help recruit top students and reputable faculty. Enhancing the educational experience and personal development services of the institution requires a concerted effort to identify the demographics of the student population and to implement support structures that are tailored to their needs. While many colleges gather demographic information regarding the student body, developing programs and committing resources tailored to demographic groups does not always occur. Budget restrictions are often cited for the lack of support structures, but finding creative and resourceful solutions, seeking outside funding, and prioritizing funding for such programs would ultimately lead to more effective outcomes. As such, colleges generally cannot support large numbers of programs that meet the needs of every demographic. Therefore, analyses that identify the most impactful programs should be conducted to prioritize commitment of resources. From the academic perspective, this may include focused attention to academic programs that address the needs of the largest employers and offering stackable credentials that allow students to gain skill sets for different levels and categories within a field of study. Faculty in those areas could intern in the industry to ensure that they incorporate relevant methods and information in their course development and teaching strategies. Higher achieving students could be guided by faculty to intern in an industry setting or conduct independent projects that align with their future

goals. Intrusive advising would be beneficial so that students remain focused and receive continuous and timely support throughout their educational experience. This may require faculty workload reductions so that adequate time can be devoted to the students' needs.

Identifying services that best support the emotional, social, and cultural needs of the various groups within the student body requires an assessment of the most critical support needs of students. Student focus groups that are structured to be inclusive and others that include culturally similar individuals can provide information regarding what those critical needs are. Coupling the qualitative data gained through the focus groups with quantitative data on retention and student success criteria can provide the most comprehensive view of student needs. In addition, having faculty and staff that reflect a similar demographic as the student body is helpful in creating an atmosphere that reflects cultural understanding, especially when those faculty and staff commit to participating in student development services and activities. Institutions that emphasize programs which enhance student education satisfaction and student personal development and seek creative, inclusive, student-focused, and efficient means to develop such programs are viewed by faculty and administration as being effective. These institutions reflect complexity across their cultural and leadership typology.

While the results do not generally impact educational policy, they have important implications for programs that prepare higher education administrators. Graduate programs for higher education practitioners should incorporate the Competing Values Framework as a theoretical model to reveal the paradoxical nature of the campus culture and the leadership attributes that contribute to perceptions of effectiveness. Future leaders can discover ways in which they can influence the development of complexity in the campus culture and exhibit diversity in their leadership behaviors to increase effectiveness of their institution.

Limitations

This study contained a number of limitations. The use of a non-random sample limited the generalizability or external validity of the study. While the results found are representative of the population analyzed, any generalizations of these results to a larger population would need to be tentative. In addition, this study used cross-sectional data as opposed to panel data, therefore determinations of causality between the predictor and outcome variables cannot be made. Additional limitations of the study consist of a limited number of predictors analyzed and considered within this study as well as a specific focus on the perceptions of faculty and senior administrators within one community college system.

Recommendations for Future Research

The recommendations for future research tie in largely with the limitations identified. The use of random sampling in future studies would allow for a representative sample of respondents to be collected from a larger population. The benefit of such a study would be the ability to generalize any results found in the analysis conducted in the present sample to this larger population. Additionally, the collection and use of panel data, while more extensive and more cost-intensive than cross-sectional data, would allow for the determination of causality between the predictor variables included in the analyses and all outcome measures of interest. Future studies may also aim to examine a broader set of possible predictors, which would be incorporated into questionnaires as well as the analyses conducted. The sample population could be extended beyond a single community college system and incorporate additional employee groups.

Conclusions

Cameron (1981) identified four domains of effectiveness for higher educational institutions: (1) external adaptation domain, composed of the Student Career Development and System Openness and Community Interaction dimensions; (2) morale domain, consisting of Student Educational Satisfaction, Faculty and Administrator Employment Satisfaction, and Organizational Health dimensions; (3) academic-oriented domain, composed of the Student Academic Development, Professional Development and Quality of the Faculty, and Ability to Acquire Resources dimensions; and (4) extracurricular domain, consisting of the Student Personal Development dimension. While the results of this study did not find consistency in the direction of the relationships between effectiveness and levels of cultural and leadership complexity in regard to the dimensions associated with each of Cameron's domains, this study identified consistent results related to dimensions that have a focus on students, a focus on the organizational as a whole, and a focus on the faculty.

Perceptions of effectiveness in regard to dimensions specifically related to students, Student Educational Satisfaction and Student Personal Development, were positively correlated to increasing levels of cultural and leadership complexity. Similarly, perceptions of effectiveness in regard to the dimensions that specifically related to the organizational as a whole, Organizational Health, System Openness and Community Interaction, and Ability to Acquire Resources, were also positively correlated to increasing levels of cultural and leadership complexity. In contrast, perceptions of effectiveness related to dimensions that focus on faculty, Professional Development and Quality of the Faculty, and Faculty and Administrator Employment Satisfaction, were negatively correlated to levels of cultural and leadership complexity. Cameron and Ettington (1988), Smart et al. (1997), and Smart and St. John (1996)

confirm that faculty perceive institutions that are dominated by clan or adhocracy cultures as more effective.

The results of this study confirm and extend previous findings including: (1) the multidimensional diagnostic tool originally developed by Cameron (1986) and later modified for use in two-year colleges by Smart and Hamm (1993b) and Anderson, et al. (2003) is a valid instrument for assessing relationships between perceptions of effectiveness and cultural and leadership complexity, (2) the Competing Values Framework is a practical model for conducting effectiveness research within higher education, (3) community college faculty and staff generally associate higher levels of effectiveness with more complex campus cultures and leadership role performance, and (4) faculty and administrators generally perceive relationships between cultural and leadership complexity and effectiveness similarly. While there are limitations associated with this study, the predictive models generated through this research are useful for higher education practitioners to consider when working to improve perceptions of effectiveness within their institutions.

REFERENCES

Ambrose, S., Huston, T., & Norman, M. (2005). A qualitative method for assessing faculty satisfaction. *Research in Higher Education*, *46*, 803-830.

American Association of Community Colleges. (2012). *Reclaiming the American dream: Community colleges and the nation's future*. Washington, DC: American Association of Community Colleges.

Anderson, J., Nippert, K, Patterson, K., & Smith, B. (2003). Assessing the mission, culture, leadership, and effectiveness of Tennessee's community colleges [Survey instrument]. Unpublished instrument.

Argyris, C. (1964). *Integrating the individual and the organization*. New York, NY: John Wiley.

Ashraf, G., & Abd Kadir, S. B. (2012). A review of models of organizational effectiveness: A look at Cameron's model in higher education. *International Education Studies*, *5*(2), 80-87.

Astin, A. W. (1999). Student involvement: A developmental theory for higher education. *Journal of College Student Development*, *40*(5), 518-529.

Barnard, C. I. (1938). *The functions of the executive*. Cambridge, MA: Harvard University Press.

Barrett, R. (1996). Quality and the abolition of standards: Arguments against some American prescriptions for the improvement of higher education. *Quality in Higher Education*, *2*(3), 201-210.

Bauer, K. (2001). Assessment for institutional research: Guidelines and resources. In W. Knight (Ed.), *The primer for institutional research*. Tallahassee, FL: Association for Institutional Research.

Bennis, W. G. (1966). *Changing organizations*. New York, NY: McGraw-Hill.

Bland, C. J., Weber-Main, A. M., Lund, S. M., & Finstad, D. A. (2005). *The research-productive department: Strategies from departments that excel*. Boston, MA; Anker.

Bryman, A. (2007). Effective leadership in higher education: A literature review. *Studies in Higher Education*. *32*(6), 693-710.

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

Cameron, K. S. (1980). Critical questions in assessing organizational effectiveness. *Organizational Dynamics*, 66-80.

Cameron, K. S. (1981). Domains of organizational effectiveness in colleges and universities. *The Academy of Management Journal*, *24*(1), 25-47.

Cameron, K. S. (1986). A study of organizational effectiveness and its predictors. *Management Science*, *32*(1), 87-112.

Cameron, K. S., & Ettington, D. R. (1988). The conceptual foundations of organizational culture. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. 4, pp. 356-396). Dordrecht, The Netherlands: Kluwer Academic Press.

Cameron, K. S., & Freeman, S. J. (1991). Cultural congruence, strength, and type: relationships to effectiveness. *Research in Organizational Change and Development*, *5*, 23-58.

Cameron, K. S., & Quinn, R. E. (2011). *Diagnosing and changing organizational culture: Based on the competing values framework* (3rd ed.). San Francisco, CA: John Wiley & Sons.

Cameron, K. S., Quinn, R. E., DeGraff, J., & Thakor, A. V. (2006). Competing values leadership: Creating value in organizations. In C. L. Cooper (Ed.), *New horizons in management*. Northampton, MA: Edward Elgar.

Cameron, K. S., & Tschirhart, M. (1992). Postindustrial environments and organizational effectiveness in colleges and universities. *Journal of Higher Education*, *63*(1), 87-108.

Cameron, K. S., & Whetten, D. A. (1983). *Organizational effectiveness - A comparison of multiple models*. New York, NY: Academic Press.

Cameron, K. S., & Whetten, D. A. (1996). Organizational effectiveness and quality: The second generation. In *Higher education: Handbook of theory and research* (Vol. XI, pp. 265-306). New York, NY: Agathon Press.

Campbell, J. P. (1977). On the nature of organisational effectiveness. In P. S. Goodman, & J. M. Pennings (Eds.), *New perspectives in organisational effectiveness* (pp. 36-41). San Francisco, CA: Jossey-Bass.

Campbell, J. P., Brownas, E. A., Peterson, N. G., & Dunnette, M. D. (1974). *The measurement of organizational effectiveness: A review of relevant research and opinion*. Minneapolis, MN: Navy Personnel Research and Development Center.

Cartwright, D. (1965). Influence, leadership, and control. In J. G. March (Ed.), *Handbook of organizations* (pp. 1-47). Chicago, IL: Rand McNally.

Cheng, M. (2009). Academics' professionalism and quality mechanisms: Challenges and tension. *Quality in Higher Education*, *15*(3), 193-205.

Cohen, A. M. (1998). *The shaping of American higher education: Emergence and growth of the contemporary system*. San Francisco, CA: John Wiley & Sons.

Cohen, M.D., March, J.G., & Olsen, J.P. (1972). A garbage can model of organizational choice. *Administrative Science Quarterly*, *17*(1), 1-25.

Connolly, T., Conlon, E. J., & Deutsch, S. J. (1980). Organizational effectiveness: A multiple-constituency approach. *Academy of Management Review*, *5*, 211-217.

Cook, C., Heath, F., & Thompson, R.L. (2000). A meta-analysis of response rates in Web- or Internet-based surveys. *Educational and Psychological Measurement*, *60*(6), 821-836.

DeJager, H. J., & Nieuwenhuis, F. J. (2005). Linkages between total quality management and the outcomes-based approach in an education environment. *Quality in Higher Education*, *11*(3), 251-260.

Deming, W. E. (1986). *Out of the crisis*. Cambridge, MA: Massachusetts Institute of Technology, Center for Advanced Engineering Study.

Denison, D. R., Hooijberg, R., & Quinn, R. E. (1995). Paradox and performance: Toward a theory of behavioral complexity in managerial leadership. *Organizational Science*, *6*(5), 524-540.

Dew, J. (2009). Quality issues in higher education. *The Journal for Quality and Participation*, *32*(1), 4-9.

Dill, D. D. (2000). Designing academic audit: Lesson learned in Europe and Asia. *Quality in Higher Education*, *6*(3), 187-207.

Dougherty, K. J., & Reddy, V. (2011). *The impacts of state performance funding systems on higher education institutions: Research literature review and policy recommendations* (CCRC Working Paper No. 37). New York, NY: Community College Research Center.

Drury, R. L. (2003). Community colleges in America: An historical perspective. *Inquiry*, *8*(1). Retrieved from http://www.vccaedu.org/inquiry-spring2003/i-81-drury.html

Eff, E.A., Klein, C.C., & Kyle, R. (2012). Identifying the best buys in U.S. higher education. *Research in Higher Education*, *53*(8), 860-887.

Etzioni, A. (1964). *Modern organizations*. Upper Saddle River, NJ: Prentice Hall.

Ewell, P. T. (2002). A delicate balance: The role of evaluation in management. *Quality in Higher Education*, *8*(2), 159-171.

Fayol, H. (1949). *General and industrial management*. (I. Gray, Trans.). London, England: Pitman. (Original work published 1919)

Fjortoft, N., & Smart, J. C. (1994). Enhancing organizational effectiveness: The importance of culture type and mission agreement. *Higher Education*, *27*(4), 429-447.

Franke, S. (2002). From audit to assessment: A national perspective on an international issue. *Quality in Higher Education*, *8*(1), 23-28.

Georgopoulos, B. S., & Tannenbaum, A. S. (1957). A study of organizational effectiveness. *American Sociological Review*, *22*(5), 534-540.

Goben, A. (2007). *FanSAStic! results: Collaboratively leading institutional effectiveness efforts in higher education institutions*. Paper presented at the SAS Institute, Las Vegas, NV.

Goodman, P. S., Atkin, R. S., & Schoorman, D. F. (1983). On the demise of organizational effectiveness studies. In K. S. Cameron, & D. A. Whetten (Eds.), *Organizational effectiveness: A comparison of multiple models*. New York, NY: Academic Press.

Goodman, P. S. & Pennings, J. M. (Eds.). (1977). *New perspectives in organizational effectiveness*. San Francisco, CA: Jossey-Bass.

Goodman, P. S. & Pennings, J. M. (1980). Critical issues in assessing organizational effectiveness. In E. E. Lawler, D. A. Nadler, & C. Cammann (Eds.), *Organizational assessment: Perspectives on the measurement of organizational behavior and the quality of work life*. New York, NY: Wiley.

Hannan, M. T., & Freeman, J. H. (1977). Obstacles to the comparative study of organizational effectiveness. In P. S. Goodman, & J. M. Pennings (Eds.), *New perspectives on organizational effectiveness*. San Francisco, CA: Jossey-Bass.

Hart, S. L., & Quinn, R. E. (1993). Roles executives play: CEOs, behavioral complexity, and firm performance. *Human Relations*, *46*(5), 543-574.

Hartnell, C. A., Ou, A. Y., & Kinicki, A. (2011). Organizational culture and organizational effectiveness: A meta-analytic investigation of the competing values framework's theoretical suppositions. *Journal of Applied Psychology*, *96*(4), 677-694.

Harvey, L. (1995). Beyond TQM. *Quality in Higher Education*, 1(2), 123-146.

Harvey, L., & Green, D. (1993). Defining quality. *Assessment and Evaluation in Higher Education*, *18*(1), 9-34.

Head, R. B. (Ed.) (2011). The evolution of institutional effectiveness in the community college [Entire issue]. *New Directions for Community Colleges*, *153, 1-pages.* http://dx.doi.org/10.1002/cc.432

Homans, G. C. (1950). *The human group*. New York, NY: Harcourt.

Houston, D. (2007). TQM and higher education: A critical systems perspective on fitness for purpose. *Quality in Higher Education*, *13*(1), 3-17.

Hrebiniak, L. G. (1978). *Complex organizations*. St. Paul, MN: West Publishing.

Iacovidou, M., Gibbs, P., & Zopiatis, A. (2009). An exploratory use of the stakeholder approach to defining and measuring quality: The case of a Cypriot higher education institution. *Quality in Higher Education*, *15*(2), 147-165.

Johnson, J. (2000). Differences in supervisor and non-supervisor perceptions of quality culture and organizational climate. *Public Personnel Management*, *29*(1), 119-128.

Johnsrud, L. K. & Rosser, V. J. (1994). A university's faculty: Identifying those who will leave and those who will stay. *Journal for Higher Education Management*, 10, 71-84.

Joyce, P. (2009). Leadership and organisational effectiveness - lessons to be drawn from education? *Journal of Nursing Management*, *17*, 494-502.

Katz, D., Maccoby, N., & Morse, N. (1950). *Productivity, supervision, and morale in an office situation*. Ann Arbor, MI: Institute for Social Research.

Kirk, R.E. (1982). *Experimental design: Procedures for the behavioral sciences* (2nd ed.). Pacific Grove, CA: Brooks/Cole.

Krakower, J.Y., & Niwa, S.L. (1985). *An assessment of the validity and reliability of the institutional performance survey*. Boulder, CO: National Center for Higher Education Management Systems.

Lee, J. B., & Topper, A. M. (2006). The future of proprietary post-secondary education. *On the Horizon*, *14*, 54-91.

Levin, J. S. (2001). *Globalizing the community college*. New York, NY: Palgrave Macmillan.

Likert, R. (1961). *New patterns of management*. New York, NY: McGraw-Hill.

Lincoln, J. R. (2003). *Culture, control, and commitment: A study of work organization and work attitudes in the United States and Japan*. New York, NY: Percheron Press.

Lindholm, J. A. (2003). Perceived organizational fit: Nurturing the minds, hearts, and personal ambitions of university faculty. *Review of Higher Education*, 27, 125-149.

Lomas, L. (2002). Does the development of mass education necessarily mean the end of quality? *Quality in Higher Education*, *8*(1), 71-79.

March, J. G., & Olsen, J. P. (1976). *Ambiguity and choice in organizations*. Oslo, Norway: Universitetforlaget.

Marcus, J. (2013). Universities look for new ways to rank themselves. *Hechinger Report*, *5-pages*. http://hechingerreport.org/content/universities-look-for-new-ways-to-rank-themselves_13153/

Martin, J. (2002). *Organizational culture*. Thousand Oaks, CA: Sage Publications.

Matier, M. W. (1990). Retaining faculty: A tale of two campuses. *Research in Higher Education*, 31, 39-60.

Mayo, E. (1945). *The social problems of an industrial civilization*. Boston, MA: Harvard University.

McGoey, S.P. A comparison of institutional stakeholders' perceptions of presidential effectiveness. *The International Journal of Educational Management*, *20*(2), 86-104.

Melrose, M. (1998). Exploring paradigms of curriculum evaluation and concepts of quality. *Quality in Higher Education*, *4*(1), 37-43.

Meyer, M. W. (1975). Organizational domains. *American Sociological Review*, *40*(5), 599-615.

Michael, S. O., Schwartz, M., & Balraj, L. (2001). Indicators of presidential effectiveness: A study of trustees of higher education institutions. *The International Journal of Educational Management*, *15*(7), 332-346.

Mitchell, M. B. (1987). The process of department leadership. *Review of Higher Education*, 11, 161-176.

Morgan, G. (2006). *Images of organization*. Thousand Oaks, CA: Sage Publications.

Murry, J. W. J., & Stauffacher, K. B. (2001). Department chair effectiveness: What skills and behaviors do deans, chairs, and faculty in research universities perceive as important? *Arkansas Educational Research and Policy Studies Journal*, 1, 62-75.

National Center for Education Statistics. (2012). Digest of education statistics. Retrieved from http://nces.ed.gov

National Commission on Excellence in Education. (1983). *A nation at risk: The imperative for educational reform*. Washington, DC: Author.

North Carolina Community College System. (2012). 2011-12 Annual statistical reports. Retrieved from http://www.nccommunitycolleges.edu/Statistical_Reports/

North Carolina Community College Faculty Association. (2013). Constitution of the North Carolina community college faculty association. Retrieved from http://ncccfa.org/about_us/ncccfa_constitution.aspx

Obama, B. H. (2011, January). *State of the Union address*. Paper presented at the White House, Washington, DC.

Ouchi, W. G. (1981). *Theory Z: How American business can meet the Japanese challenge*. Reading, MA: Addison-Wesley.

Pascale, R., & Athos, A. (1981). *The art of Japanese management*. New York, NY: Simon & Schuster.

Pennings, J. M., & Goodman, P. S. (1977). Toward a workable framework. In P. S. Goodman, & J. M. Pennings (Eds.), *New perspectives on organizational effectiveness* (pp. 146-184). San Francisco, CA: Jossey-Bass.

Perrow, C. (1961). The analysis of goals in complex organizations. *American Sociological Review*, 854-866.

Peters, T., & Waterman, R. H. (1982). *In search of excellence*. New York, NY: Harper and Row.

Peters, T., & Waterman, R. H. (2006). *In search of excellence: Lessons from America's best run companies*. New York, NY: Collins Business Essentials.

Pfeffer, J., & Salancik, G. R. (1974). Organizational decision making as a political process: The case of a university budget. *Administrative Science Quarterly*, *19*, 135-151.

Powell, B. A., Gilleland, D. S., & Pearson, L. C. (2012). Expenditures, efficiency, and effectiveness in U.S. undergraduate higher education: A national benchmark model. *The Journal of Higher Education*, *83*(1), 102-127.

Quinn, R. E., & Rohrbaugh, J. (1983). A spatial model of effectiveness criteria: Toward a competing values approach to organizational analysis. *Management Science*, *29*, 363-377.

Reyna, R., Reindl, T., Witham, K., & Stanley, J. (2010). *Complete to compete: Common college completion metrics technical guide.* Washington, DC: NGA Center for Best Practices.

Robbins, S. P. (1990). *Organisational theory: structure, design, and applications* (3rd ed.). Englewood Cliffs, NJ: Prentice Hall.

Rukmani, K., Ramesh, M., & Jayakrishnan, J. (2010). Effect of leadership styles on organizational effectiveness. *European Journal of Social Sciences*, *15*(3), 365-370.

Schaefer, D. & Dillman, D. (1998). Development of a standard e-mail methodology: Results of an experiment. *Public Opinion Quarterly*, *62*(3), 378-397.

Schein, E. H. (2010). *Organizational culture and leadership* (4th ed.). San Francisco, CA: John Wiley & Sons.

Scott, W. R., & Davis, G. F. (2007). *Organizations and organizing: Rational, natural, and open systems perspectives*. Upper Saddle River, NJ: Pearson Education.

Selznick, P. (1948). Foundations of the theory of organization. *American Sociological Review*, *13*(1), 25-35.

Siddique, A., Aslam, H.D., Khan, M., & Fatima, U. (2011). Impact of academic leadership on faculty's motivation, and organizational effectiveness in higher education system. *International Journal of Business and Social Science*, *2*(8), 84-92.

Simon, H. A. (1947). *Administrative behavior*. New York, NY: Macmillan.

Simon, H. A. (1997). *Administrative behavior: A study of decision-making processes in administrative organizations* (4th ed.) New York, NY: Free Press.

Skolits, G.J. & Graybeal, S. (2007). Community college institutional effectiveness: Perspectives of campus stakeholders. *Community College Review*, *34*(4), 302-323.

Smart, J. C. (2003). Organizational effectiveness of 2-year colleges: The centrality of cultural and leadership complexity. *Research in Higher Education*, *44*(6), 673-703.

Smart, J. C., & Hamm, R. E. (1993a). Organizational culture and effectiveness in two-year colleges. *Research in Higher Education*, *34*(1), 95-105.

Smart, J. C., & Hamm, R. E. (1993b). Organizational effectiveness and mission orientation of two-year colleges. *Research in Higher Education*, *34*(4), 489-502.

Smart, J. C., Kuh, G. D., & Tierney, W. G. (1997). The roles of institutional cultures and decision making approaches in promoting organizational effectiveness in two-year colleges. *Journal of Higher Education*, *68*(3), 256-281.

Smart, J. C., & St. John, E. P. (1996). Organizational culture and effectiveness in higher education: A test of "culture type" and "strong culture" hypotheses. *Educational Evaluation and Policy Analysis*, *18*(3), 219-241.

Social Science Citation Index. (2013). http://apps.webofknowledge.com.jproxy.lib.ecu.edu/

State Higher Education Executive Officers. (2012). *State higher education finance: FY 2011*. Boulder, CO: Author. Retrieved from: http://www.sheeo.org

Stogdill, R. M., & Coons, A. E. (Eds.). (1957). *Leader behavior: Its description and measurement* (Research Monograph 88). Columbus, OH: Bureau of Business Research, Ohio State University.

Tam, M. (1999). Managing change involves changing management: Implications for transforming higher education. *Quality in Higher Education*, *5*(3), 227-232.

Tam, M. (2001). Measuring quality and performance in higher education. *Quality in Higher Education*, *7*(1), 47-54.

Taylor, F. W. (1911). *Principles of scientific management*. New York, NY: Harper & Row.

The Database of Accredited Postsecondary Institutions. (2013). http://ope.ed.gov

The University of Texas at Austin. (2013). U.S. community colleges by state. Retrieved from http://www.utexas.edu/world/comcol/state/

The White House summit on community colleges [Summit report]. (2011). Retrieved from http://www.whitehouse.gov/

Thompson, J. D. (1967). *Organizations in action*. New York, NY: McGraw-Hill.

Trocchia, P.J. and Andrus

Ul Hassan, F. S., Shah, B., Ikramullah, M., Zaman, T., & Khan, H. (2011). The role of organizational culture in predicting organizational effectiveness: A case from developing countries. *International Business and Management*, *3*(2), 99-111.

Van Selm, M. & Jankowski, N.W. (2006). Conducting online surveys. *Quality and Quantity*, *40*(3), 435-456.

Voluntary framework of accountability. (2013). Retrieved from http://www.aacc.nche.edu/

Ward, K., & Wolf-Wendel, L. (Eds.). (2006). From main street to wall street: The transformation of for-profit education [Special issue]. *ASHE Higher Education Report*, *31*(5). http://dx.doi.org/10.1002/aehe.3105

Watson, L.W., Williams, F.K., & Derby, D.C. (2005). Contemporary multicultural issues: Student, faculty, and administrator perceptions. *The Community College Enterprise*, 79-92.

Weber, M. (1947). *The theory of social and economic organization*. (A. H. Henderson, & T. Parsons, Trans.). Glencoe, IL: Free Press. (Original work published 1924)

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

White, R., & Lippitt, R. (1953). Leader behavior and member reaction in three "social climates." In D. Cartwright, & A. Zander (Eds.), *Group dynamics* (pp. 586-611). Evanston, IL: Row, Peterson.

Whyte, W. F. (1951). Small groups and large organizations. In J. H. Rohrer, & M. Sherif (Eds.), *Social psychology at the crossroads* (pp. 297-312). New York, NY: Harper.

Whyte, W. F. (1959). *Man and organization*. Homewood, IL: Richard D. Irwin.

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

Williamson, O. (1975). *Markets and hierarchies, analysis and antitrust implications: A study in the economics of internal organization*. New York, NY: Free Press.

Winchip, S. M. (1996). Analysis of the adaptability of W. Edwards Deming's management philosophy to institutions of higher education. *Quality in Higher Education*, *2*(3), 219-236.

Winn, B. A., & Cameron, K. S. (1998). Organizational quality: An examination of the Malcolm Baldrige National Quality Award framework. *Research in Higher Education*, *39*(5), 491-512.

Yu, T. (2009). A review of study on the competing values framework. *International Journal of Business and Management*, *4*(7), 37-42.

Yuchtman, E., & Seashore, S. E. (1967). A system resource approach to organizational effectiveness. *American Sociological Review*, *32*(6), 891-903.

Yukl, G. (2008). How leaders influence organizational effectiveness. *The Leadership Quarterly*, *19*, 708-722.

Zammuto, R. (1984). A comparison of multiple constituency models of organizational effectiveness. *The Academy of Management Review*, 9(4), 606-616.

APPENDIX A: UMCIRB APPROVAL LETTER

EAST CAROLINA UNIVERSITY
University & Medical Center Institutional Review Board Office
4N-70 Brody Medical Sciences Building· Mail Stop 682
600 Moye Boulevard · Greenville, NC 27834
Office **252-744-2914** · Fax **252-744-2284** · **www.ecu.edu/irb**

Notification of Initial Approval: Expedited

From: Social/Behavioral IRB
To: Maria Pharr
CC: David Siegel
Date: 12/10/2013
Re: UMCIRB 13-002482
Organizational Effectiveness in Community Colleges

I am pleased to inform you that your Expedited Application was approved. Approval of the study and any consent form(s) is for the period of 12/10/2013 to 12/9/2014. The research study is eligible for review under expedited category #7. The Chairperson (or designee) deemed this study no more than minimal risk.

Changes to this approved research may not be initiated without UMCIRB review except when necessary to eliminate an apparent immediate hazard to the participant. All unanticipated problems involving risks to participants and others must be promptly reported to the UMCIRB. The investigator must submit a continuing review/closure application to the UMCIRB prior to the date of study expiration. The Investigator must adhere to all reporting requirements for this study.

Approved consent documents with the IRB approval date stamped on the document should be used to consent participants (consent documents with the IRB approval date stamp are found under the Documents tab in the study workspace).

The approval includes the following items:

Name	Description
Email Reminder.docx	Recruitment Documents/Scripts
NCCCFA Letter of Recrutiment.docx	Recruitment Documents/Scripts
NCCCS Presidents Letter of Recrutiment.docx	Recruitment Documents/Scripts
Pharr - Dissertation Proposal - OECC	Study Protocol or Grant Application
Pharr Dissertation Instrument	Surveys and Questionnaires
Survey Consent Letter.doc	Consent Forms
Survey Consent Letter.doc	Recruitment Documents/Scripts

The Chairperson (or designee) does not have a potential for conflict of interest on this study.

APPENDIX B: MAPPING OF QUESTIONNAIRE ITEMS

TO VARIABLE EXLEMENTS

Table B1

Questionnaire Items by Organizational Effectiveness Dimension

Dimension	Related survey item
Student educational satisfaction (SES) The degree of satisfaction of students with their educational experiences at the institution.	5. There seems to be a feeling that dissatisfaction is high among students at this college. 6. A relatively large number of students either have dropped out or have not returned because of dissatisfaction with their educational experiences here. 7. There have been a large number of student complaints regarding their educational experience here as registered in the campus newspaper, meetings with faculty members and administration, or other public forums.
Student academic development (SAD) The extent of academic attainment, growth, and progress of students at the institution.	13. This college has the reputation of possessing a stimulating intellectual environment with a high concern for student academic development. 14. *Think of the students at your college*. Indicate which *one* of the following choices best rates the academic attainment or academic level achieved by the students as a whole. a. The students are among the very top in community colleges. b. The students are well above average. c. The students are slightly above average. d. The students are about average. e. The students are slightly below average. f. The students are below average. g. The students are near the bottom of all students attending community colleges. 15. Estimate which percentage range of the students complete a program of study and continue on to a four-year college or obtain a job based on the completed program of study. a. 91%-100% b. 76%-90% c. 61%-75% d. 46%-60% e. 31%-45% f. 16%-30% g. 0%-15% 16. How many students would you say engage in extra academic work (e.g., reading, studying, writing) over and above what is specifically assigned in the classroom?
Student career development (SCD) The extent of occupational development of students, and the emphasis on career development and the opportunities for career development provided by the institution.	17. What proportion of students who graduated or completed a program of study from your college last year and entered the labor market obtained employment in their field of study?

	18. How many students would you say attend this college to fulfill definite career or occupational goals as opposed to attending for social, athletic, financial, or other reasons? 19. Of those students who obtained employment after completing a program of study, how many of them obtained jobs directly related to career training received at your college? 20. Approximately what proportion of the courses offered at your college are designed to be career-oriented or occupation related as opposed to liberal education, personal development, etc.?
Student personal development (SPD) Student development in nonacademic, non-career oriented areas, e.g., socially, emotionally, culturally, and the emphasis on personal development and opportunities provided by the institution for personal development.	1. One of the outstanding features of this college is the opportunity it provides students for personal development in addition to academic development. 8. There is a very high emphasis on activities outside the classroom designed specifically to enhance students' personal, non-academic development. 10. As a result of experiences at this college, students develop and mature in non-academic areas (e.g., socially, emotionally, culturally) to a very large degree. <u>How do you perceive the following</u>? 30. *Student/faculty relationships:* Considerable closeness, lots of informal interaction, mutual personal concern 7654321 No closeness, mostly instrumental relations, little informal interaction
Faculty and administrator employment satisfaction (FAES) Satisfaction of faculty members and administrators with their jobs and employment at the institution.	21. If given a chance of taking a similar job at another college of his or her choice, how many faculty members would opt for leaving this college? 22. If given a chance of taking a similar job at another college of his or her choice, how many administrators do you think would opt for leaving this college? 23. Estimate how many faculty members at this college are personally satisfied with their employment. 24. Estimate how many administrators at this college are personally satisfied with their employment.
Professional development and quality of the faculty (PDQF) The extent of professional attainment and development of the faculty, and the amount of stimulation toward professional development provided by the institution.	25. How many faculty members at this college would you say published a book, wrote a technical article, displayed a work of art in a show, or presented a professional workshop last year? 26. What proportion of faculty members would you estimate teach at the "cutting edge" of their fields (i.e., require current journal articles as reading, revise syllabi at least yearly, and discuss current issues in the field)? 27. Approximately what proportion of the faculty and administration attended a conference or workshop specifically oriented toward professional and/or personal development last year?

	28. How many faculty members are actively engaged now in professional development activities (e.g., doing research, taking graduate coursework, taking technical training, consulting, or working in a business or industry)?
System openness and community interaction (SOCI) The emphasis placed on interaction with, adaptation to, and service in the external environment.	2. This college is highly responsive and adaptive to meeting the changing needs of its external constituencies (i.e., local businesses, taxpayers, and school districts). 9. There is a very high emphasis on college-to-community or college-to-environment activities. 11. This college conducted a very large number of community-oriented programs, workshops, projects, or activities last year (e.g., professional seminars; community education; training for business, industry, and local government).
Ability to acquire resources (AAR) The ability of the institution to acquire resources from the external environment, such as good students and faculty, financial support, etc.	3. This college has a very high ability to obtain financial resources in order to provide a quality educational program. 4. When hiring new faculty members, this college can attract leading people in their respective fields. 12. This college has a very high ability to obtain the resources it needs to be effective. 29. Colleges may be rated on the basis of their relative "drawing power" in attracting top high school students. In relation to other two-year colleges what proportion of the top students attend this college rather than another college?
Organizational health (OH) The benevolence, vitality, and viability in the internal processes and practices at the institution.	How do you perceive the following: 31. *Equity of treatment and rewards:* People are treated fairly and rewarded equitably — 7654321 — Favoritism and inequity exist and unfair treatment is present 32. *Organizational health of your college:* The college runs smoothly, healthy organization, productive internal functioning — 7654321 — College runs poorly, unhealthy organization, unproductive internal functioning 33. *General levels of trust among people here:* High suspicion, fear, distrust, and insecure feelings — 7654321 — High trust, security, openness

34. *Conflicts and friction in the college:*		
Large amounts of conflict, disagreement, anxiety, and friction	7654321	No friction or conflict, friendly, collaborative
35. *Recognition and rewards for good work from superiors:*		
Recognition received for good work, rewarded for success	7654321	No recognition for good work, no reward for success
36. *The amount of information or feedback you receive:*		
Feel informed, in-the-know, information is always available	7654321	Feel isolated, out-of-it, information is never available

Note. Adapted from "Assessing the Mission, Culture, Leadership, and Effectiveness of Tennessee's Community Colleges," by Anderson et al. (2003).

Table B2

Questionnaire Items by Culture Type

Culture type	Related survey item
Clan Emphasizes participation and shared values	1. The glue that holds this college together is loyalty and tradition. Commitment to this college runs high. 5. This college is a very personal place. It is like an extended family. People seem to share a lot of themselves. 9. This college emphasizes human resources. High cohesion and morale are important at this college. 11. The head of this college is generally considered to be a mentor, a sage, or a father or mother figure.
Adhocracy Emphasizes entrepreneurship and creativity	2. This college is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks. 4. The head of this college is generally considered to be an entrepreneur, an innovator, or a risk taker. 6. This college emphasizes growth and acquiring new resources. Readiness to meet new challenges is important. 8. The glue that holds this college together is commitment to innovation and development. There is an emphasis on being first.

Hierarchy Emphasizes chain of command and efficiency	7. The glue that holds this college together is formal rules and policies. Maintaining a smooth-running college is important here. 11. This college is a very formalized and structured place. Bureaucratic procedures generally govern what people do. 14. This college emphasizes permanence and stability. Efficient, smooth operations are important. 15. The head of this college is generally considered to be a coordinator, an organizer, or an administrator.
Market Emphasizes customer satisfaction and shared production orientation	3. The glue that holds this college together is the emphasis on tasks and goal accomplishment. A production orientation is shared. 10. This college emphasizes competitive actions and achievement. Measurable goals are important. 12. This college is very production-oriented. A major concern is with getting the job done. People aren't very personally involved. 16. The head of this college is generally considered to be a producer, a technician, or a hard-driver.

Note. Adapted from "Assessing the Mission, Culture, Leadership, and Effectiveness of Tennessee's Community Colleges," by Anderson et al. (2003).

Table B3

Questionnaire Items by Leadership Role

Leadership role	Related survey item
Vision setter Creates a sense of identity and mission	1. Generate inventive ideas 3. Exert upward influence in the educational system 10. Experiment with new concepts and procedures 13. Influence decisions made at higher levels 18. Gain access to people at higher levels 22. Solve problems in creative, clever ways 25. Search for innovations and potential improvements 27. Persuasively sell new ideas to higher-ups
Task master Concerned about performance and results	5. Maintain a "results" orientation in the college 7. Define areas of responsibility for subordinates 13. Ensure everyone knows the goals of the college 15. Assure the college delivers on stated goals 19. Set clear objectives for the college 23. Push the organization to meet objectives 26. Clarify priorities and directions 30. Emphasize college's achievements of stated purposes

Analyzer Focuses on efficient management of the internal operating system in the interest of serving existing product-markets	2. Protect continuity in day-to-day operations 4. Carefully review detailed reports 9. Minimize disruptions to the workflow 14. Detect discrepancies in records and reports 17. Work with technical information 21. Keep track of what goes on inside the college 28. Bring a sense of order into the college 32. Analyze written plans and schedules
Motivator Translates vision and economic strategy into a meaningful cause	6. Facilitate consensus building in the college 8. Listen to the personal problems of subordinates 13. Encourage participative decision making in the college 16. Show empathy and concern in dealing with subordinates 20. Treat each individual in a sensitive, caring way 24. Encourage subordinates to share ideas 29. Show concern for the needs of subordinates 31. Build teamwork among group members

Note. Adapted from "Assessing the Mission, Culture, Leadership, and Effectiveness of Tennessee's Community Colleges," by Anderson et al. (2003).

APPENDIX C: SURVEY INSTRUMENT

Section 1: The Performance and Actions of Your College

Using the scale listed here, please indicate if you agree that the characteristics in the first 13 questions are typical of your college.

5 = Agree Strongly
4 = Agree
3 = Neutral
2 = Disagree
1 = Disagree Strongly

1. _____ One of the outstanding features of this college is the opportunity it provides students for personal development in addition to academic development.

2. _____ This college is highly responsive and adaptive to meeting the changing needs of its external constituencies (i.e., local businesses, taxpayers, and school districts).

3. _____ This college has a very high ability to obtain financial resources in order to provide a quality educational program.

4. _____ When hiring new faculty members, this college can attract leading people in their respective fields.

5. _____ There seems to be a feeling that dissatisfaction is high among students at this college.

6. _____ A relatively large number of students either have dropped out or have not returned because of dissatisfaction with their educational experiences here.

7. _____ There have been a large number of student complaints regarding their educational experience here as registered in the campus newspaper, meetings with faculty members and administration, or other public forums.

8. _____ There is a very high emphasis on activities outside the classroom designed specifically to enhance students' personal, non-academic development.

9. _____ There is a very high emphasis on college-to-community or college-to-environment activities.

10. _____ As a result of experiences at this college, students develop and mature in non-academic areas (e.g., socially, emotionally, culturally) to a very large degree.

11. _____ This college conducted a very large number of community-oriented programs, workshops, projects, or activities last year (e.g., professional seminars; community education; training for business, industry, and local government).

12. _____ This college has a very high ability to obtain the resources it needs to be effective.

13. _____ This college has the reputation of possessing a stimulating intellectual environment with a high concern for student academic development.

14. _____ *Think of the students at your college*. Indicate which *one* of the following choices best rates the academic attainment or academic level achieved by the students as a whole.
    a. The students are among the very top in community colleges.
    b. The students are well above average.
    c. The students are slightly above average.
    d. The students are about average.
    e. The students are slightly below average.
    f. The students are below average.
    g. The students are near the bottom of all students attending community colleges.

15. _____ Estimate which percentage range of the students complete a program of study and continue on to a four-year college or obtain a job based on the completed program of study.
    a. 91%-100%
    b. 76%-90%
    c. 61%-75%
    d. 46%-60%
    e. 31%-45%
    f. 16%-30%
    g. 0%-15%

Using the scale listed here, please respond to questions 16-29.

7 = All	5 = More than half	2 = A small number
6 = A large majority	4 = About half	1 = None
	3 = Less than half	

16. _____ How many students would you say engage in extra academic work (e.g., reading, studying, writing) over and above what is specifically assigned in the classroom?

17. _____ What proportion of students who graduated or completed a program of study from your college last year and entered the labor market obtained employment in their field of study?

18. _____ How many students would you say attend this college to fulfill definite career or occupational goals as opposed to attending for social, athletic, financial, or other reasons?

19. _____ Of those students who obtained employment after completing a program of study, how many of them obtained jobs directly related to career training received at your college?

20. _____ Approximately what proportion of the courses offered at your college are designed to be career-oriented or occupation related as opposed to liberal education, personal development, etc.?

21. _____ If given a chance of taking a similar job at another college of his or her choice, how many faculty members would opt for leaving this college?

22. _____ If given a chance of taking a similar job at another college of his or her choice, how many administrators do you think would opt for leaving this college?

23. _____ Estimate how many faculty members at this college are personally satisfied with their employment.

24. _____ Estimate how many administrators at this college are personally satisfied with their employment.

25. _____ How many faculty members at this college would you say published a book, wrote a technical article, displayed a work of art in a show, or presented a professional workshop last year?

26. _____ What proportion of faculty members would you estimate teach at the "cutting edge" of their fields (i.e., require current journal articles as reading, revise syllabi at least yearly, and discuss current issues in the field)?

27. _____ Approximately what proportion of the faculty and administration attended a conference or workshop specifically oriented toward professional and/or personal development last year?

28. _____ How many faculty members are actively engaged now in professional development activities (e.g., doing research, taking graduate coursework, taking technical training, consulting, or working in a business or industry)?

29. _____ Colleges may be rated on the basis of their relative "drawing power" in attracting top high school students. In relation to other two-year colleges what proportion of the top students attend this college rather than another college?

Questions 30-36 ask your perceptions of the day-to-day functioning of the overall college. Please respond to these items by choosing the number that best represents your perception of each item.

30. ***Student/faculty relationships:***

Considerable closeness, lots of informal interaction, mutual personal concern	7	6	5	4	3	2	1	No closeness, mostly instrumental relations, little informal interaction

31. ***Equity of treatment and rewards:***

People are treated fairly and rewarded equitably	7	6	5	4	3	2	1	Favoritism and inequity exist and unfair treatment is present

32. ***Organizational health of your college:***

The college runs smoothly, healthy organization, productive internal functioning	7	6	5	4	3	2	1	The college runs poorly, unhealthy organization, unproductive internal functioning

33. ***General levels of trust among people have:***

High suspicion, fear, distrust, and insecure feelings	7	6	5	4	3	2	1	High trust, security, openness

34. ***Conflicts and friction in the college:***

Large amounts of conflict, disagreement, anxiety, and friction	7	6	5	4	3	2	1	No friction or conflicts, friendly, collaborative

35. ***Recognition and rewards for good work from superiors:***

Recognition received for good work rewarded for success	7	6	5	4	3	2	1	No recognition for good work, no reward for success

36. ***The amount of information or feedback you receive:***

Feel informed, in-the-know, information is always available	7	6	5	4	3	2	1	Feel isolated, out-of-it, information is never available

Section 2: Leadership Effectiveness

Leaders sometimes employ the managerial(s) behaviors listed below. Using the following scale, please indicate the frequency with which individuals in senior leadership positions – the President and his or her direct reports – use each behavior.

4 = Very often 3 = Often 2 = Sometimes 1 = Never

1. ____ Generate inventive ideas
2. ____ Protect continuity in day-to-day operations
3. ____ Exert upward influence in the educational system
4. ____ Carefully review detailed reports
5. ____ Maintain a "results" orientation in the college
6. ____ Facilitate consensus building in the college
7. ____ Define areas of responsibility for subordinates
8. ____ Listen to the personal problems of subordinates
9. ____ Minimize disruptions to the workflow
10. ____ Experiment with new concepts and procedures
11. ____ Encourage participative decision making in the college
12. ____ Ensure everyone knows the goals of the college
13. ____ Influence decisions made at higher levels
14. ____ Detect discrepancies in records and reports
15. ____ Assure the college delivers on stated goals
16. ____ Show empathy and concern in dealing with subordinates
17. ____ Work with technical information
18. ____ Gain access to people at higher levels
19. ____ Set clear objectives for the college
20. ____ Treat each individual in a sensitive, caring way
21. ____ Keep track of what goes on inside the college
22. ____ Solve problems in creative, clever ways
23. ____ Push the organization to meet objectives
24. ____ Encourage subordinates to share ideas
25. ____ Search for innovations and potential improvements
26. ____ Clarify priorities and directions
27. ____ Persuasively sell new ideas to higher-ups
28. ____ Bring a sense of order into the college
29. ____ Show concern for the needs of subordinates
30. ____ Emphasize college's achievements of stated purposes
31. ____ Build teamwork among group members
32. ____ Analyze written plans and schedules

Section 3: Type of College

The items in this section ask about the type of organization that your college is most like. If you are not sure, please make your best guess. Using the scale listed below, indicate to what extent you agree that the following characteristics are typical of your college.

5 = Agree Strongly
4 = Agree
3 = Neutral
2 = Disagree
1 = Disagree Strongly

1. _____ The glue that holds this college together is loyalty and tradition. Commitment to this college runs high.
2. _____ This college is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks.
3. _____ The glue that holds this college together is the emphasis on tasks and goal accomplishment. A production orientation is shared.
4. _____ The head of this college is generally considered to be an entrepreneur, an innovator, or a risk taker.
5. _____ This college is a very personal place. It is like an extended family. People seem to share a lot of themselves.
6. _____ This college emphasizes growth and acquiring new resources. Readiness to meet new challenges is important.
7. _____ The glue that holds this college together is formal rules and policies. Maintaining a smooth-running college is important here.
8. _____ The glue that holds this college together is commitment to innovation and development. There is an emphasis on being first.
9. _____ This college emphasizes human resources. High cohesion and morale are important at this college.
10. _____ This college emphasizes competitive actions and achievement. Measurable goals are important.
11. _____ The head of this college is generally considered to be a mentor, a sage, or a father or mother figure.
12. _____ This college is a very formalized and structured place. Bureaucratic procedures generally govern what people do.
13. _____ This college is very production-oriented. A major concern is with getting the job done. People aren't very personally involved.
14. _____ This college emphasizes permanence and stability. Efficient, smooth operations are important.
15. _____ The head of this college is generally considered to be a coordinator, an organizer, or an administrator.
16. _____ The head of this college is generally considered to be a producer, a technician, or a hard-driver.

Section 4: Respondent Information

The following 6 items asks for personal demographic information. This information will not be used to identify you. It will only be used to assist in the analysis of the questionnaire data.

1. In your college are you primarily:
   a. _____senior administration (President and direct reports)
   b. _____full-time faculty
   c. _____part-time faculty
   d. _____retired faculty

2. Are you:
   a. _____male
   b. _____female

3. Check the highest degree you hold:
   a. _____less than bachelor
   b. _____bachelor
   c. _____master
   d. _____doctorate
   e. _____education specialist

4. Are you:
   a. _____American Indian/Alaskan Native
   b. _____Asian
   c. _____Black
   d. _____Hawaiian/Pacific Islander
   e. _____Hispanic
   f. _____Multiple
   g. _____Unknown
   h. _____White

5. How many years have you worked at this college?
   a. _____0-5 years
   b. _____6-10 years
   c. _____11-15 years
   d. _____16-20 years
   e. _____21-25 years
   f. _____26 or more years

6. At which college are you employed?

   Drop down of all 58 colleges