THE RELATIONSHIP OF GOLDBERG’S BIG FIVE PERSONALITY TRAIT MEASURES OF MID-LEVEL LEADERS AT MIDWEST STATE-SUPPORTED COLLEGES AND UNIVERSITIES TO THE CAMERON AND QUINN COMPETING VALUES MODEL

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by
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THE RELATIONSHIP OF GOLDBERG’S BIG FIVE PERSONALITY TRAIT
MEASURES OF MID-LEVEL LEADERS AT MIDWEST STATE-SUPPORTED
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And hereby certify that in their opinion it is worthy of acceptance.

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DEDICATION

This completed work is dedicated to my family. Thank you for your understanding and patience as I researched, wrote, and read during our vacations, your games, and the holidays. To my husband, thank you for your support and patience. This dissertation wouldn’t have been completed without the support of my mentor, Dr. Mary Hawkins. Thank you for ensuring I had the bandwidth to maintain my sanity as well as the moral support I needed when I became frustrated or impatient. Finally, to my Bellevue University colleagues, who encouraged, assisted, cheered, and supported me during my entire doctoral program.
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ABSTRACT

This dissertation expands previous work of Giberson, Resick, Dickson, Mitchelson, Randall, and Clark (2009), Zhang, Tsui, Song, & Jia (2008), and Tsui, Zhang, Wang, Xin, and Wu (2006) by examining higher education organizational culture and leadership. There is a paucity of research in examining the relationships between university mid-level leader (Deans) personality traits and cultural values. The study focus was designed to address this lack of research by examining university cultural values and evaluating linkages with mid-level leaders’ traits. Linkages between leadership traits and cultural values were examined through utilization of the following frameworks: the competing values model by Cameron, Quinn, DeGraff, and Thakor (2006) and the Big Five by Goldberg (1992). Specific hypotheses were developed and tested regarding relationships between mid-level leader personality traits and cultural values shared among organization members.
CHAPTER ONE
INTRODUCTION TO THE STUDY

Background

Organizational culture and educational leadership research inform us how understanding micro-level leader traits relate to macro-level organizational culture is valuable knowledge when faced with or creating change (Allame, Nouri, Tavakoli, & Shokrani, 2011; Calo, 2008; Giberson, Resick, Dickson, Mitchelson, Randall, & Clark, 2009; Schein, 2010). In 2006, Tsui, Zhang, Wang, Xin, and Wu, published research regarding Chief Executive Officers’ (CEO) leadership behavior and organizational culture. This research examined relationships between leader traits and organizational culture. In 2008, Zhang, Tsui, Song, Li, and Jia, researched relationships between trust, middle management, and supervisory support within Chinese employee-organizations. In 2009, Giberson et al., furthered research by examining links between CEO characteristics and cultural values by utilizing the competing values model (Cameron & Quinn, 2006), and the Big Five (John, 2009) inventory.

This study expands previous work of Giberson et al. (2009), Zhang et al. (2008), and Tsui, Zhang, Wang, Xin, and Wu (2006) by examining organizational culture and leadership within a higher education setting. The study focus was to examine university cultural values and evaluate linkages with mid-level leader traits. Linkages between leadership traits and cultural values were examined through utilization of the following frameworks: the Competing values model by Cameron et al. (2007) and the Big Five by Goldberg (1992). Specific hypotheses were developed and tested regarding relationships
between mid-level leader personality traits and cultural values shared among organization members.

Figure 1. Unknown linkages between traits and values.

Purpose of the Study

There is a paucity of research in examining the relationships between university mid-level leader (Leader) personality traits and cultural values. Understanding linkages between Leader traits and university cultural values will advance theory and practice as it relates to organizational change and development within higher education. This study was designed to begin to address the aforementioned gaps of information.

Statement of the Problem

Current research has not yet evaluated how Leaders traits link to university culture values. With the research of Giberson et al. (2009), Zhang et al. (2008), and Tsui et al. (2006) in mind, this study began to address the dearth of research regarding the relationship between Leader personality traits and university cultural values. This study examined organizational culture and leadership theoretical assertions. Primary
consideration was given to emerging relationships between leadership and organizational cultures as a result of a leader’s organizational membership and role. This study utilized the work of Nonaka and Takeuchi’s (1995) Middle-Up-Down Management and Sergiovanni’s (1984) theory of educational administration to define the Leader role in universities and connection to university cultural values. In addition, this study defined mid-level leader (Leader) personality traits (agreeableness, conscientiousness, emotional stability, extraversion, and intellect/imagination) through use of Goldberg’s Big Five (1992). It also defined university cultural values (Clan, Adhocracy, Hierarchy, and Market) through Cameron et al.’s (2007) competing values model.

Research Questions

In studying how mid-level leader (Leader) traits link to university cultural values, a multi-level approach was utilized similar to other trait and culture studies (Allame et al., 2011; Giberson et al., 2009; Tsui et al., 2006). Within the context of this study, the following research questions were addressed:

RQ1 – What are the reliability measures for each instrument and subscales?

RQ 2 - What are the overall summary statistics of the competing values model cultural values percentages of clan, adhocracy, hierarchy, and market and the Big Five trait percentages results for agreeableness, conscientiousness, emotional stability, extraversion, and intellect/imagination?

RQ 3 - What are the correlations within and among the two different instruments?

RQ 4 - What is the average trait value profile overall?

RQ 5 - What is the average cultural value percentages for all faculties?

RQ 6 – Are there correlations between pairs of traits to cultural values?
Null Hypothesis: There are no significant correlations between traits and cultural values.

RQ 7 – Is there a difference in culture value percentages by dominant trait percentages?

RQ 8 - Is there a combination of cultural value percentage results that predict a mid-level leader with a dominant agreeableness personality trait percentages?

RQ 9 - Is there a combination of cultural value percentage results that predict a mid-level leader with a dominant conscientiousness personality trait percentages?

RQ 10 - Is there a combination of cultural value percentage results that predict a mid-level leader with dominant emotional stability personality trait percentages?

RQ 11 - Is there a combination of cultural value percentage results that predict a mid-level leader with a dominant extraversion personality trait percentages?

RQ 12 - Is there a combination of cultural value percentage results that predict a mid-level leader with a dominant intellect/imagination personality trait percentages?

RQ 13 - Are there any combinations of culture value percentages that significantly predict differences in cultural values percentages and dominant trait percentages?

RQ 14 - If there are significant combinations, are there discriminate functions that describe membership?

Conceptual Framework

Culture is a prime resource of educational practice (Bates, 1984). When examining a university, two primary components are often studied: culture and leaders (Bates, 1984). In regard to culture and leadership, Schein (1993) stated “neither culture
nor leadership can really be understood by itself” (pg. 360). Culture reflects what an organization is about and what its leadership is trying to accomplish. Cultural values within organizations unify people and give meaning to the educational process (Sergiovanni, 1984; Deal, 1985). The promotion and maintenance of culture are regarded as central features of effective leadership (Bush, 2003). Leadership, as defined by Yukl (2010), is a process of influencing understanding, agreement of action, execution, and facilitation of group and individual efforts to accomplish common goals. As such, organizational leaders are expected to communicate core values and beliefs (Bates, 1984; Schein, 1993; Schein, 2010; Sergiovanni, 1984).

Leaders are found throughout all levels of organizations (Nonaka & Takeuchi, 1995). An emerging interest in leadership is middle management. “A mid-level manager integrates the intentions of top-level managers with the day-to-day operational realities experienced by first-level managers. To do this, mid-level managers translate missions, broad objectives, and strategies into specific objectives and plans for first-level managers” (Ireland, 1992, p. 18).

“When viewing administrative theory and practice from a single perspective, certain aspects of organization and administration are emphasized and better understood but other aspects are neglected or given secondary status” (Sergiovanni, 1984, p. 4). The promotion and maintenance of culture in educational institutions are regarded as central features of effective leadership (Bush, 2003). “Both symbolic and material cultures have their place in any rounded consideration of how universities are organized and the place of administrative leadership within them” (Sergiovanni, 1984, p. 117). Cultural values within organizations unify people and give meaning to the educational process.
(Sergiovanni, 1984; see also Deal, 1985). Both moral and managerial leadership must take place for administration of a school to be successful (Sergiovanni & Greenfield, 1991). “Schools of excellence have central zones composed of values and beliefs that take on sacred or cultural characteristics” (Sergiovanni, 1984, p. 10).

“Leaders are most effective when they possess competencies that match the organization’s dominant culture” (Cameron & Quinn, 2006). The competing values model provides a lens to examine an organization’s culture through its values “…which reflect preferred structural characteristics and desired modes of operation” (Giberson et al., 2009, p. 24). Cameron and Quinn (2006) utilized longitudinal research to reveal values differ over an organization’s lifecycle. Cameron and Quinn (2006) found values associate with different forms of organizations as well.

Understanding the primary emphasis of organizational value supports the type of organizational change or leadership styles required to aid the effectiveness and success of the organization’s goals (Cameron & Quinn, 2006; Cameron, Quinn, DeGraff, & Thakor, 2006; Kwan & Walker, 2004). The competing values model defines four major culture types: hierarchy culture, market culture, clan culture, and adhocracy culture (Cameron & Quinn, 2006). The competing values model includes a proven assessment to determine the degree of each type within an organization (Allame et al., 2011; Kwan & Walker, 2004).

Understanding an organization’s cultural values, its leaders within, and the framework to classify these concepts to examine Leaders and their relationship to university cultures are used in this study. Understanding how Leaders link to cultural values required an examination of Leader personality traits (Barrick, Stewart, Neubert, &
Mount, 1998). The personality traits of leaders are likely to be a useful set of personal characteristics for understanding relationships between Leaders and organizational culture (Barrick et al., 1998; Judge, Heller, & Mount, 2002; Giberson et al., 2009).

Researchers have found traits guide understanding of behavior in various situations (Giberson et al., 2009). Goldberg’s (1990) Big Five suggests personality traits can be categorized into five categories. “The Big Five include agreeableness, conscientiousness, extraversion, emotional stability, and intellect/imagination” (as cited in Giberson et al., 2009, p. 125).

Limitations, Assumptions, and Design Controls

The following are this study’s limitations, assumptions, and design controls.

Limitations

There are several study limitations that needed to be addressed. Limitations included unanticipated events which could impact participant perception or attitude. Events such as budget cuts, staff changes, or infrastructure issues could impact participant perception or attitude. There could be university maturation. Universities’ cultures could change in ways that Leader traits relate or unrelate to the values. Per Trochim (2009), there could have been a differential selection of subjects as universities who participated in this study were volunteers. The extent to which these results may generalize to a random sample of universities was also unclear.

Primary limitations, as outlined by Trochim (2009) and Creswell (2009), to consider were: interaction effects of selection biases (non-random, self-selected group), instrument reliability and validity, and experimental treatment (inventory fatigue). With forty-six (46) universities invited to participate, their agreement to participate, and those
Leaders who participated may only represent a subset of the population. As this was a small sample size out of the 4,300 plus universities within the United States, the small size limited the power of statistical analyses.

Two specific tools were utilized which could have created additional limitations. The Organizational Culture Assessment Instrument (OCAI) uses “…an ipsative scale, meaning that the scores given to each cultural type are dependent on the scores given to the other cultural types” (as cited in Giberson et al., 2009, p. 134). As variance for each culture type in the tool is not independent, it may have reduced the strength of the correlations as discussed in Giberson et al.’s (2009) study. Also, the OCAI defines cultural values narrowly and may have generalized the range of values within organizational culture (Giberson et al., 2009). There was potential for multiple-treatment interference for Leaders. The leaders received two treatments (Big Five Inventory and OCAI) which could have created a carry-over effect between treatments (Trochim, 1999).

With the aforementioned being considered, this study design supports previous research where instrument validity and reliability results were proven to be strong for the OCAI and the Big Five.

Delimitations

The study boundaries were established by research design. The primary delimitations were: selection of second-tier Midwest institutions (limited to 46 colleges), snap-shot of time the study was performed, examination of university Leaders, and limiting the study to measuring traits and values. To address these limitations, results were not generalized beyond the outcome of the study. Results regarding relationships between Leaders’ traits and university values were solely limited to this study.
Assumptions

The study assumptions included there was an interest in expanding the work of Giberson et al. (2009) and knowledge of how Leaders traits link to universities’ cultural values. Interest was determined by Midwestern university initial participation responses. It was assumed survey instruments did not lose their validity or reliability over time. A review of previous research demonstrated both instruments were considered to be valid and reliable for this type of research (Allame et al., 2011; Barrick et al., 1998; Giberson et al., 2009; Judge, Heller, & Mount, 2002; Kwan & Walker, A., 2004; Tsui et al., 2006). It was assumed replication of Giberson et al. (2009) study in a university setting would not change the validity (Kuo, 2009; Berrio, 1998; Pushnykh & Chemeris, 2006; and Ferreira & Hill, 2007). This study was conducted with the assumption all participants voluntarily were participating and no undue influence or pressure was applied.

Design Controls

This study addressed the potential internal validity threats in various ways. When addressing unanticipated events occurring while the study was in progress, the researcher ensured participants had the same experience as suggested by Creswell (2009). This study examined a specific time period and was not a longitudinal study. As time moved on, organizational culture could change the way the values relate or un-relate with Leader traits. The study addressed this potential issue of cultural change by ensuring institutions invited to participate were established and had similar profiles based on publically published institutional profiles. As differential selection of subjects is a consideration of any study, the researcher selected Midwestern institutions that had similar profiles (Creswell, 2009). Once similar institutions were determined, the researcher randomly
selected 30 to participate (Creswell, 2009). Invited institutions only represented a subset of Midwestern universities. The researcher did not generalize the results of this experiment beyond the study due to the study group selection choice (Creswell, 2009; Trochim, 2009).

It was possible multiple-treatment interference may have occurred for Leaders as they received two treatments (Big Five Inventory and OCAI) which could have created a carry-over effect between treatments (Trochim, 1999). To address this concern, treatments were not offered together. The OCAI was delivered at one time; whereas the Big Five was delivered separately and solely to the Leader (Creswell, 2009).

Reliability and validity of the instruments was considered a potential limitation. Goldberg’s Big Five has been found to have “acceptable internal consistency reliabilities…with alphas ranging from 0.79 to 0.87” (Giberson et al., 2009, p. 130). Choi, Seo, Scott, and Martin’s 2010 study revealed “several researchers have provided evidence for adequate reliability and validity of the OCAI in measuring organizational culture as well as its effectiveness in a variety of organization” (p. 175). The study reported Cronbach’s alphas ranging from 0.70 to 0.80 in multiple studies in which the OCAI was used.

Definition of Key Terms

The following are key terms and their definitions utilized within this study.

*Mid-level leaders.* Based on the studies of Ireland’s (1992) and Hellawell & Hancock’s (2001) work, Deans are considered to be university mid-level leaders (Leaders).
University cultural values. They are “espoused as well as the enacted ideals of an institution or group…and serve as the basis on which members of a culture or subculture judge situations, acts, objects and people” (Kuhl & Hall, 1993, p. 6).


Midwest. As defined by U.S. News and World Reports, the Midwest is a 12 state region. States found in the Midwest region include: Indiana, Iowa, Illinois, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

Competing Values Model. Four major culture types based on organizational values: hierarchy culture, market culture, clan culture, and adhocracy culture (Cameron & Quinn, 2006).

Goldberg’s Big Five. Five personality traits: extraversion, agreeableness, conscientiousness, emotional stability, and intellect/imagination (Goldberg, 1992; John, Naumann, & Soto, 2008).

Macro-level characteristics. As cited in Giberson et al., 2009, L.K. Williams in 1968 found culture to be a macro-level characteristic of an organization (p. 124). “Macro researchers tend to deal with global measures or data aggregates that are actual or theoretical representations of lower-level phenomena but they cannot generalize to those lower levels without committing errors of misspecification” (Klein & Kozlowski, 2000, p. 4).

Micro-level characteristic. As cited in Giberson et al., 2009, L.K. Williams in 1968 found personality to be a micro-level characteristic of a person (p. 124). “Micro
perspective is rooted in psychological origins. It assumes that there are variations in individual behavior...It focus is on variations among individual and that affect individual reactions” (Klein & Kozlowski, 2000, p. 3).

**Multi-level Research.** “Fundamental to the levels perspective is the recognition that micro phenomena are embedded into macro contexts and that macro phenomena often emerge through the interaction and dynamics of lower-level elements” (Klien & Kozlowski, 2000, p. 3).

**Organizations.** Multi-level systems comprised of groups (macro-level) and individuals (micro-level) (Klein & Kozlowski, 2000).

**Regional colleges.** U.S. News and World Reports define regional colleges as institutions that grant less than 50 percent of their degrees in liberal arts disciplines (2012).

**Regional universities.** U.S. News and World Reports define regional universities as institutions that offer a full range of undergraduate programs, some master’s programs but few doctoral programs (2012).

**Significance of the Study**

This study was designed to expand understanding of how mid-level leader (Leader) traits link within university cultural values. Understanding links between Leaders’ traits and university values will advance theory and practice relating to the hiring of higher educational administrators and organizational change and development. This information informs executive leaders how Leaders connect to cultural changes within a university. Universities trying to maintain or change fundamental aspects of functioning may need personnel or behavioral changes at the implementation level. This
study was intended to aid senior university administrators by filling a gap of information within current research regarding university Leaders and their links to university cultural values.

Summary

This study expanded previous multi-level research of Giberson et al. (2009) and Tsui et al. (2006) by evaluating Leader traits, considering university cultural values, and their relationships. This study initiated research by examining links between leadership and organizational culture. In addition, this study defined Leader personality traits (agreeableness, conscientiousness, emotional stability, extraversion, and intellect/imagination) through the use of Goldberg’s Big Five (1990) and defined university cultural values (Clan, Adhocracy, Hierarchy, and Market) through Cameron et al.’s (2007) competing values model. A purposeful random sampling of Midwestern Universities was used for its study group. Understanding the links between Leader traits and university cultural values will advance theory and practice as it relates to organizational change and development within higher education.

Chapter one provided an introduction to the problem, purpose, and research questions of this study. It established the study hypothesis, conceptual framework, limitations, assumptions, and design controls. In addition, chapter one defined study key terms used within this research study and discussed the significance. Chapter two will provide a relevant review of literature regarding a leader’s relationship to organizational culture, middle-up-down management theory, competing values model and research approach utilized. Chapter three will discuss study research design and methods. Analysis of data will be discussed in chapter four. Finally, chapter five will include a study summary, conclusions, and recommendations for future research and practice.
CHAPTER 2
REVIEW OF RELATED LITERATURE

Introduction

To advance theory as it relates to organizational change and development within higher education, this study focused on expanding the understanding of the relationships between Leader personality traits and organizational cultural values. There is a paucity of research in examining organizational relationships between Leaders’ personality traits and cultural values. The focus of the study was to evaluate linkages between mid-level leader (Leader) traits and examine university cultural values. Linkages between leadership traits and cultural values were examined through utilization of the following frameworks: the Big Five by Goldberg (1992) and the competing values model by Cameron et al. (2007). Specific hypotheses were developed and tested regarding relationships between Leader personality traits and cultural values shared among organization members.

Organizational Culture

Organizational culture under contemporary definitions include “…what is valued, the dominant leadership style, the language and symbols, and the definitions of success that characterizes an organization” (Berrio, 2000, p. 1). “Organizational culture refers to the taken-for-granted values the underlying assumptions, expectations, collective memories, and definitions present in the organization” (as cited in Obendhain & Johnson, 2004, p. 95). Sarros, Gray, and Densten (2002) stated organizational culture referred to “…the meanings inherent in the actions and procedures of organizational commerce and discourse” (p. 4).
Schein (1992) defined culture as: “a pattern of shared basic assumptions that a group learned as it solved its problems of external adaptation and integration, that 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. 269). Schein (1993) also stated in *Defining Organizational Culture* “culture is the result of complex group learning process … if the group’s survival is threatened … it is ultimately the function of leadership to recognize and do something about the situation” (as cited in Shafritz, Ott and Jang, 2004, pg. 361). In 2010, Schein described culture as “both a ‘here and now’ dynamic phenomenon and a coercive background structure that influences us in multiple ways” (p. 3). Culture constantly evolves as interactions and experiences shape and influence behaviors (Schein, 2010).

For leaders, it is through planning, meetings, team building, and their decisions that impact organizational culture (Schein, 2010). Leaders manage and create culture were as managers exist with an organizational culture (Sarros, Gray, & Densten, 2002). “Culture is the result of a complex group learning process that is only partially influenced by leader behavior. But if the group’s survival is threatened because of elements of its culture have become maladapted, it is ultimately the function of leadership to recognize and do something about the situation. It is in this sense that leadership and culture are conceptually intertwined” (Schein, 1993, p. 360). Sarros, Gray, and Densten’s (2002) found culture was more “responsive to leadership dimensions than leadership was to culture” (p. 1).
Higher educational culture and leadership

Though the majority of organizational culture studies have examined businesses, there have been studies of educational institutions (Ferreria & Hill, 2007; see also Kuo, 2009; Berrio, 2000; Pushnykh & Chemeris, 2006; Worley, 2010). Culture is a prime resource of educational practice; so when examining a university, two primary components are often studied: culture and leaders (Bates, 1984). Hefferlin (1969) described higher educational institutions as instruments essentially for the “perpetuation of culture”. Kuo (2009) found higher educational culture more complex than other organizations due to the purpose of higher education and unique organizational structure.

When it comes to culture and leadership, Schein (1993) stated “neither culture nor leadership can really be understood by itself” (pg. 360). Culture reflects what the organization is about and what its leadership is trying to accomplish. Schein’s bottom line for organizational leaders is “that if they [leaders] do not become conscious of the cultures in which they are embedded, those cultures will manage them” (1993, pg. 366).

In schools, “leaders tend to want a culture that is clear, consistent, and consensual” (Hargreaves, 1999, p. 57). As an organization matures, shared history is experienced and shared assumptions are developed to create a unique truth and experience within the organization. If cultures become dysfunctional, it is the unique function of leadership to perceive the dysfunction and to manage the change so the organization can evolve and survive (Schein, 1993).

Within universities, managers try to inculcate specific values which impact an organization’s culture (Schein, 1993, pg. 360). “The most central issue for leaders is to understand the deeper levels of a culture, to assess the functionality of the assumptions
made at that level, and deal with the anxiety that is unleashed when those assumptions are challenged” (Schein, 2010, p. 33). Schein (2010) revealed a primary source of organizational culture is “new beliefs, values and assumptions brought in by new members and leaders” (p. 219).

How leaders link to organizational culture

Hargreave’s (1999) asserted “there are many different leadership styles for changing culture” (p. 61). Gluck (1981) revealed three examples of CEOs at various institutions were successful in strategy execution if it is aligned with the CEOs’ vision. “…Leadership is required in the process of generating and referencing organizational vision” (Gluck, 1981, p. 24). The CEO sets the vision of organizations and successful leaders utilize line-managers, planners to support the execution through the implementation of “resource redistribution, capability building, communication with external constituencies, an abstract breaking” (Gluck, 1981, p. 27; see also Nathan, 1996; Huibregtsen, 1991). “The two most important tasks for CEOs: shaping a vision and providing the leadership to motivate people at all levels in the organization to make this vision a reality” (Huibregtsen, 1991, p.1).

Giberson et al.’s (2009)’s study was utilized in this study as it provided “initial empirical evidence that organizational culture values are, at least to some extent, a reflection of the CEO’s personality” (2009, p. 133) as revealed by the CEO’s personality traits. Schneider and Smith’s (2004) work supported the need for Giberson et al.’s (2009) study due to their revelation of the lack of empirical studies regarding the linkages between leader differences individually and characteristics within organizations.
Giberson et al. (2009) found consistent with their hypothesis several of the CEO’s personality traits were significantly linked to the extent to which “members viewed their organizations as characterized by different culture values” (p. 133). The study called for additional research to develop “conceptual rationale for these relationships and examine whether these relationships emerge in a different sample of CEOs and organizations” (p. 134). The study’s conclusion offered evidence that CEO’s personality and values affect not only their actions and decisions but the social environment (i.e., the culture) of the organization (Giberson et al., 2009).

In addition, Tsui et al.’s (2006) study revealed “the leadership of the strong culture companies goes beyond a single individual” (p. 131) and found connections beyond the CEO to senior and middle managers. Senior and middle managers, in strong culture companies, not only share the vision of the CEO but are able to extend the culture quickly (Huy, 2002). They are the key forces in the development and cultural change movements within organizations (Tsui et al., 2006). Studies have shown “trait-by-job interactions help researchers develop a more fine-grained understanding of how different traits are instrumental to performance in various job environments” (John & Srivastava, 2000).

When reviewing mid-level leaders (Leaders) and culture, Valentino’s (2004) work compared Schein (1999) and Bennis’s (1989) assertions to demonstrate how Leaders integrate framework for the transition and integration of an organization’s culture. Leaders were found to be important as they help develop and translate an organization’s vision and ideas into action and change (Valentino, 2004, Bennis, 1989, and Schein, 1999). Hancock and Hellawell (2003) argued higher education Leaders “are required to
be both interpreters and authors of strategy, making strategic decision at their own level and operating both inside and outside their organizations…” (p.5).

Middle-Up-Down Management Theory

Research has increasingly shown Leaders play a pivotal role in organizations from developing new ideas to reshaping firm capabilities (Pappas, J. & Woodridge, B., 2007). Nonaka (1995) stated a primary role of Leaders is to mediate between the vision of the organization and the day-to-day realities. With all of the changes occurring in higher education from new mandates from the Department of Education to a reduction of public funding, there is a sense of an impending crisis or a sense that an immediate change must occur to address these issues (Hutchinson, 2006). Nonaka (1995) recommends middle-up-down management as “one of the most effective ways to managing creative chaos…” (p.232).

One can find leaders throughout all levels of organizations (Nonaka, 1995). One level of leadership that became of interest to Nonaka (1995) was middle management. Leaders “… have long been recognized as crucial to an organization’s success” (Early, 1998, p. 158). Nonaka (1995) stated knowledge within organizations is created by Leaders and that they are the key to continuous innovation. Leaders transmit the vision throughout the organization by articulating it in practical terms, and collaborate with their colleagues to make the vision a reality (Early, 1998). Stoker (2006) revealed research which concluded Leaders also facilitate radical organizational change and make important strategic contributions (p.32). Pappas and Wooldridge (2007) argued Leaders determine organizational renewal. They concluded Leaders “…are vital in shaping strategy…” (Pappas & Wooldridge, 2007, p. 339).
Nonaka (1995) stated the main job of Leaders in middle-up-down management is to orient their supervisees toward knowledge creation “…by providing their subordinates with a conceptual framework that helps them make sense of their own experience” (p. 129). The preferred approach Leaders convey is different than top managers, and provides an understanding of the company’s direction (Nonaka, 1995, p. 129). “A mid-level manager integrates the intentions of top-level managers with the day-to-day operational realities experienced by first-level managers. To do this, mid-level managers translate missions, broad objectives, and strategies into specific objectives and plans for first-level managers” (Ireland, 1992, p. 18).

In 1998, Early spoke of how college Leaders “…are in a key position to help shape the future direction and continued success of their organizations” (p. 160). Deans have been placed in the Leader roles in studies such as Ireland’s (1992) and Hellawell and Hancock’s (2001) work. With this role in mind, this study will examine Leaders or deans in universities and utilize Nonaka’s middle-up-down model.

Conceptual Framework

Competing Values Model

Research by authors, such as Cameron and Quinn (2006), has consistently stated “leaders are most effective when they possess competencies that match the organization’s dominant culture” (p. 120). Following the example of the Giberson, Quinn, DeGraff, and Thakor (2009) study, the competing values model provides a lens to examine an organization’s culture through its values “…that reflect preferred structural characteristics and desired modes of operation” (Giberson et al., 2009, p. 124).
Understanding an organization’s dominant culture will provide insight into how the Leaders in this study may link their organizational values.

The competing values model (CVM) demonstrates the primary cultural values of an organization and the requirements those values demand from a leader in order to create value (Cameron et al., 2006). “Managerial effectiveness, as well as organizational effectiveness, is inherently tied to paradoxical attributes” (Cameron & Quinn, 2006, p. 47). The CVM was originally developed as a way to evaluate organizations and their effectiveness, culture, and leadership behaviors (Cameron et al., 2006). The basic theoretical framework is competing values exist in all organizations.

The “personal leadership competency in the Competing Values Framework is associated with success” (Cameron et al., 2006). The value in using the competing values model (CVM) comes from the ability to “…diagnose and facilitate change in organizational culture” (Cameron & Quinn, 2006, p. 33). The CVM “…was formulated on the basis of fundamental assumptions about how organizations work and how they are managed…”(Cameron & Quinn, 2006, p. 45).

The CVM reveals multiple views of factors that demonstrate clear differences in organizations. The first view reveals the range of an organization when it comes to versatility to consistency. Another view provides the researcher with information about an organization’s internal process versus its focus on external opportunities and its ability to differentiate itself from others (Cameron et al., 2006). “Together these two core dimensions form four quadrants, each representing a distinct cluster of criteria – whether referring to leadership, effectiveness, value creation, structure, learning, or other organizationally-relevant factors” (Cameron et al., 2006, p. 10).
The CVM is made up of four quadrants, “each representing a distinct set of organizational effectiveness indicators” (Cameron & Quinn, 2006, p. 35). The four quadrants represent four opposite assumptions which distinguish characteristics of cultural types: clan, adhocracy, market and hierarchy (Cameron et al., 2006, & Cameron & Quinn, 2006). Cameron and Quinn’s (2006) work also has formalized the leaders these cultures expect within.

The hierarchy culture represents organizations with a formalized culture that is structured, traditional, and predictable. Procedures govern what people do in a hierarchical culture. Organizations with this culture require leaders to clarify expectations and significance of events. (Cameron & Quinn, 2006). Effective leaders in a hierarchical culture are good coordinators and organizers (Cameron & Quinn, 2006, p. 38).

The market culture represents a results-oriented organization focuses on market share and competition. Market culture within an organization have strong values in being competitive and productive which are achieved “…through a strong emphasis on external positioning and control” (Cameron & Quinn, 2006, p. 39). Market culture requires its leaders to foster competitive aptitudes and drive towards outperforming the competition (Cameron & Quinn, 2006). Market leaders are aggressive, decisive, actively pursue goals and have a dominant objective of winning (Allame et al., 2011).

The clan culture represents an organization where loyalty, teamwork, participation and consensus are highly valued. Clan cultures hold characteristics of family, teamwork, participativeness, shared values and goals, and an empowering environment for its members (Allame et al., 2011). Clan leaders”…are thought of as mentors, and perhaps even as parent figures” (Cameron & Quinn, 2006, p. 42). Clan
culture requires its leaders to orchestrate teamwork at the highest performance level (Cameron & Quinn, 2006).

The adhocracy culture is a “dynamic, entrepreneurial, and creative place to work”. Adhocracy culture holds characteristics of adaptability, flexibility, innovation, and creativity (Cameron & Quinn, 2006). Adhocracy culture requires its leaders to inspire innovation and creativity (Cameron & Quinn, 2006, pg. 94). Adhocracy leaders are effective when they are “…visionary, innovative, and risk-oriented” (Cameron & Quinn, 2006, p. 45).

Cameron and Quinn’s 2006 work indicated matches between dominant organizational culture, its leadership styles, and effectiveness criteria contribute to high performance. Their framework guides enhancing organizational effectiveness as well as facilitating cultural change. As the CVM not only examines cultural values but leadership expectations, this study utilized its strengths to view the organizational cultural values of its participants and compared the traits of its Leaders.

*Organizational Cultural Assessment Instrument*

The Organizational Culture Assessment Instrument (OCAI) is designed “to identify the culture of the organization in which the leader is managing” (Cameron et al., 2006, & Zammuto, 1991). The OCAI is a primary tool of the competing values model (CVM) which “…has been rated as one of the 40 most important management theoretical models” (as cited in Giberson et al., 2009) and will be used to measure organizational culture. “One of the ways in which the OCAI has been used most often and most effectively is in the diagnosis and changing of organizational culture” (Cameron et al., 2006).
As it is unlikely for organizations to have cultural values completely characterized by one of the four cultural values (clan, adhocracy, market or hierarchical), the OCAI measures the combination of the values and the emphasis or strength of the more dominant values of the time (Cameron, 2006). The instrument presents descriptions of four organizations across five categories and within each of the categories, participants are asked to determine the degree the four descriptions describe their organization among a 100-point scale.

*The Big Five*

The Big Five was based on decades of research starting with Fiske in 1949 being labeled by Goldberg in 1981 (John & Srivastava, 1999). In 1991, Mount and Barrick found an advantage of using the Big Five model due to the foundation it provides “… for cumulative and integrated advances in our understanding of the relationship between personality traits and important human resources criteria” (p. 166). “The five-factor model of personality provides a meaningful and generalizable taxonomy for studying individual differences” (as cited in Shi, Lin, & Wang, 2009). The structure is simple to understand in verbiage and provides an integrative, descriptive model for personality trait research (John & Srivastava, 1991, Goldberg, 1992, Barrick & Mount, 1991). “The Big Five structure does not imply that personality differences can be reduced to only five traits. Rather, these five dimensions represent personality at the broadest level of abstraction, and each dimension summarizes a large number of distinct, more specific personality characteristics” (John & Srivastava, 1999, p. 7).
The advantage of broad categories in the Big Five is their bandwidth (Barrick & Mount, 1991; Goldberg, 1992; John & Srivastava, 1999). Barrick & Mount, in 1991, found the Big Five had external validity in their research of job performance and traits as it was found to relate valued workplace outcomes. Their 1991 research’s purpose was to increase understanding of how the Big Five relate to occupational groups (Barrick & Mount, 1991). Further research by Judge, Heller, and Mount, in 2002, continued this work to relate the Big Five traits with job satisfaction. This research was then expanded in 2009 to link Big Five traits to organizational justice by Shi, Lin, and Wang. “The Big Five has proven useful as a framework for organizing findings on adult personality in areas as diverse as behavioral genetics and industrial psychology” (John & Srivastava, 1999, p. 37). The Big Five consists of five broad categories which are: agreeableness, conscientiousness, emotional stability, extraversion, and intellect/imagination (Barrick & Mount, 1991; Goldberg, 1992; John & Srivastava, 1999; Judge, Heller & Mount, 2002; Shi, Lin, & Wang, 2009).

Agreeableness has been found to relate to individuals who are cooperative, concerned about relationships with others, accommodating, happy, get along with others (Hogan & Hogan, 1995; Judge, Heller & Mount, 2002). “Agreeableness reflects the humane aspects of an individual including being good-natured, cooperative, trusting, and courteous, soft-hearted, and tolerant” (as cited in Shi, Lin, & Wang, 2009, p. 210). Agreeableness aligned with altruism and affection in John & Srivastava’s 1991 work. “Leaders who have high levels of agreeableness seem likely to foster an environment of cooperation and be concerned about the development of employees (Giberson et al.,
2009, p. 126). Those with lower levels of agreeableness do not shy away from competition (Giberson et al., 2009).

Goldberg aligned conscientiousness factors to describe with individuals who operate under control or constraint (John & Srivastava, 1991). “Conscientiousness describes the extent to which an individual is responsible, dependable, organized, persistent, and achievement-oriented” (as cited in Shi, Lin, & Wang, 2009, p. 210). They may have high levels of thoughtfulness, be dependable, and tend to be mindful of details and organized. Conscientiousness factors include traits like thorough and being planful (Srivastava, 2010). Others have found conscientiousness to be the most consistent factor related to performance across jobs (Barrick & Mount, 1991). Conscientiousness reveals itself through the behaviors of “…achievement orientation (hardworking and persistent), dependability (responsible and careful), and orderliness (planful and organized)” (Judge, Higgins, Thoresen, & Barrick, 1999, p. 624).

Emotional stability measures the positive and negative reaction and control over one’s emotions. Research has found emotional stability represents an individual’s differences and their capacity to cope with stress (Shi, Lin, & Wang, 2009). A negative natured, neurotic individual may be deemed to have more negative life experiences than others (Judge, Heller & Mount, 2002). Those with higher levels of emotional stability are less excitable than those with lower levels (Hogan & Hogan, 1995). Lower-level leaders may create less stable internal processes that encourage change, innovation and growth (Giberson et al., 2009). Srivastava (2010) listed traits such as tense, moody and anxious as descriptors of emotional stability.
Extraversion factors are found within those individuals with tendencies to be outgoing, sociable, and have energy (John & Srivastava, 1991). Research has found these individuals to be predisposed to experience positive emotions (Judge, Heller, & Mount, 2002). Giberson et al. (2009) discussed research that suggested extraverted individuals prefer team-based organizational cultures and leaders encourage “…affiliation, interaction, and group efforts, and create structures that elicit cooperation and teamwork among members” (p. 126). Extraverted leaders seem likely to encourage aggressive and outcome oriented cultures (Judge & Cable, 1997).

“Intellect/imagination is related to scientific and artistic creativity, divergent thinking, low religiosity and political liberalism” (as cited in Judge, Heller, & Mount, 2002, p. 531). “At the core of this dimension are intellect/imagination to feelings and new ideas, flexibility of thought, and a readiness to indulge in fantasy” (as cited in Shi, Lin, & Wang, 2009, p. 211). Those with this factor tend to be considered innovative, independent thinkers, unique, and encourage creativity (Giberson et al., 2009). Research has revealed leaders with intellect/imagination encouraged risk-taking as well (as cited in Giberson et al., 2009, p. 126). Srivastava (2010) included traits of being imaginative, insightful and having wide interests as aligned to this factor. Judge et al. (1999) discussed how “intellect/imagination is characterized by intellectance (philosophical and intellectual) and unconventionality (imaginative, autonomous, and nonconforming)” (p. 625).
**The Big Five Inventory**

The Big Five inventory is a multiple-choice formatted survey which provided ease of administration when comparing and analyzing data, distribution to many people, and inexpensive which are all enticing attributes (Fink, 2009). The 50-item Big Five inventory is a freely available inventory and is designed with a short scale that addresses the Big Five markers (Goldberg, 1992). Permission to utilize the inventory online is secured through email at no charge for those utilizing the tool for academic research (John, 2009). This self-administered tool can be disseminated through email.

**Summary**

Chapter two provided a literature review relating to organizational culture, and leadership. It also reviewed literature which discussed a leader’s relationship to organizational culture including middle management’s role. The study’s conceptual framework was established inclusive of the Competing Values and the Big Five Models. Chapter two provided a foundation of understanding regarding how this study defined university values, examined the traits of Leaders, and reviewed how previous research suggests a relationship between the two. Chapter three will provide detail of this study’s research design and methodology.
CHAPTER 3
RESEARCH DESIGN AND METHODOLOGY

Introduction

This non-experimental study examined theoretical assertions regarding the relationships between leadership and organizational cultures. This non-experimental study defined mid-level leader (Leader) personality traits (agreeableness, conscientiousness, emotional stability, extraversion, and intellect/imagination) through the use of Goldberg’s (1992) *Big Five* survey tool and defined university cultural values (clan, adhocracy, hierarchy, and market) through Cameron et al.’s (2007) competing values model by evaluating a purposeful random sampling of Midwestern universities.

There is a paucity of research in examining the relationships between university Leader personality traits and cultural values. Understanding the connections between Leader traits and university cultural values will begin to advance theory and practice as it relates to organizational change and development within higher education. This study examined how Leader traits relate to university cultural values.

Chapter three discussed the study’s research questions, methods, and design. The study group and instrumentation are discussed in depth. The study’s approach to data collection, analysis, and statistical tests to be applied are outlined and supported in chapter three as well.

Research Questions

In studying how mid-level leader (Leader) traits link to university cultural values, a multi-level approach was utilized within other similar studies (Allame et al., 2011; Giberson et al., 2009; Tsui, Zhang, Wang, Xin, & Wu, 2006). Within the context of this study, the following research questions were addressed:
RQ1 – What are the reliability measures for each instrument and subscales?

RQ 2 - What are the overall summary statistics of the competing values model cultural values percentages of clan, adhocracy, hierarchy, and market and the Big Five trait percentages results for agreeableness, conscientiousness, emotional stability, extraversion, and intellect/imagination?

RQ 3 - What are the correlations within and among the two different instruments?

RQ 4 - What is the average trait value profile overall?

RQ 5 - What is the average cultural value percentages for all faculties?

RQ 6 – Are there correlations between pairs of traits to cultural values?

Null Hypothesis: There are no significant correlations between traits and cultural values.

RQ 7 – Is there a difference in culture value percentages by dominant trait percentages?

RQ 8 - Is there a combination of cultural value percentage results that predict a mid-level leader with a dominant agreeableness personality trait percentages?

RQ 9 - Is there a combination of cultural value percentage results that predict a mid-level leader with a dominant conscientiousness personality trait percentages?

RQ 10 - Is there a combination of cultural value percentage results that predict a mid-level leader with dominant emotional stability personality trait percentages?

RQ 11 - Is there a combination of cultural value percentage results that predict a mid-level leader with a dominant extraversion personality trait percentages?

RQ 12 - Is there a combination of cultural value percentage results that predict a mid-level leader with a dominant intellect/imagination personality trait percentages?
RQ 13 - Are there any combinations of culture value percentages that significantly predict differences in cultural values percentages and dominant trait percentages?

RQ 14 - If there are significant combinations, are there discriminate functions that describe membership?

Research Design

This was a non-experimental survey one-shot study with parametric statistics of mid-level leader (Leader) traits and university cultures to determine relationships (Creswell, 2009; Mertens, 2005). A non-experimental design is utilized when one of the variables cannot be manipulated because they are an attribute such as a trait (Belli, 2008, p. 60). Non-experimental designed studies provide “…quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population” (Creswell, 2009, p. 12).

To explore the research questions, non-experimental research surveys were utilized. Two proven and reliable instruments were identified from a similar study by Giberson et al. (2009). Descriptive analysis was conducted for study variables. As there was more than one independent variable, an analysis of variance (ANOVA) was used (Mertens, 2005). Also, as there was more than one dependent variable a multivariate analysis of variance (MANOVA) was used as well (Mertens, 2005). When a significant result was found from the MANOVA, discriminate function analyses (DFA) were used (Mertens, 2005). These approaches were used to explore the relationship between the independent variables Goldberg’s (1990) Big Five personality traits (agreeableness, conscientiousness, emotional stability, extraversion, and intellect/imagination) and the
dependent variables of Cameron and Quinn’s (2006) competing values model (clan, adhocracy, hierarchy, and market). The Big Five instrument (John, 2009) and the Organizational Culture Assessment Instrument (OCAI) (Cameron et al., 2006) were utilized to secure study data.

The study approach was to first assess university/college perceptions of organizational cultural values. Next, the study provided an assessment of Leader traits and their view of the university’s cultural values. Finally, the traits were examined to determine if there were relationships between the traits and the university cultural values.

Research Methods

Research studies reveal there are differing opinions regarding the methods to be used in studying culture. Kwan and Walker (2004) distinguished between the use of qualitative and quantitative methods of other researchers based on their view of culture. “One treats organizational culture as something an organization is and the other considers it as something an organization has (p. 22). The “has” view of culture “…considers culture as an organizational variable and that it can be influenced or be influenced by other variables within organizations” (Kwan & Walker, 2004, p. 22). “The most appropriate framework for any organizational culture study should be based on empirical evidence, should capture accurately the reality being described, and should be able to integrate and organize most of the dimensions of organization culture being proposed” (as cited in Choi, Seo, Scott, & Martin, 2010, p. 171). As personality (micro-level characteristic) and how an organization functions (macro-level characteristics) are important to understanding organizational culture (as cited in Giberson et al., 2009, p. 124), this study viewed culture as something an organization “has” and adopted a
quantitative method as utilized by Giberson et al. (2009) and other studies (Buenger et al., 1996; Choi et al., 2010 Kwan & Walker, 2004; Padma & Nair, 2009; Zammuto & Krakower, 1991).

Study Group

The study group was determined in a purposeful way through guidance within Mertens’ (2005) Research and Evaluation in Education and Psychology. The study group was comprised of higher education Leaders, faculty (within the departments or colleges that reported to the Leaders) and university staff at Midwestern, regional, public, four-year institutions (as defined below). This study group was experimentally accessible as they fit the study conceptual definition and their field supports educational inquiry (Mertens, 2005). Per the criteria defined by Mertens (2005, p. 309), this study met study group’s validity.

This non-experimental study utilized a proportional stratified sampling (Mertens, 2005) of the Midwest regional higher education institutions. Forty-six (46) institutions were invited to participate. The Midwest states and regional classification were based from U.S. News and World Report ratings (“College rankings and lists”, n.d.). Per U.S. News and World Report criteria, the states located within the Midwest region are: North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa, Missouri, Michigan, Wisconsin, Illinois, Ohio, and Indiana (“College rankings and lists”, n.d.). Institutions were determined to have similar characteristics based on U.S. News and World Reports (“College rankings and lists”, n.d.) classifications. Also, through a formal sort within Integrated Postsecondary Education Data System (IPEDS) Data Center (n.d.) additional criteria to select this study group was applied. In addition to location and regional
classifications, IPEDS’ Data Center (n.d.) institutions were selected with specific required criteria. Institutions were selected through the IPEDS Data Center (n.d.) by requiring the following criteria:

- level of award to be advanced,
- institutional type of public, four-year, and regional in category,
- enrollment size of a minimum of 2000 students and a maximum of 10,000 students, and
- percentage of applicants admitted with a 100% maximum standard.

Following the guidance of Mertens (2005) and Field (2009), for research involving surveys “100 observations for each major subgroup or 20 to 50 observations for minor subgroups” are suggested for quantitative study sample sizes (Mertens, 2005, p. 327). Meeting the minimum response rate for this study group was important factor in the validity of the study. To increase response rates, Merten’s (2005) guidance was followed and non-responders were contacted, reminded in multiple-times and in varied ways (email, phone, U.S. Mail). In addition, institutions were offered the incentive of organizational profile containing specific information about their university/college cultural values and a copy of this study. The value of an organizational profile, or OCAO Pro, is $497 (“OCAI products”, n.d.). The Leader benefited individually by learning more about their dominant personality traits and the culture of the colleges they lead.

Leaders for this study were employed within the colleges and divisions of the invited Midwest regional universities and colleges. Leaders were defined as administrators who held rank of Dean. This definition was based on research studies such as Ireland’s (1992) and Hellawell & Hancock’s (2001) work that defined Leaders within
universities as Deans. With this role in mind, this study examined the traits of Deans (mid-level leaders) and the cultural values of the colleges or divisions that they lead.

Instrumentation

Instruments utilized in Giberson, et al.’s (2009) study, the Big Five inventory (Goldberg, 1990) and the Organizational Culture Assessment Instrument (OCAI) (Cameron & Quinn, 2006), were used in this non-experimental study. Multiple-choice formatted surveys provided the ease to compare and analyze data, the ability to administer to many people, and are inexpensive (Fink, 2009). Both instruments provided results in nominal scale (Field, 2009).

Personality Traits

The Big Five inventory, a multiple-choice survey, has the advantage that it allows participants to be anonymous (Goldberg, 1990). Multiple-choice formatted surveys, such as the Big Five inventory provided ease to compare and analyze data, the ability to administer to many people, and it was inexpensive (Fink, 2009). The 50-item Big Five inventory is a freely available inventory which provides a short scale that addresses the Big Five markers (Goldberg, 1992). Permission to utilize the inventory online is secured through email at no charge for those utilizing the tool for academic research (John, 2009). This self-administered tool can be disseminated through email. The 50-item Big Five inventory provides a short scale that addresses the Big Five markers (Goldberg, 1992). Within the Giberson, et al.(2009) and John & Srivastava (2000) studies, the Big Five personality inventory was found to have “acceptable internal consistency reliabilities which were reported for each of the scales, with alphas ranging from 0.79 to 0.87” (Giberson et al., p. 130).
John, Naumann, and Soto’s (2008) work examined the history, measurement, and concepts behind the *Big Five* and reported it “…provides an integrative taxonomy for personality research….” that offers “…well validated instruments to operationalize these personality domains” (p. 148). The *Big Five* has been used to relate: members of teams with team processes and effectiveness, personality with job satisfaction, CEO’s to organizational values, and organizational values to the success of knowledge management system implementations (Allame et al., 2011; see also Barrick et al, 1998; Giberson et al., 2009; Judge, Heller, & Mount, 2002).

*Culture Values*

Cameron & Quinn, in 1999, determined almost all organizations develop a dominant type of culture over time, and these culture types can be reliably and validly assessed (as cited in Driver, 2004). The *Organizational Culture Assessment Instrument* (OCAI), the instrument of the competing values model (Cameron & Quinn, 2006), was used to measure organizational culture. As it is unlikely for organizations to have a cultural values completely characterized by one of the four cultural values (clan, adhocracy, market or hierarchical), the OCAI measures the combination of the values and the emphasis or strength of the more dominant values of the time (Cameron & Quinn, 2006). The instrument presented descriptions of four organizations across five categories and within each of the categories, participants were asked to determine the degree the four descriptions describe their organization among a 100-point scale (Giberson et al., 2009). “This method determines the blend of the four culture types that dominant the current organization or team” (“OCAI”, 2010, para.1).
The OCAI has been utilized not only in research but by individual companies to assess their organization’s culture. OCAI results for organizations are prepared by “averaging all individual OCAI scores” (“OCAI”, 2010) which are combined to create an organizational profile. In 2004, Driver’s “Handbook of Organizational Development” stated the OCAI has been used to identify almost “…10,000 organizations worldwide in most sectors (e.g., private sector, public sector, education, health care, new start-ups, NGOs)” (p. 6). A review of literature found multiple studies utilizing the competing values model to examine higher education institutions (Obendhain & Johnson, 2004; see also Trivellas & Dargenidou, 2009; Zaft, Adams, & Matkin, 2009; Ferreira & Hill, 2008; and Pounder, 2000).

Choi et al. (2010) found evidence provided by several researchers that the OCAI offered adequate reliability and validity in measuring organizational culture. “Quinn and Spreitzer (1991) reported a Cronbach’s alpha coefficient close to 0.80” (as cited in Choi et al., 2010, p. 175). A review of research studies similar to this non-experimental study demonstrated the OCAI instrument was valid and reliable (Allame et al., 2011; Giberson et al, 2009; Kwan & Walker, 2004; Tsui et al., 2006).

Data Collection and Analysis

Midwest universities and colleges (46) that are classified as regional by U.S. News and World Report, are public institutions, and have similar characteristics per IPEDS Data Center, were invited to participate in this study. Those who accepted had their instruments delivered and administered electronically. No reported data identified respondents by name, only nominal data by groups (colleges or divisions within the universities) were provided to the researcher.
Leaders were provided an additional electronic link to take the *Big Five* online. Upon completion, data was delivered to the researcher from the tool administrator. All organizational analyses were conducted at the organization-level. An organizational profile was created in aggregate form by institution. College employee responses to the OCAI scales were aggregated by calculating the mean response across all members of the organization, followed by correlation analysis to justify aggregation. According to Field (2009), aggregated data studies use correlation analysis. Finally, using multi-level research theory (Giberson et al., 2009), the hypotheses and exploratory relationships were tested through descriptive statistics, intra-class correlation coefficients (ICC), analysis of variance (ANOVA), multivariate analysis of variance (MANOVA), discriminate function analysis (when significant predictors were determined) and simple regressions. Specifically, Leader personality scores were correlated with organizational culture scores to determine relationships. This design was constructed in response to the research questions.

*Survey Variables and Items Identified*

The following variables listed in Table 1, are the independent and dependent variables in this study.
<table>
<thead>
<tr>
<th>Independent Variable (n=5)</th>
<th>Dependent Variables (n= 4)</th>
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<tbody>
<tr>
<td>*Mid-level leaders’ traits (%)</td>
<td>**University Cultural Values (%)</td>
</tr>
<tr>
<td>Extraversion</td>
<td>Clan</td>
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<tr>
<td>Agreeableness</td>
<td>Adhocracy</td>
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<tr>
<td>Conscientiousness</td>
<td>Hierarchy</td>
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<tr>
<td>Emotional Stability</td>
<td>Market</td>
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<tr>
<td>Intellect/imagination</td>
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* Big Five inventory
** OCAI

**Human Subjects Protection**

As recommended by Mertens (2005), Institutional Research Board (IRB) guidelines were followed to protect human subjects. The study group consisted of non-vulnerable participants based on the guidance provided by the U.S. Department of Health and Human Services (2004). As required by the University of Missouri, process certification has been updated and an exempted application was submitted.

**Risk Analysis.** A review of the Belmont Report provided by the U.S. Department of Health and Human Services (2004, p.19) and University of Missouri IRB website (2011) revealed the principle of “respect for persons” was met in the design of this study. As the instruments in the study were both surveys and content did not involve sensitive topics nor were they considered to produce minor stress (John, Naumann, & Soto, 2008), the risk level of this experiment was considered minimal by the U.S. Department of Health and Human services guidelines (2004).

**Protection of Subjects.** Per the Belmont Report (as cited in the U.S. Department of Health and Services, 2004, p.19-20), this study met the principles of “beneficence” (U.S. Department of Health and Services, 2004, p.19-20) through the aggregated approach of using the data in the organizational profile results from the OCAI as defined by the
competing values model to maximized anticipated benefits and minimized possible harms of subjects and ensuring anonymity (Mertens, 2005, p. 333). It also met the principle of “justice” by the fair treatment design for the subjects in the study (U.S. Department of Health and Services, 2004, p.20). All participation within the study was voluntary. Participants were able to withdrawal at any time without penalty and were not required to answer all questions.

Statistical tests to be applied

Utilizing the previous research designs of Giberson et al. (2009), Zhang et al. (2008), and Tsui, Zhang, Wang, Xin, and Wu (2006), the following statistical tests were applied to this study. See Table 2 for additional information.

**ANOVA.** “ANOVA or analysis of variance is a statistical procedure that uses the F-ratio to test the overall fit of a linear model and is an overall test of whether group means differ (Field, 2009, p. 781).” “It is used when there are more than two groups to compare or when you have more than one independent variable” (Mertens, 2005, p. 403).

**Bivariate Correlation.** Bivariate correlation is a correlation between two variables. It is used to measure how two variables are associated or related (Field, 2009). This test is applied to allow the researcher to make a prediction about one variable based on what we know about another variable (Field, 2009).

**Cronbach’s Alpha.** Cronbach Alpha is the statistical method used to assess the internal consistency and reliability of a set of data (Mertens, 2005). The statistical technique of Cronbach’s Alpha (0.7 or greater) will be utilized to establish reliability of Goldberg’s (2000) *Big Five* personality inventory (Giberson et al., 2009).
Descriptive statistics. Descriptive statistics are used to “…describe or indicate several characteristics common to the entire sample. Descriptive statistics summarize data on a single variable” (e.g., mean, median, mode, standard deviation)” (Mertens, 2005, p. 402; see also Field, 2009).

Discriminant Function Analysis. “Discriminant function analysis (DFA) or discriminant analysis identifies and describes the discriminant function variates of a set of variables and is useful as a follow-up test to a MANOVA as a means of seeing how these variates allow groups of cases to be discriminated” (Field, 2009, P. 785).

Intraclass Correlation Coefficient. “Intraclass correlations (ICC) measure the reliability of the relationship between two variables that measure the same thing” (Field, 2009, p. 678). To provide evidence that culture values are shared by the organization’s members to affirm agreement of OACI, ICC will be calculated for the OACI responses to determine agreement and set University cultural values (Giberson et al., 2009). The ICC is a measure of both inter-rater reliability and inter-rater agreement. Per Giberson et al. (2009), “…values of .71-.90 suggest strong inter-rater agreement” (p. 131).

MANOVA. ”MANOVA or multivariate analysis of variance is a family of tests that extend an ANOVA to situations that more than one outcome variable has been measured” (Field, 2009. P. 790; see also, Mertens, 2005, p. 403).

Statistical Tests to be Applied by Research Question

This study asked fourteen research questions. The aforementioned statistical tests were used to evaluate the data to answer said research questions.
• RQ1 inquired about the reliability measures for each instrument and the subscales. To examine these reliability measures, descriptive statistics and intra-class correlations were applied.

• RQ 2 investigated what summary statistics of mid-level leaders (Leaders) are related to perceptions about university culture as measured with the competing values model. The competing values model’s cultural value percentages of clan, adhocracy, hierarchy, and market and the Big Five trait percentages of agreeableness, conscientiousness, emotional stability, extraversion, and intellect/imagination results were examined. Descriptive statistics included Cronbach’s alpha to measure internal consistency and reliability and descriptive statistics to examine variable mean, median, mode, and standard deviation.

• RQ 3 examined the correlations within and among the two different instruments. An ANOVA was used to examine relationships.

• RQ 4 asked what the overall average trait value profile was from the Big Five. Descriptive statistics were used to evaluate the trait percentage averages.

• RQ 5 examined the average culture for all faculties. Descriptive statistics were used to evaluate the cultural value percentage averages.

• RQ 6 questioned if there were correlations between pairs of traits to cultural values. Bivariate correlation was used to examine the relationships between pairs of traits to cultural values.
- RQ 7 asked if there were differences in culture value percentages by dominant trait percentages. Examination of differences in culture value percentages and dominant trait percentages required an ANOVA.

- RQ 8, 9, 10, 11 and RQ 12 examined if there were combinations of cultural values percentages that predicted a Leader with a dominant agreeableness, conscientiousness, emotional stability, extraversion, or intellect/imagination dominant personality trait percentages. A MANOVA was used to test the mean differences among cultural value percentages and dominant trait percentages to determine if this was likely to occur by chance.

- RQ 13 questioned if there was a combination of cultural values percentage results that predicted a Leader with dominant agreeableness, conscientiousness, emotional stability, extraversion, or intellect/imagination as dominant personality trait percentage. A MANOVA was utilized to determine if any significant combinations existed.

- RQ 14 addressed significant combinations and questioned if there were discriminate functions that described membership. A DFA was used for any significant combinations to examine these combinations.

The following Table (2) aligns the research questions with the aforementioned statistical tests to be applied in the study.
<table>
<thead>
<tr>
<th>Research Question</th>
<th>Survey Items</th>
<th>Analyses to be Applied</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 What are the reliability measures for each instrument and subscales?</td>
<td>OCAI 1-6 ; Big Five 1-50</td>
<td>Intra-class correlations; Chronbach's Alpha</td>
</tr>
<tr>
<td>2 What are the overall summary statistics of the competing values model cultural values percentages of clan, adhocracy, hierarchy, and market and the Big Five trait percentages results for agreeableness, conscientiousness, emotional stability, extraversion, and intellect/imagination?</td>
<td>OCAI 1-6 ; Big Five 1-50</td>
<td>Descriptive Statistics; Descriptive Statistics</td>
</tr>
<tr>
<td>3 What are the correlations within and among the two different instruments?</td>
<td>OCAI 1-6 ; Big Five 1-50</td>
<td>ANOVA;</td>
</tr>
<tr>
<td>4 What is the average trait value profile overall?</td>
<td>Big Five 1-50</td>
<td>Descriptive Statistics</td>
</tr>
<tr>
<td>5 What are the average cultural value percentages for all faculties?</td>
<td>OCAI 1-6</td>
<td>Descriptive Statistics</td>
</tr>
<tr>
<td>6 Are there correlations between pairs of traits to cultural values?</td>
<td>OCAI 1-6 ; Big Five 1-50</td>
<td>Bivariate Correlation; Bivariate Correlation</td>
</tr>
<tr>
<td>7 Is there a difference in culture value percentages by dominant trait percentages?</td>
<td>OCAI 1-6 ; Big Five 1-50</td>
<td>ANOVA;</td>
</tr>
<tr>
<td>8 Is there a combination of cultural value percentage results that predict a Leader with a dominant agreeableness personality trait percentages?</td>
<td>OCAI 1-6 ; Big Five 1-50</td>
<td>MANOVA;</td>
</tr>
</tbody>
</table>
Is there a combination of cultural value percentage results that predict a Leader with a dominant conscientiousness personality trait percentages?

OCAI 1-6 ; Big Five 1-50 MANOVA;

Is there a combination of cultural value percentage results that predict a Leader with dominant emotional stability personality trait percentages?

OCAI 1-6 ; Big Five 1-50 MANOVA

Is there a combination of cultural value percentage results that predict a Leader with a dominant extraversion personality trait percentages?

OCAI 1-6 ; Big Five 1-50 MANOVA

Is there a combination of cultural value percentage results that predict a Leader with a dominant intellect/imagination personality trait percentages?

OCAI 1-6 ; Big Five 1-50 MANOVA

Are there any combinations of culture value percentages that significantly predict differences in cultural values percentages and dominant trait percentages?

OCAI 1-6 ; Big Five 1-50 MANOVA

If there are significant combinations, are there discriminate functions that describe membership?

OCAI 1-6 ; Big Five 1-50 DFA

Summary

This study was designed to begin to address the paucity of research in linking the relationships between university Leaders’ personality traits and cultural values.

Understanding the connections between Leaders’ traits and university cultural values will
begin to advance theory and practice as it relates to organizational change and development within higher education.

Chapter four discussed the results to the study research questions. It reported the data through the assigned study statistical tests and their application by research question. Chapter five will discuss study implications.
CHAPTER 4
ANALYSIS OF DATA

Introduction

This non-experimental study examined theoretical assertions regarding the relationships between leadership and organizational cultures. This non-experimental study defined mid-level leader (Leader) personality traits (agreeableness, conscientiousness, emotional stability, extraversion, and intellect/imagination) through the use of Goldberg’s (1992) *Big Five* survey tool and defined university cultural values (clan, adhocracy, hierarchy, and market) through Cameron et al.’s (2007) competing values model by evaluating a purposeful random sampling of Midwestern universities.

This study examined how Leader traits relate to university cultural values. Chapter four presents the study’s data through an examination of research question results. The study’s approach to data collection, analysis, and applied statistical tests were outlined and supported in chapter three as well.

Data Analysis Organization

In studying how Leader traits link to university cultural values, a multi-level approach was utilized within other similar studies (Allame et al., 2011; Giberson et al., 2009; Tsui, Zhang, Wang, Xin, & Wu, 2006). Initially, the study data were organized by instrument. Upon finalizing the data collection, the instruments were closed. The data were analyzed as determined by research questions. Based on the results, additional data exploration was required utilizing simple regressions.

Research Questions

Within the context of this study, the following research questions were addressed:

RQ1 – What are the reliability measures for each instrument and subscales?
RQ 2 - What are the overall summary statistics of the competing values model cultural values percentages of clan, adhocracy, hierarchy, and market and the Big Five trait percentages results for agreeableness, conscientiousness, emotional stability, extraversion, and intellect/imagination?

RQ 3 - What are the correlations within and among the two different instruments?

RQ 4 - What is the average trait value profile overall?

RQ 5 - What is the average cultural value percentages for all faculties?

RQ 6 – Are there correlations between pairs of traits to cultural values?

Null Hypothesis: There are no significant correlations between traits and cultural values.

RQ 7 – Is there a difference in culture value percentages by dominant trait percentages?

RQ 8 - Is there a combination of cultural value percentage results that predict a mid-level leader with a dominant agreeableness personality trait percentages?

RQ 9 - Is there a combination of cultural value percentage results that predict a mid-level leader with a dominant conscientiousness personality trait percentages?

RQ 10 - Is there a combination of cultural value percentage results that predict a mid-level leader with dominant emotional stability personality trait percentages?

RQ 11 - Is there a combination of cultural value percentage results that predict a mid-level leader with a dominant extraversion personality trait percentages?

RQ 12 - Is there a combination of cultural value percentage results that predict a mid-level leader with a dominant intellect/imagination personality trait percentages?
RQ 13 - Are there any combinations of culture value percentages that significantly predict differences in cultural values percentages and dominant trait percentages?

RQ 14 - If there are significant combinations, are there discriminate functions that describe membership?

The examination of data and ability to review all research questions was subject to response, sample, and the results.

**Study Group**

The study group comprised of higher education mid-level leaders (Leaders) and their college’s faculty and staff at Midwestern, regional, public, four-year institutions based on criteria defined from U.S. News and World Report ratings (“College rankings and list”, n.d.) and IPEDS’s Data Center (n.d.). Seventeen of 173 invitees responded affirmatively to participate in this study. Many invitees declined due to the time of year (May through June, 2012). The time constraints of graduation and summer faculty leaves made the study difficult for the Leaders to commit to this study.

Out of the seventeen volunteers, eight were able to secure a self-reported 20% minimum college participation. The instruments remained open for over two months to support full participation. Fifteen Leaders completed *Big Five* surveys. Eight were utilized in this study. Eighty-seven college faculty and staff completed the OCAI. Seventy-two OCAI responses from seven different colleges were utilized for this study. The response rate did not meet the guidance of Mertens (2005) which suggests the need for at least “100 observations for each major subgroups…” (p. 327) to ensure study validity.
Analysis of Data

This non-experimental study examined theoretical assertions regarding relationships between leadership and organizational cultures. The data analysis was organized by the order of study research questions. SPSS was utilized to process study data.

*RQ1 Analysis Results*

RQ1 inquired about the reliability measures for each instrument and subscales. Descriptive statistics were run on both instruments. The reliability measure Cronbach’s Alpha was utilized for the OCAI and the *Big Five*. An additional reliability measure, the intra-class correlation, was also used for the OCAI.

Table 3 displays the OCAI Cronbach’s Alpha results. Results yielded $p$ values of between 0.87 (Clan) to 0.72 (Market). These scores meet the reliability standards of $p$ values equal to or greater than 0.70 (Field, 2009). To evaluate the reliability of the *Big Five*, Cronbach’s Alpha was utilized. The result was a 0.77 (see Table 3) which is found to be reliable (Field, 2009) and supports the findings of previous studies.

Table 3

*Reliability Statistics*

<table>
<thead>
<tr>
<th>Name</th>
<th>Cronbach's Alpha</th>
<th>Cronbach's Alpha Based on Standardized Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCAI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clan</td>
<td>.87</td>
<td>.87</td>
</tr>
<tr>
<td>Adhocracy</td>
<td>.86</td>
<td>.86</td>
</tr>
<tr>
<td>Market</td>
<td>.72</td>
<td>.73</td>
</tr>
<tr>
<td>Hierarchy</td>
<td>.86</td>
<td>.86</td>
</tr>
<tr>
<td>Big Five</td>
<td>.77</td>
<td>.83</td>
</tr>
</tbody>
</table>
An additional reliability test was utilized to examine the OCAI. Intra-class correlation coefficients (ICC) were calculated for OCAI responses to determine the level of member agreement (Giberson et al., 2009). Per Field (2009), “ICCs measure the relationships between two variables that measure the same thing” (p.678). ICC average scores ranged from 0.71 to 0.87. “ICC is a measure of both inter-rater reliability and inter-rater agreement” (as cited in Giberson et al., p. 131). ICC values of 0.71-0.90 suggest strong inter-rater agreement (Field, 2009). This result means the study measurements utilized were stable instruments and reliable.
Table 4

OCAI Intraclass Correlation Coefficient

<table>
<thead>
<tr>
<th></th>
<th>Intraclass Correlation</th>
<th>95% Confidence Interval</th>
<th>F Test with True Value 0</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Lower Bound</td>
<td>Upper Bound</td>
</tr>
<tr>
<td>Clan</td>
<td>Single Measures</td>
<td>.53&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.43</td>
</tr>
<tr>
<td></td>
<td>Average Measures</td>
<td>.87&lt;sup&gt;c&lt;/sup&gt;</td>
<td>.82</td>
</tr>
<tr>
<td>Adhocracy</td>
<td>Single Measures</td>
<td>.51&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.41</td>
</tr>
<tr>
<td></td>
<td>Average Measures</td>
<td>.86&lt;sup&gt;c&lt;/sup&gt;</td>
<td>.80</td>
</tr>
<tr>
<td>Market</td>
<td>Single Measures</td>
<td>.30&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.21</td>
</tr>
<tr>
<td></td>
<td>Average Measures</td>
<td>.72&lt;sup&gt;c&lt;/sup&gt;</td>
<td>.61</td>
</tr>
<tr>
<td>Hierarchy</td>
<td>Single Measures</td>
<td>.51&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.41</td>
</tr>
<tr>
<td></td>
<td>Average Measures</td>
<td>.86&lt;sup&gt;c&lt;/sup&gt;</td>
<td>.80</td>
</tr>
</tbody>
</table>

Two-way mixed effects model where people effects are random and measures effects are fixed.

a. Type C intra-class correlation coefficients using a consistency definition-the between-measure variance is excluded from the denominator variance.
b. The estimator is the same, whether the interaction effect is present or not.
c. This estimate is computed assuming the interaction effect is absent, because it is not estimable otherwise.

RQ2 Analysis Results

RQ 2 evaluated the overall summary statistics of the competing values model cultural values percentages of clan, adhocracy, hierarchy, and market and the Big Five trait percentages results for agreeableness, conscientiousness, emotional stability, extraversion, and intellect/imagination. Summary statistics are utilized to describe the
overall results from the study data collection (Field, 2009). The overall results provide an understanding to dominant values and characteristics found within the study data.

**OCAI Descriptive Statistics.** As reported in SPSS, Table 5 displays the OCAI descriptive statistics. Clan culture was the dominant (mean=197.40; sd=25.51) variable. In a clan culture, decisions come from consensus (Cameron & Quinn, 2006). Members contribute through teamwork and participation (Cameron & Quinn, 2006). Dominating characteristics of loyalty and a sense of family and shared values are found in clan culture organizations (Allame et al., 2011).

Market culture (mean=118.08; sd=20.97) was the study group’s weakest cultural value. In organizations with dominant market cultures, competition and a strong results-oriented approach are profound values (Cameron & Quinn, 2006). Market culture organizations concern themselves with their external positioning and securing control of their marketplace (Cameron & Quinn, 2006). The study results inform us the college study group was dominated by clan culture members.

**Table 5**

<table>
<thead>
<tr>
<th>Name</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clan</td>
<td>6</td>
<td>168.89</td>
<td>240.06</td>
<td>197.40</td>
<td>27.50</td>
</tr>
<tr>
<td>Hierarchy</td>
<td>6</td>
<td>138.85</td>
<td>197.85</td>
<td>163.89</td>
<td>22.54</td>
</tr>
<tr>
<td>Adhocracy</td>
<td>6</td>
<td>102.50</td>
<td>142.69</td>
<td>120.62</td>
<td>15.46</td>
</tr>
<tr>
<td>Market</td>
<td>6</td>
<td>90.83</td>
<td>147.50</td>
<td>118.08</td>
<td>20.97</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The descriptive statistics ran in SPSS for the *Big Five* are presented in Table 6. Conscientiousness was the dominant trait of Leaders (mean=40.57; sd= 3.60). Conscientiousness traits are found with in individuals who are thoughtful, dependable,
and operate under control (John & Srivastava, 1991). Agreeableness was also a dominant Leader trait (mean=39.14; sd=5.34). Agreeableness traits are found with in individuals who are concerned about relationships, accommodating, trusting, and good natured (Shi, Lin, & Wang, 2009). Intellect/Imagination (mean=38.57; sd= 9.11) was more of a dominant trait than the remaining traits in the *Big Five* based on the 2-point difference between the means. Individuals who are innovative and independent thinkers are found with this trait (Srivastava, 2010). Emotional Stability (mean=35.43; sd=2.82) was a weak study Leader trait. Extraversion (mean=32; sd=9.22) was the weakest Leader trait. Extraverted leaders can encourage aggressive and outcome oriented cultures (Judge & Cable, 1997). These results reveal the study group Leader traits portray leaders who are thoughtful, dependable, operate under control (John & Srivastava, 1991), and are concerned about relationships, and good natured (Shi, Lin, & Wang, 2009).

Table 6

*Big Five Descriptive Statistics as sorted by Mean Score from High to Low*

<table>
<thead>
<tr>
<th>Name</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conscientiousness</td>
<td>7</td>
<td>36</td>
<td>45</td>
<td>40.57</td>
<td>3.60</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>7</td>
<td>31</td>
<td>48</td>
<td>39.14</td>
<td>5.34</td>
</tr>
<tr>
<td>Intellect/Imagination</td>
<td>7</td>
<td>24</td>
<td>47</td>
<td>38.57</td>
<td>9.11</td>
</tr>
<tr>
<td>Emotional Stability</td>
<td>7</td>
<td>31</td>
<td>38</td>
<td>35.43</td>
<td>2.82</td>
</tr>
<tr>
<td>Extraversion</td>
<td>7</td>
<td>19</td>
<td>43</td>
<td>32.00</td>
<td>9.22</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*RQ3 Analysis Results*

RQ 3 explored the correlations within and among the two different instruments. Correlations were run within and among the two different instruments. Correlations inform us of the degree instruments show a tendency to vary together (Field, 2009). Understanding this variance, allows for an additional examination of instrument and
study reliability. Spearman’s rho was utilized in SPSS for this analysis. This section will first address the correlations within the OCAI. The correlations within the Big Five will follow. Following the guidance of Field (2009), to explore the data further, study result significance levels were evaluated at $p=0.01; p=0.05; p=0.25$.

Correlation within the OCAI. Table 7 displays the correlations within the OCAI. To interpret Table 7 results, a correlation interpretation scale by Dave Oehler (1995) was utilized. Based on Oehler’s (1995) scale, the variable clan’s strongest correlation ($r=-0.66$) was to hierarchy. Clan’s weakest correlation ($r=-0.66$) was to adhocracy with an essentially random result. Adhocracy’s strongest correlation was also in the moderate negative correlation ($r=-0.66$) range of -0.600. Adhocracy not only had an essentially random result to clan but also to market. Market’s strongest correlation was a low negative correlation to clan. Hierarchy’s strongest correlation was a moderate negative correlation to clan. The most significant correlations were found at the $p=0.25$ level between the two variable sets being clan and hierarchy ($r=-0.07; p=0.16$) and adhocracy and hierarchy ($r=-0.06; p=0.21$). These correlation results reveal the study group four cultural value results have relationships between them with the strongest being between clan and hierarchy and adhocracy and hierarchy.
### Table 7

**OCAI Intercorrelation Matrix (N = 6)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Spearman's rho</th>
<th>Clan</th>
<th>Adhocracy</th>
<th>Market</th>
<th>Hierarchy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clan</td>
<td></td>
<td>1.00</td>
<td>0.14</td>
<td>-0.49</td>
<td>-0.66*</td>
</tr>
<tr>
<td></td>
<td>Correlation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Coefficient</td>
<td>( R )</td>
<td>0.14</td>
<td>1.00</td>
<td>-0.60*</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>( P )</td>
<td>0.79</td>
<td>0.33</td>
<td>0.16</td>
</tr>
<tr>
<td>Adhocracy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Correlation</td>
<td>( R )</td>
<td>-0.49</td>
<td>0.14</td>
<td>-0.26</td>
</tr>
<tr>
<td></td>
<td>Coefficient</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>( P )</td>
<td>0.33</td>
<td>0.79</td>
<td>0.62</td>
</tr>
<tr>
<td>Market</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Correlation</td>
<td>( R )</td>
<td>-0.66*</td>
<td>-0.60*</td>
<td>-0.26</td>
</tr>
<tr>
<td></td>
<td>Coefficient</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>( P )</td>
<td>0.16</td>
<td>0.21</td>
<td>0.62</td>
</tr>
</tbody>
</table>

***. Correlation is significant at the 0.01 level (2-tailed).
**. Correlation is significant at the 0.05 level (2-tailed).
*. Correlation is significant at the 0.25 level (2-tailed).

**Correlation within the Big Five.** Table 8 displays the correlations within the *Big Five* instrument as reported in SPSS. Utilizing Oehler’s (1995) correlation interpretation scale, the five traits reveal one significant correlation at the \( p=0.01 \)-level between extraversion and agreeableness. Two significant correlations at the \( p=0.05 \)-level between agreeableness and conscientiousness and emotional stability and intellect/imagination occurred within the *Big Five* correlations. Also, at the \( p=0.25 \)-level, two additional significant correlations were revealed. Conscientiousness and extraversion \((r=0.739; p=.058)\). All correlations were positive. The strongest correlation with a very high positive correlation was between extraversion and agreeableness. The weakest correlation \((r=0.093, p=0.12)\), an essentially random result (Oehler, 1995), between conscientiousness and emotional stability. These correlation results reveal the study
The group Big Five trait percentage results have relationships between them with extraversion and agreeableness being the most related.

Table 8

**Big Five Intercorrelation Matrix (N = 7)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Spearman's rho Correlation Coefficient</th>
<th>Extraversion</th>
<th>Agreeableness</th>
<th>Conscientiousness</th>
<th>Emotional Stability</th>
<th>Intellect/Imagination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extraversion</td>
<td>$r$ 1.00</td>
<td>.94***</td>
<td>0.74*</td>
<td>0.52*</td>
<td>0.46</td>
<td></td>
</tr>
<tr>
<td>Agreeableness</td>
<td>Sig. (2-tailed) $p$.94***</td>
<td>0.00</td>
<td>0.06</td>
<td>0.23</td>
<td>0.29</td>
<td></td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>Sig. (2-tailed) $p$.74*</td>
<td>.76**</td>
<td>1.00</td>
<td>0.38</td>
<td>0.45</td>
<td></td>
</tr>
<tr>
<td>Emotional Stability</td>
<td>Sig. (2-tailed) $p$.52*</td>
<td>0.39</td>
<td>0.09</td>
<td>1.00</td>
<td>.78**</td>
<td></td>
</tr>
<tr>
<td>Intellect/Imagination</td>
<td>Sig. (2-tailed) $p$.23</td>
<td>0.38</td>
<td>0.84</td>
<td>.04</td>
<td>0.04</td>
<td></td>
</tr>
</tbody>
</table>

*** Correlation is significant at the 0.01 level (2-tailed).
** Correlation is significant at the 0.05 level (2-tailed).
* Correlation is significant at the 0.25 level (2-tailed).

**RQ4 Analysis Results**

RQ 4 investigated the overall trait value profile of the Big Five. The overall trait value profile provides the study group Leader average personality traits. The results offer an understanding of the type of Leader found in this study group.

SPSS results found in Table 9 display the highest trait percentage is conscientiousness at 81.14%. Individuals with dominant conscientiousness traits are dependable, thoughtful, and are organized (Giberson et al., 2009). Conscientiousness is found to be the most consistent factor related to performance across jobs (Barrick & Mount, 1991). Agreeableness was the next dominant trait at 78.28%. Individuals with
dominant agreeableness traits likely support a cooperative workplace (Giberson et al., 2009) and are accommodating and happy (Hogan & Hogan, 1995). Weaker traits were intellect/imagination (77.14%), emotional stability (70.86%) and the weakest trait percentage was extraversion at 64.00%. The results portray a study group Leader who is organized, dependable, and achievement oriented (Judge, Higgins, Thoresen, & Barrick, 1999).

Table 9

Overall Big Five Traits from High to Low Percentages

<table>
<thead>
<tr>
<th>Name</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conscientiousness</td>
<td>81.14%</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>78.28%</td>
</tr>
<tr>
<td>Intellect/Imagination</td>
<td>77.14%</td>
</tr>
<tr>
<td>Emotional Stability</td>
<td>70.86%</td>
</tr>
<tr>
<td>Extraversion</td>
<td>64.00%</td>
</tr>
</tbody>
</table>

RQ5 Analysis Results

RQ 5 examined the average cultural value percentages for all faculties. The cultural value percentages were examined to understand the common study group cultural values. Understanding the common study group cultural values provides insights into the type of culture we would find within these colleges.

Table 10 displays the strongest cultural value was clan (33.206) as reported in SPSS. Clan culture represents an organization where loyalty, teamwork, participation, and consensus are highly valued. Hierarchy culture was the second strongest cultural value (27.447). Hierarchy cultures are formalized, structured and traditional. The two lowest cultural values were market (19.385) and adhocracy (19.962). Adhocracy culture represents organizations with innovation, flexibility, and creativity (Cameron & Quinn, 2006). Market (19.385) cultures represent results-oriented organizations. These study
results are consistent with other university OCAI studies which revealed clan as the
dominant cultural value (Kuo, 2009; Berrio, 2000; Pushnykh & Chemeris, 2006). As
such, upon visiting a study group college, we would expect to find a college that valued
teamwork, participation, made decision by consensus and are formalized, and the
organization is structured and traditional.

Table 10

<table>
<thead>
<tr>
<th>Name of Quadrant</th>
<th>Overall OCAI Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clan</td>
<td>33.21</td>
</tr>
<tr>
<td>Hierarchy</td>
<td>27.45</td>
</tr>
<tr>
<td>Adhocracy</td>
<td>19.96</td>
</tr>
<tr>
<td>Market</td>
<td>19.38</td>
</tr>
</tbody>
</table>

The OCAI, as an instrument of competing values model, reveals how
organizations demonstrate primary organizational cultural values (Cameron & Quinn,
2006). Figure 2 provides a visual of how the OCAI values align in a graph format. This
format allows a visual interpretation of OCAI results and improves understanding
regarding dominant values. The OCAI also has been used for organizations to examine
where their values lie and where organization members would like them to be in visual
format (Cameron & Quinn, 2006). This visual reveals the strength of clan and hierarchy
cultural values and emphasizes stability and internal focus as primary.
**Figure 2.** Visual image of overall OCAI college cultural value percentages used to enhance understanding of results variances.

**RQ6 Analysis Results**

RQ 6 questioned if there were correlations between pairs of traits to cultural values. Bivariate correlations measure how related variables are to each other (Field, 2009). As reported in SPSS, Table 11 displays the results of the bivariate correlations between the *Big Five* traits and the OCAI values.

Using Oehler’s (1995) correlation interpretation scale, the strongest correlation was a moderate positive result between *Big Five*’s extraversion trait and the OCAI’s market value (r=0.685; p=0.09). Other moderate correlations were between *Big Five*’s agreeableness trait and the OCAI’s market value (r=0.60; p=0.15), *Big Five*’s conscientiousness trait and the OCAI’s adhocracy value (r=-0.618; p=0.14), and *Big Five*’s intellect/imagination trait and the OCAI’s adhocracy value (r=-0.631; p=0.13). The weakest correlations came from *Big Five*’s emotional stability trait with results ranging
between 0.019 and -0.093 with OCAI values. The results support the null hypothesis that there are no significant correlations between traits and cultural values at \( p=0.05 \).

Significant correlations between traits and cultural values were found at \( p=0.25 \). The OCAI market variable and the Big Five extraversion \( (p=0.09) \), and agreeableness \( (p=0.154) \) variables were found to be significant at the \( p=0.25 \). Market culture represents a results-oriented organization that focuses on market share and competition. Per Allame et al.(2011), market leaders are aggressive, decisive, actively pursue goals and have a dominant winning objective. Extraversion traits are found within those individuals with tendencies for being outgoing, sociable, who have energy and are outgoing (John & Srivastava, 1991). Agreeableness traits are found within those individuals, who are cooperative, concerned about relationships, accommodating, and get along with others (Barrick & Mount, 1991; Goldberg, 1992, John & Srivastava, 1999). Both traits appear to align with accomplishing the values of a market culture.

Also, the OCAI adhocracy variable and the Big Five conscientiousness \( (p=0.139) \) variable were found to be significant at \( p=0.25 \). Adhocracy culture is a dynamic, entrepreneurial, and creative place to work (Cameron & Quinn, 2006). Per Cameron and Quinn (2006), adhocracy leaders are effective when they are visionary. Conscientiousness traits are found within those individuals who are responsible, organized, persistent, dependable, and planful (Barrick & Mount, 1991; Shi, Lin & Wang, 2009; Judge et al., 1999). This significant correlation paints a picture of study Leaders being consistent and organized as they implement a market culture that allows creativity and entrepreneurial spirit.
Table 11

*Correlation among OCAI and the Big Five*

<table>
<thead>
<tr>
<th>OCAI Variable</th>
<th>Big Five Variables</th>
<th>Clan</th>
<th>Adhocracy</th>
<th>Market</th>
<th>Hierarchy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Extraversion</strong></td>
<td>Correlation</td>
<td>-0.47</td>
<td>-0.36</td>
<td>0.68</td>
<td>0.14</td>
</tr>
<tr>
<td></td>
<td>Significance</td>
<td>0.29</td>
<td>0.43</td>
<td>0.09*</td>
<td>0.76</td>
</tr>
<tr>
<td><strong>Agreeableness</strong></td>
<td>Correlation</td>
<td>-0.27</td>
<td>-0.42</td>
<td>0.60</td>
<td>0.02</td>
</tr>
<tr>
<td></td>
<td>Significance</td>
<td>0.55</td>
<td>0.35</td>
<td>0.15*</td>
<td>0.97</td>
</tr>
<tr>
<td><strong>Conscientiousness</strong></td>
<td>Correlation</td>
<td>-0.18</td>
<td>-0.62</td>
<td>0.36</td>
<td>0.25</td>
</tr>
<tr>
<td></td>
<td>Significance</td>
<td>0.70</td>
<td>0.14*</td>
<td>0.42</td>
<td>0.58</td>
</tr>
<tr>
<td><strong>Emotional Stability</strong></td>
<td>Correlation</td>
<td>0.02</td>
<td>-0.09</td>
<td>0.02</td>
<td>-0.09</td>
</tr>
<tr>
<td></td>
<td>Significance</td>
<td>0.97</td>
<td>0.84</td>
<td>0.97</td>
<td>0.84</td>
</tr>
<tr>
<td><strong>Intellect/Imagination</strong></td>
<td>Correlation</td>
<td>-0.05</td>
<td>-0.63</td>
<td>-0.20</td>
<td>0.38</td>
</tr>
<tr>
<td></td>
<td>Significance</td>
<td>0.91</td>
<td>0.13*</td>
<td>0.67</td>
<td>0.40</td>
</tr>
</tbody>
</table>

***. Correlation is significant at the 0.01 level (2-tailed).
**. Correlation is significant at the 0.05 level (2-tailed).
*. Correlation is significant at the 0.25 level (2-tailed).

*RQ7 through RQ13*

The RQ7 through RQ13 ANOVAs and MANOVAs were attempted (see Table 12) but were not significant at \( p=0.05 \). As a result, the researcher failed to reject the null hypothesis. The results revealed the sample-size was too small to allow for all equations to run properly. These results support Field’s (2009) statement that ANOVAs “…tell us whether the experimental manipulation was generally successful…” (p. 349). Field (2009) reported when distributions within groups are normally distributed, ANOVAs were more likely to be accurate. “When group sizes are equal the F-statistic can be quite robust to violations of normality” (Field, 2009, p. 360). ANOVA study results demonstrated the experimental manipulation was not successful due to sample size.
Table 12

**ANOVA of Big Five and OCAI Variables**

<table>
<thead>
<tr>
<th>OCAI Variable</th>
<th>Extraversion</th>
<th>Agreeableness</th>
<th>Conscientiousness</th>
<th>Emotional Stability</th>
<th>Intellect / Imagination</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
<td>F</td>
<td>Sig.</td>
<td>F</td>
</tr>
<tr>
<td>Clan</td>
<td>1.88</td>
<td>0.27</td>
<td>1.14</td>
<td>0.41</td>
<td>0.64</td>
</tr>
<tr>
<td>Adhocracy</td>
<td>0.07</td>
<td>0.94</td>
<td>2.15</td>
<td>0.23</td>
<td>2.16</td>
</tr>
<tr>
<td>Market</td>
<td>3.33</td>
<td>0.14</td>
<td>1.01</td>
<td>0.44</td>
<td>1.04</td>
</tr>
<tr>
<td>Hierarchy</td>
<td>0.37</td>
<td>0.72</td>
<td>5.62</td>
<td>0.07</td>
<td>0.82</td>
</tr>
</tbody>
</table>

***. Correlation is significant at the 0.01 level (2-tailed).
**. Correlation is significant at the 0.05 level (2-tailed).

Data Exploration

As the study design was not successful due to sample size, additional data exploration was pursued. A regression model was used to examine any prediction of membership. Following the guidance of Field (2009), the regression method makes situations found in this study simpler to explore data. Also to explore the data further, significance levels were moved from \( p=0.05 \) to \( p=0.25 \).

Multiple stepwise regressions

Data from the study group was examined in SPSS. Multiple stepwise regressions were run to examine membership prediction. Multiple stepwise regressions failed to find predictions of specific Big Five traits to the hierarchy, adhocracy, and clan cultural values. Regressions did reveal predictions of specific Big Five traits for market cultural values. Market organizational cultures have strong competitive and productive values (Cameron & Quinn, 2006). Market leaders are aggressive, decisive, and actively pursue goals (Allame et al., 2011).
In Table 13, the first model discussed is the constant predictor of extraversion to the market value. Extraversion had an R-Square of 0.59. This R-Square result of 0.59 tells us extraversion can account for 59% of the variation of market values. Judge & Cable (1997) reported extraverted leaders encourage aggressive and outcome oriented cultures which supports model one results.

In model two of the market value regression, extraversion and agreeableness had an R-Square of 0.87. This R-Square result tells us extraversion and agreeableness traits combined can account for 87% of the variation of market values. Expanding what we know about market values and an individual’s extraversion traits, those with lower levels of agreeableness traits do not shy away from competition (Giberson et al., 2009). Also, those with dominant agreeableness traits foster an environment of cooperation (Giberson et al., 2009) which is required to accomplish certain outcomes (Yukl, 2010).

In model three, extraversion, agreeableness, and emotional stability had an R-Square of 0.99. This R-Square result tells us extraversion, agreeableness, and emotional stability traits combined can account for 99% of the variation of market values. Emotional stability traits measure the reaction and control over emotion and capacity to cope with stress (Shi, Lin, Wang, 2009). This sense of emotional control coupled with a fostering of cooperation and an aggressive approach reasonably aligns with organizational values of competition and productivity.
Table 13

*Market Regression Model Summary*

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.77a</td>
<td>0.59</td>
<td>0.51</td>
<td>14.31</td>
</tr>
<tr>
<td>2</td>
<td>.87b</td>
<td>0.76</td>
<td>0.65</td>
<td>12.17</td>
</tr>
<tr>
<td>3</td>
<td>.99c</td>
<td>0.99</td>
<td>0.99</td>
<td>1.76</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Extraversion  
b. Predictors: (Constant), Extraversion, Agreeableness  
c. Predictors: (Constant), Extraversion, Agreeableness, Emotional Stability

Table 14 reports the ANOVA results from the simple regression used to examine specific *Big Five* traits predictors of Market cultural values. Per Field (2009), “the most important part of the table is the *F*-ratio…” (p.207). For these data for Model 1, *F* is 7.277 (*p*=0.04), which is significant at *p*=0.05-level. Model 2 has an *F* of 6.48, which was not significant by 0.006 at 0.056 at *p*=0.05-level but is significant at the *p*=0.25-level. Model 3 has *F* of 269.34, which is significant at *p* < 0.001.
Table 14

*Market Regression ANOVA*\(^d\)

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>1490.71</td>
<td>1</td>
<td>1490.71</td>
<td>7.28</td>
<td>.04</td>
</tr>
<tr>
<td>Residual</td>
<td>1024.27</td>
<td>5</td>
<td>204.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2514.98</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Regression</td>
<td>1922.12</td>
<td>2</td>
<td>961.06</td>
<td>6.48</td>
<td>.06</td>
</tr>
<tr>
<td>Residual</td>
<td>592.85</td>
<td>4</td>
<td>148.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2514.98</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Regression</td>
<td>2505.67</td>
<td>3</td>
<td>835.22</td>
<td>269.34</td>
<td>.00</td>
</tr>
<tr>
<td>Residual</td>
<td>9.30</td>
<td>3</td>
<td>3.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2514.98</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Extraversion
b. Predictors: (Constant), Extraversion, Agreeableness
c. Predictors: (Constant), Extraversion, Agreeableness, Emotional Stability
d. Dependent Variable: Market

**Summary**

This study was designed to address the paucity of research in linking the relationships between university mid-level leader (Leader) personality traits and cultural values. Understanding the connections between Leaders’ traits and university cultural values will begin to advance theory and practice as it relates to organizational change and development within higher education.

**Findings Summary**

This non-experimental study examined theoretical assertions regarding relationships between leadership and organizational cultures. The data analysis occurred in order of the research questions. RQ1 inquired about the reliability measures for each instrument and subscales. Descriptive statistics (Cronbach’s Alpha) were run on both instruments. Also, intra-class correlation was used for the OCAI. Results of the OCAI Cronbach’s Alpha yielded \( p \) values of between 0.87 (clan) to 0.72 (market). These scores
meet the reliability standards of $p$ values equal to or greater than 0.70 (Field, 2009). To evaluate the reliability of the Big Five, Cronbach’s Alpha was utilized. The result was a 0.77 which is found to be reliable (Field, 2009) and supports the findings of previous studies that both tools meet reliability standards.

RQ 2 evaluated the overall summary statistics of the competing values model cultural values percentages of clan, adhocracy, hierarchy, and market and the Big Five trait percentage results for agreeableness, conscientiousness, emotional stability, extraversion, and intellect/imagination. The OCAI descriptive statistics revealed clan had the highest mean of 197.40 and the largest standard deviation of 27.50. Adhocracy had a mean of 120.63 and the smallest standard deviation of 15.46. Market had the lowest mean of 118.08 and a standard deviation of 20.97. The descriptive statistics for the Big Five presented extraversion had the lowest mean of 32.00 and the highest standard deviation of 9.22. Agreeableness had a mean of 39.14 and a standard deviation of 5.34. Conscientiousness had the highest mean of 40.57 and a standard deviation of 3.60. Emotional Stability had a mean of 35.43 and the smallest standard deviation of 2.82. Intellect/imagination had a mean of 38.57 and a standard deviation of 9.11.

These study results inform us the college study group was dominated by clan culture values. These values include loyalty, teamwork, and consensus in decision making. The study group Leader traits reveal members are thoughtful, dependable, and operate under control (John & Srivastava, 1991). They are also concerned about relationships, and good natured (Shi, Lin, & Wang, 2009).

RQ 3 explored the correlations within and among the two different instruments. Using Spearman’s rho, correlations were run within and among the two different
instruments. None of the correlations among the OCIA results were significant at the
\( p=0.05 \).

The correlations within the *Big Five* revealed one significant correlation at the
\( p=0.01 \) level between extraversion and agreeableness. It also revealed two significant
correlations at the \( p=0.05 \) level between agreeableness and conscientiousness and
emotional stability and intellect/imagination. All correlations were positive. The strongest
correlation with a very high positive correlation was between extraversion and
agreeableness.

Correlations were also run among both the OCAI and the *Big Five* (see Table 9).
Using Oehler’s (1995) correlation interpretation scale, the strongest correlation was a
moderate positive result of 0.68 between *Big Five*’s extraversion trait and the OCAI’s
market value. Other moderate correlations were between *Big Five*’s agreeableness trait
and the OCAI’s market value with a positive correlation of 0.60, *Big Five*’s
conscientiousness trait and the OCAI’s adhocracy value with a negative correlation of
-0.62, and *Big Five*’s intellect/imagination trait and the OCAI’s adhocracy value with a
negative correlation of -0.63.

These correlation results reveal the study group four cultural value results have
relationships between them with the strongest being between clan and hierarchy and
adhocracy and hierarchy. These correlation results also reveal the study group *Big Five*
trait percentage results have relationships between them with extraversion and
agreeableness being the most related.

RQ 4 investigated the overall trait value profile of the *Big Five*. The highest trait
percentage is conscientiousness at 81.14%. Individuals with dominant conscientiousness
traits are dependable, thoughtful, and are organized (Giberson et al., 2009).

Conscientiousness is found to be the most consistent factor related to performance across jobs (Barrick & Mount, 1991). Agreeableness was the next dominant trait at 78.28%.

Individuals with dominant agreeableness traits likely support a cooperative workplace (Giberson et al., 2009) and are accommodating and happy (Hogan & Hogan, 1995).

Weaker traits were intellect/imagination (77.14%), emotional stability (70.86%) and the weakest trait percentage was extraversion at 64.00%. The results portray one would find a Leader from this study group is organized, dependable, achievement oriented and support a cooperative workplace (Judge, Higgins, Thoresen, & Barrick, 1999; Giberson et al., 2009).

RQ 5 examined the average cultural value percentages for all faculties. The highest cultural value was clan at 33.21. The lowest cultural value was hierarchy at 19.39. These results were consistent with other university OCAI studies which revealed clan as the dominant cultural value (Kuo, 2009; Berrio, 2000; Pushnykh & Chemeris, 2006). As such, upon visiting a study group college, we would expect to find a college that valued teamwork, participation, making decisions by consensus, and within a structured and traditional organization. This information also reveals the strength of clan and hierarchy cultural values which emphasizes stability and internal focus as primary.

RQ 6 questioned if there were correlations between pairs of traits to cultural values. It included a null hypothesis statement that there were not significant correlations between traits and cultural values. The results supported the research decision to fail to reject the null hypothesis. There were no significant correlations at the p=0.05-level between traits and cultural values in this study.
As the researcher failed to reject the null hypothesis which was supported by the study data, RQ7 through RQ14 could not be answered. The ANOVAs and MANOVAs for RQ7 through RQ13 were run and supported the data found in RQ6. They revealed the sample-size was too small to allow for all equations to run properly.

These results support Field’s (2009) statement that ANOVAs “…tell us whether the experimental manipulation was generally successful…” (p. 349). Field (2009) reported when distributions within groups are normally distributed, ANOVAs were more likely to be accurate. “When group sizes are equal the $F$-statistic can be quite robust to violations of normality”(Field, 2009, p. 360). ANOVA study results demonstrated the experimental manipulation was not successful due to sample size.

As such, following the guidance of Field (2009), regressions were used as the regression method makes these situations simpler to explore data. Regression models with higher significance levels of $p=0.25$ were used to examine any prediction of membership. Regressions failed to find predictions of specific Big Five traits to the cultural values of hierarchy, adhocracy, and clan. Regressions did reveal predictions of specific Big Five traits for market cultural values.

In model three of this regression, extraversion, agreeableness and emotional stability had an R-Square of 0.998 which tells us extraversion, agreeableness, and emotional stability traits combined can account for 99% of the variation of market values. The ANOVA results from the market values simple regression had $F$ of 269.339, which was significant at $p < 0.001$. This significant correlation paints a picture of study Leaders being consistent and organized as they implement a market culture that allows creativity and entrepreneurial spirit.
Chapter four provided the study data analysis. It reviewed the research questions and the data collected from the study subjects. Chapter four also discussed statistical results by research question. Chapter five will provide a study summary and conclusions. Chapter five will also discuss future research and practice.
CHAPTER 5

DISCUSSION

Introduction

This non-experimental study examined mid-level leader (Leader) personality traits (agreeableness, conscientiousness, emotional stability, extraversion, and intellect/imagination) through the use of Goldberg’s (1992) *Big Five* survey tool. It examined university cultural values (clan, adhocracy, hierarchy, and market) through Cameron et al.’s (2007) competing values model by evaluating a purposeful random sampling of Midwestern universities. Chapter five presents a study summary and conclusions. Also, future recommendations for future research and practice are addressed as well.

Study Summary

This study was designed to begin to address gaps of information. There is a paucity of research in examining the relationships between university Leader personality traits and cultural values. Understanding linkages between Leader traits and university cultural values advances theory and practice as it relates to organizational change and development within higher education. Due to a small sample size and complicated design, minimal information was gleaned from this study.

*Limitations*

Several study limitations were addressed. Limitations included unanticipated events which could have impacted participant perception or attitude. There could have been university maturation over the time the study was conducted. Universities’ cultures could change in ways that Leader traits relate or unrelate to the values. Per Trochim (2009), there could have been a differential selection of subjects as universities who
participants in this study were volunteers. The extent to which these results may
generalize to a random sample of universities was also unclear.

Limitations that were considered, outlined by Trochim (2009) and Creswell
(2009), were:

1. Interaction effects of selection biases due to a non-random group
   selection,
2. Instrument reliability and validity, and
3. Inventory fatigue.

The primary study limitation was sample size. Forty-six (46) universities were invited to
participate and those Leaders who participated only represent a subset of the population.
As this was a small sample size out of the 4,300 plus universities within the United
States, the small size limited the power of statistical analyses and the study design.

Two specific tools were utilized which could have been sources of additional
limitations. These tools were proven to be reliable. There was potential for inventory
fatigue for Leaders. The leaders received two assessments (Big Five Inventory and
OCAI) which could have created a carry-over effect (Trochim, 1999). The study results
were not generalized do address this limitation.

*Delimitations*

The study boundaries were established by research design. The primary
delimitations were:

1. Selection of second-tier Midwest institutions (limited to 46 colleges),
2. Snap-shot of time the study performed, and
3. Limiting the study to measuring traits and values.

To address these limitations, results were not generalized beyond the outcome of the study.

Conclusions

This section will discuss the data analysis conclusions. It will be begin with overall design and instrumentation findings. It will then discuss conclusions about study group cultural values and study group Leader traits. This section will end with conclusions regarding market cultural values from additional data exploration through multiple-step regressions.

Overall Study Findings

The study purpose was to address the paucity of research in examining the relationship between university mid-level leader (Leader) personality traits and cultural values. The study was to advance theory and practice within organizational development and higher education. Understanding how Leader traits relate to university culture values was a goal of the study.

Based upon the study’s findings, the following conclusions were made. The study instruments were reliable with high internal consistency. Correlation results revealed the study group four cultural value results have relationships between them. The strongest correlation was between clan and hierarchy and adhocracy and hierarchy. These correlation results revealed the study group Big Five trait percentage results have relationships between them with extraversion and agreeableness being the most related.
ANOVA study results demonstrated the experimental manipulation was not successful due to sample size. The researcher failed to reject the null hypothesis. Overall, the study minimally addressed the paucity in research.

*Cultural Values*

The study group was dominated by clan culture members. As such, upon visiting a study group college, we would expect to find a college that values teamwork, participation, consensus decision making, is structured, and traditional organizationally. The strength of clan and hierarchy cultural values and emphasis on stability and internal focus as primary importance were revealed by study group data. It would be interesting to examine other types of institutions. For example, would for-profit or adult-focused institutions have a similar results based on the assumption they are more externally focused and market oriented?

*Leader Traits*

Leader traits revealed Leaders are thorough, achievement orientation, and organized (Judge et al., 1999). These Leaders are concerned about relationships and are good natured (Shi, Lin, & Wang, 2009). The study results portrayed a typical study group Leader who is organized, dependable, achievement oriented and supports a cooperative workplace (Judge et al., 1999; Giberson et al., 2009). It would be interesting to know what would happen culturally if a contrasting leader was to replace one of our study group Leaders.

*Market Cultural Values*

When utilizing multiple-step regressions, a significant correlation between the market cultural value and extraversion, agreeableness, and emotional stability *Big Five*
trait percentages was revealed. This significant correlation paints a picture of study Leaders who are consistent and organized in a market cultural values which support creativity and entrepreneurial spirit. This finding creates more questions.

With such strong traditional values in place in our study group, what would occur if a Leader were to try to increase the market cultural values within their college? Would a turn to a more external focus cause rejection of the leader due to the cultural values found in a dominant clan culture? Would a new leader be required to accomplish such a task given the profile of the study group Leaders? What steps would need to be taken to accomplish such a cultural change? This additional data exploration provided additional insight to the study’s potential.

Recommendations

The researcher recommends the following in terms of future research and practice.

*Future research recommendations.* First, the study should be replicated with a larger sample size of universities, colleges, and Leaders during more convenient times of the academic year. Sample size coupled with design complexity created limitations in generalizability and low levels of significance. Few conclusions regarding this study group could be drawn. To address the paucity of research in universities, it is important to monitor institutional calendars and be more thoughtful in study planning.

The study may be better suited as a case study. As instrumentation, particularly the OCAI, was built on a consultancy model, a case study may reveal additional information. Future research utilizing varying types of institutions in a case study model may be better served by this design.
Multiple stepwise regressions revealed the *Big Five* traits of extraversion, agreeableness, and emotional stability of university Leaders may predict the variation of market values in the study Midwestern universities. These predictors, though limited by their significance level, may provide a clue to the type of personality strengths needed to influence cultural values. Can leaders with these specific traits be inserted into an organization and expand market culture values? Is there a time frame required for this change to occur? Would it take just one leader to create cultural change? Additional study is recommended to explore how university mid-level leaders may relate to university culture.

*Recommendations for practice.* The knowledge gained from this study, coupled with the literature review, suggests a need for leaders to be self-aware of their dominant personalities and the cultural values within their colleges. Research informs us individuals who are self-aware are thought to be more effective managers and leaders than individuals who are less self-aware (as cited in Moshavi, Brown, & Dodd, 2003, p. 407). Additional understanding may be required by noting what the college values when time of change is at hand. Approaches and tactics taken may be more successful if these factors are taken into a consideration.

In closing, leader traits and college cultural values appear to relate. The study results suggest future research is in order. Future research should include a purpose to understand this relationship in depth.
## Appendix

### Coefficients$^a$

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$^a$ Dependent Variable: Market
REFERENCES


Michelle Renee Kempke Eppler is higher educational administrator who is a life-long learner and international educator. Michelle is originally from Grand Island, Nebraska and currently, resides in Omaha, NE. Michelle earned her diploma from Grand Island Senior High. She earned a Bachelor of Arts degree with majors in International Relations and Latin American Studies at Drake University. She studied abroad through the ISEP program in 1991 at Universidad del Salvador in Buenos Aires, Argentina. Michelle earned a Master of Science degree in Counseling: College Student Personnel from the University of Nebraska in Omaha.

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