COMPARISON OF ORGANIZATIONAL CULTURES AMONG ARTS AND SCIENCES
FACULTY AT OHIO PUBLIC UNIVERSITIES

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ABSTRACT

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Employment conditions for higher education faculty have been changing due to shrinking budgets and demands from the public for accountability: their adaptation to these pressures is influenced by their organizational culture. Denison (1990) and Kuh and Whitt (1988), among others, define organizational culture as the shared beliefs, values, assumptions, and ideologies of the members of the organization.

The purpose of this study was to assess the organizational culture of full-time arts and sciences faculty across five state-supported universities in Ohio, three of which were unionized, with respect to seven attributes: unionization, tenure status, years teaching, content area expertise, academic rank, gender, and race/ethnicity. The faculty organizational culture across these universities was evaluated using the Denison Organizational Culture Survey (DOCS), which measured the perceptions of the faculty on four organizational traits: Involvement, Consistency, Adaptability, and Mission (Denison, 1990). The survey was administered online during January/February 2013 to full-time arts and sciences faculty at the following universities: Kent State University, Miami University, Ohio University, University of Akron, and Wright State University.

The survey data were analyzed by several statistical methods – t-test of independent samples, analysis of variance, and factorial analysis of variance – to determine the significance of the differences in the mean trait scores with respect to the seven attributes. The similarity of these results across the participating universities indicated that the DOCS was an appropriate instrument for assessing the organizational culture of higher education faculty. Analysis showed that faculty, across all five universities, in their first four years of teaching, regardless of tenure
track status and academic rank, had a greater congruence with the organizational culture of their campus than the rest of the faculty. This may be due to a generational difference, or a consequence of the tenure process. The unanticipated finding that faculty at the oldest universities were the least aligned to the goals, objectives, and shared vision of their campuses is examined.

Implications of these findings for universities and considerations for future research are discussed. In particular, exploration of organizational culture among part-time faculty as well as faculty teaching in content areas other than arts and sciences is proposed. Proposals for programs to enhance faculty organizational culture are offered and discussed; several encourage universities to capitalize on the positive perceptions of organizational culture held by the non-tenure track faculty. Conclusions, based on the analysis of the data are presented, among them that the hiring of non-tenure track faculty as well as faculty unionization may improve faculty organizational culture.
This work is dedicated to:

Earl Phillip Condon and Eileen M. A. Condon

For encouraging me to always reach.
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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter I. INTRODUCTION</td>
<td>Statement of the problem</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Purpose of the Study</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Research Questions</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Theoretical Framework</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Significance of the Study</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Definition of Terms</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Organization of the Study</td>
<td>17</td>
</tr>
<tr>
<td>Chapter II. LITERATURE REVIEW</td>
<td>Organizational Culture Studies</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Competing Values Model</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>Denison Organizational Culture Survey</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Development of the Model</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Further Research Applications of DOCS</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Government Agency</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Medical Organizational Culture Studies</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>International Organizational Culture</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>Effectiveness, Performance Criteria of Organizations and DOCS</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>Higher Education Organization Culture</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Framework for Analyzing and Classifying Studies</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Integration</td>
<td>32</td>
</tr>
</tbody>
</table>
Organizational Culture Assessment Instrument (OCAI) ....................... 35
Summation of Integration ................................................................. 36
Differentiation ................................................................................ 37
Faculty Subgroups .......................................................................... 38
Role of Discipline in Subgroups .................................................... 39
Summation of Differentiation ......................................................... 42
Fragmentation ................................................................................ 43
Garbage Can Theory ...................................................................... 43
Organized Anarchy ........................................................................ 43
Loosely Coupled Systems ............................................................... 44
International Studies ..................................................................... 44
Summation of Fragmentation ......................................................... 45
Union Support, Demographic Attributes and Job Satisfaction .......... 45
Unionization .................................................................................. 47
Unionization and Job Satisfaction .................................................. 51
Tenure ............................................................................................ 52
Tenure and Job Satisfaction ............................................................ 53
Tenure and Union Affiliation .......................................................... 53
Years of Teaching .......................................................................... 54
Disciplines ...................................................................................... 54
Discipline, Job Satisfaction and Union Affiliation ......................... 55
Rank ............................................................................................... 56
Rank and Job Satisfaction ............................................................... 57
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>57</td>
</tr>
<tr>
<td>Gender and Job Satisfaction</td>
<td>58</td>
</tr>
<tr>
<td>Gender and Union Support</td>
<td>59</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td>59</td>
</tr>
<tr>
<td>Summary</td>
<td>60</td>
</tr>
<tr>
<td>CHAPTER III. METHODOLOGY</td>
<td>63</td>
</tr>
<tr>
<td>Research Design</td>
<td>63</td>
</tr>
<tr>
<td>Participants</td>
<td>64</td>
</tr>
<tr>
<td>Kent State University</td>
<td>66</td>
</tr>
<tr>
<td>Miami University</td>
<td>67</td>
</tr>
<tr>
<td>Ohio University</td>
<td>67</td>
</tr>
<tr>
<td>University of Akron</td>
<td>68</td>
</tr>
<tr>
<td>Wright State University</td>
<td>69</td>
</tr>
<tr>
<td>Summary</td>
<td>70</td>
</tr>
<tr>
<td>Instrumentation</td>
<td>72</td>
</tr>
<tr>
<td>Denison Organizational Culture Survey</td>
<td>72</td>
</tr>
<tr>
<td>Involvement</td>
<td>73</td>
</tr>
<tr>
<td>Consistency</td>
<td>73</td>
</tr>
<tr>
<td>Adaptability</td>
<td>74</td>
</tr>
<tr>
<td>Mission</td>
<td>74</td>
</tr>
<tr>
<td>Validity and Reliability of DOCS</td>
<td>77</td>
</tr>
<tr>
<td>Demographics</td>
<td>79</td>
</tr>
<tr>
<td>Data Collection</td>
<td>82</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A Histogram of Raw Data for Years Teaching Variable</td>
<td>88</td>
</tr>
<tr>
<td>2</td>
<td>A Histogram of the Years of Teaching Variable Grouped Into Six Categories</td>
<td>88</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Summary of University Characteristics</td>
<td>71</td>
</tr>
<tr>
<td>2</td>
<td>DOCS Traits, Indices, and Items</td>
<td>75</td>
</tr>
<tr>
<td>3</td>
<td>Demographic Items in Survey</td>
<td>80</td>
</tr>
<tr>
<td>4</td>
<td>Frequencies of Academic Rank Original and Regrouped</td>
<td>86</td>
</tr>
<tr>
<td>5</td>
<td>Frequencies of Race/ethnicity Data Original and Regrouped</td>
<td>87</td>
</tr>
<tr>
<td>6</td>
<td>Research Questions and Data Analysis</td>
<td>90</td>
</tr>
<tr>
<td>7</td>
<td>Frequency Summary of Demographic Variable Characteristics by Research Question</td>
<td>94</td>
</tr>
<tr>
<td>8</td>
<td>Descriptive Statistics for Involvement Trait</td>
<td>97</td>
</tr>
<tr>
<td>9</td>
<td>Descriptive Statistics for Consistency Trait</td>
<td>98</td>
</tr>
<tr>
<td>10</td>
<td>Descriptive Statistics for Adaptability Trait</td>
<td>99</td>
</tr>
<tr>
<td>11</td>
<td>Descriptive Statistics for Mission Trait</td>
<td>100</td>
</tr>
<tr>
<td>12</td>
<td>T-test Results for DOCS Traits vs. Union Status</td>
<td>101</td>
</tr>
<tr>
<td>13</td>
<td>ANOVA Results for Traits by Tenure Status</td>
<td>103</td>
</tr>
<tr>
<td>14</td>
<td>Descriptive Statistics for Mission Trait by Union Status and Tenure Status</td>
<td>103</td>
</tr>
<tr>
<td>15</td>
<td>Results of Factorial ANOVA for Mission Trait with Respect to Union Status and Tenure Status</td>
<td>104</td>
</tr>
<tr>
<td>16</td>
<td>ANOVA results for Traits by Years of Teaching</td>
<td>106</td>
</tr>
<tr>
<td>17</td>
<td>Descriptive Statistics for Mission Trait by Union Status and Years Teaching</td>
<td>107</td>
</tr>
<tr>
<td>18</td>
<td>Results of Factorial ANOVA for Mission Trait with Respect to Union Status and Years Teaching</td>
<td>108</td>
</tr>
</tbody>
</table>
19 ANOVA Results for Three Traits by Content Area Expertise ........................................ 109
20 Descriptive Statistics for Mission Trait by Union Status and Content Area ........... 110
21 Results of Factorial ANOVA for Mission Trait with Respect to Union Status
   and Content Area .................................................................................................. 110
22 ANOVA Results for Three Traits by Academic Rank ........................................... 112
23 Descriptive Statistics for Mission Trait by Union Status and Academic Rank ....... 113
24 Results of Factorial ANOVA for Mission Trait With Respect to Union Status
   and Academic Rank ............................................................................................ 114
25 ANOVA Results for Traits by Gender ............................................................... 114
26 Descriptive Statistics for Mission Trait by Union Status and Gender .................... 115
27 Results of Factorial ANOVA for Mission Trait With Respect to Union Status
   and Gender ......................................................................................................... 115
28 ANOVA Results for Traits by Race/ethnicity ..................................................... 116
29 Descriptive Statistics for Mission Trait by Union Status and Race/ethnicity ...... 117
30 Results of Factorial ANOVA for Mission Trait With Respect to Union Status
   and Race/ethnicity .............................................................................................. 117
31 Summary of Inferential Results by Research Question ....................................... 120
CHAPTER I. INTRODUCTION

Statement of the Problem

In the decades following World War II, the United States enjoyed an economic boom that promoted growth in tertiary education and attaining a college degree became a reality for many individuals. This increase in the accessibility of higher education was accompanied by an expansion of the number of faculty members employed by colleges and universities. The diversity of higher education faculty improved with this upsurge as did the number of women faculty, reflecting the inclusive nature of the constantly expanding student population. The economic downturn in the new millennium has resulted in reduced financial support for public higher education in most states. For publicly supported universities, contributions from their state governments will likely continue to attenuate in the foreseeable future, straining the institution’s fiscal resources (Ginsberg, 2011; Grummon, 2010; Zumeta, 2009). Casting this in terms of tuition dollars, Brinkman and Morgan (2010) calculated that, for every $1.00 collected in tuition in 1991, state institutions received $2.54 in financial support from the state. However, by 2006 that support was reduced to $1.27 per $1.00 of tuition. State governments are finding it increasingly difficult to continue to support higher education as they have in the past, and higher education must now compete with entitlement programs like Medicaid, which are currently suffering due to dramatic declines in state revenues (Conner & Rabovsky, 2011).

Striving to better utilize their dwindling resources, university administrators have sought to gain more control over the academic workforce and thus increase their flexibility in meeting fiscal constraints. Employing contingent faculty, holding salaries constant or granting small yearly raises, and increasing teaching loads are common practices that many university administrations institute in an effort to reduce costs. Contingent faculty are not eligible for tenure and have a fixed-term contract which affords an institution flexibility in staffing in a very
dynamic educational environment. Contingent faculty often cost less to employ, may have a
wider range of experience and credentials than traditional tenured or tenure track faculty, and can
be hired on an as-needed basis to respond to shifting enrollment patterns (Baldwin &
Wawrzynski, 2011; Benjamin, 2003). There is abundant evidence that the academic profession
in the United States is undergoing a major transition. According to Nelson (2010b), of the 1.3
million higher education faculty in the United States, almost one million are employed on a
contingency basis. In the past three decades tenured or tenure-track faculty contracts have
changed from 57 percent to 30 percent of all faculty contracts, while contingent faculty contracts
have increased from 43 percent to 70 percent over the same period of time (Morris, 2009;
Nelson, 2010b). In the last two decades, the additional faculty hired in most academic fields to
sustain the growth of higher education have been mainly contingent faculty across all types of
institutions of higher education (Baldwin & Wawrzynski, 2011; Schuster & Finkelstein, 2006,
Umbach, 2007). This change in the terms and conditions of faculty’s professional labor has had
a detrimental effect upon the quality of the work life for many academics (Nelson, 2010a;
Rhoades, 1998).

Among professional groups, university faculty experienced the largest loss of earnings in
the United States in the decades just before the millennium (Kerlin & Dunlap, 1993). Although
full-time faculty salaries have increased by an average of 5% since 1970, after adjusting for
inflation, the bulk of that increase is due to the aging of the professoriate (Clawson, 2009). The
yearly salaries of assistant and associate professors declined, but increased by 2.8% for full
professors; however, there are now more full professors (Clawson). From 1975 to 2005,
Ginsberg (2011) observed that for higher education, the number of faculty increased by 51%,
while administrators expanded by 85% and other professionals employed on campuses grew by
240%. State-supported universities compete with other state agencies for funding and faculty vie with administrators and other professionals for their share of the shrinking institutional budget. In this austere economic environment, the situation for faculty has changed significantly; faculty are regarded as a resource to be managed effectively and efficiently. Public universities can no longer subscribe to the ideal that faculty are self-regulating and autonomous professionals, as this is incongruous with their status as state employees. At a number of institutions, faculty have formed collective bargaining units in an effort to leverage their position and gain more control over their working conditions and financial compensation through contract negotiations.

Public higher education is strongly influenced by external forces, social as well as economic. The sustained downward trend in the economy has contributed to a shift in the societal perception of higher education from a public good to a private good (Conner & Rabovsky, 2011; The Institute for Higher Education Policy, 2005; Levine, 1997; Titus, 2009). A number of observers have opined that higher education is changing from a social institution to an industry (Archibald & Feldman, 2006; Gumport, 1997, 2000; Levine; Vedder, 2004). Such changes in perception have brought about an intense interest in assessing the effectiveness and efficiency of public higher education by state legislators. The growing call for assessment of higher education imposes performance metrics that have had an impact on the mission of many institutions (Gumport, 2000). These assessments invite legislators to deconstruct the academic endeavor and evaluate individual components rather than perceiving how the seemingly disparate pieces integrate to form a functioning institution of higher learning. One metric of particular interest to legislators and taxpayers alike is the efficient and effective production of graduates who can readily apply their knowledge, become employed upon graduation,
contribute to improving the economy locally and nationally (Brinkman & Morgan, 2010; Conner & Rabovsky; Umbach, 2007).

Historically, the mission of higher education institutions in the United States has been to educate students, to generate new knowledge, preserve existing knowledge, and cultivate and serve society (Gumport & Snydman, 2002). In the role of a social institution, higher education upholds a broad range of social functions by continuing educational legacies, cultivating citizenship, and preserving cultural heritage, as well as encouraging individual character formation and habits of mind (Gumport, 2000). A state-supported university is likely to experience significant pressure to adjust its mission to accommodate the demands of politicians and taxpayers while maintaining legitimacy as an institution of higher learning. The curriculum shifts to a more vocational mode as universities attempt to satisfy the expectation of producing highly skilled workers and their mission expands to embrace this concern. The value of knowledge for the sake of having knowledge is being subsumed for the value of knowledge as it can be applied for employment and economic advancement. These adjustments in the mission of higher education have an effect on faculty as students have become customers and the value of a liberal education diminishes. Faculty are held accountable for the amount of practical and applicable knowledge their students gain rather than educating students to help develop their innate abilities and interests, as well as understand the world and their place in it. This is especially troubling to those faculty who teach in the arts and sciences, as they have been socialized to believe that it is through the courses that they teach, many of which have no direct application to specific job skills, that the knowledge of past generations is preserved, thus fulfilling a portion of the mission of the university and realizing their professional motivation.
A common theme in most public university undergraduate education is a foundation of courses in liberal arts, mathematics, and science; the concept of a core curriculum has been a higher education tradition since the seventeenth century in the United States which started with private institutions (Agresto, 2011; Bastedo, 2005; Hawthorne, 1997). This classic curriculum provides coherence and unity of knowledge among university graduates and it affords students a base on which to build a profession (Ratcliff, 1997). Traditionally, arts and sciences curricula are designed to liberate the mind rather than focus the student into narrowly directed studies. Currently, however, given the time constraints of completing a baccalaureate in four years and the economic pressure to acquire marketable job skills, students, legislators and taxpayers are becoming more critical of the liberal approach to higher education and demand more focused and vocational curriculum. Arts and sciences faculty members at public universities are under pressure to realign their course content and teaching methods to better meet the expectations of legislators, taxpayers, and students who demand a more vocational curriculum. The repositioning of how faculty practice their profession may attenuate their morale and diminish the quality of their work life.

In the new millennium, higher education faculty are under pressure from multiple sources. Their working conditions and financial compensation are being debased at the same time their professional proficiency and merit are being challenged. Faculty employed at state-supported institutions may experience these forces more acutely as they are reliant on public funding, which invites political and taxpayer critique as universities compete for dwindling resources with other state programs. Beleaguered, faculty at some state universities engage in collective bargaining in an attempt to ameliorate their employment conditions while others do not, although they all operate in similar financial environments. Whether or not a university’s
faculty participate in collective bargaining may be influenced by how they adapt to meet these challenges guided by their shared beliefs, values, assumptions and ideologies, in other words, their institutional culture as characterized by Denison (1990), Kuh and Whitt (1988), Schein (2010), and Tierney (1988) among others.

While there is no consensus on the precise definition of organizational culture, some attributes, such as its holistic nature, that it is historically determined, and socially constructed, can be agreed upon by most researchers (e.g., Clark, 1980; Denison, 1990; Hofstede, Neuijen, Ohayv, & Sanders, 1990; Kuh & Whitt, 1998; Ouchi & Wilkins, 1985; Schein, 2010; Tierney, 1988). Furthermore, organizational culture influences how an organization responds to environmental challenges and shapes normative behaviors by its members. Although the study of organizational culture developed to improve business performance in the middle of the twentieth century, in the last 60 years it has expanded to encompass almost every type of organization. Methods to characterize and assess the culture of an organization have been developed and debated; these methods range from the phenomenological (Clark, 1972; Kuh & Whitt; Schein) to the quantitative (Denison; Kwan & Walker, 2004; Quinn & Rohrbaugh, 1983).

Phenomenological research, like other types of qualitative studies, does not promote generalization of findings, thus rendering comparison of results from one organization to another moot. Quantitative studies, however, invite comparison. Denison developed a survey instrument to quantitatively assess the culture of an organization and has built an organizational culture database that enables researchers to compare the cultures of different organizations. As of 2006, more than 34,000 individuals in 160 different organizations had completed this survey (Denison, Janovics, Young, & Cho, 2006).
The Denison Organizational Culture Survey (DOCS) is designed to measure a participant’s perception of four organizational traits: involvement, consistency, adaptability, and mission (Denison, 1990). These traits represent both the internal (adaptability and mission) and the external (involvement and consistency) aspects of organizational culture, while acknowledging the paradoxes that exist between the traits of adaptability and consistency as well as consistency and mission.

The culture of an organization is built upon the shared beliefs, values, and assumptions of the members of the organization; but their commitment to these concepts can be influenced by other factors. Attributes of an individual faculty member, such as academic rank, years teaching, content area, tenure status, gender, race/ethnicity may impact their commitment to the cultural views of the institution (Bozeman & Gaughan, 2011; Hardre, Cox, & Kollman; 2010; Li-Ping Tang & Chamberlain, 2003; Renzulli, Grant, & Kathuria, 2006). An organizational culture is a social construct formed and maintained by its members, who in turn, are themselves composed of many qualities that make them an individual. For a faculty member teaching at a university that engages in collective bargaining, another facet has been added to their already complex academic work life, their union contract. Because collective bargaining becomes an integral part of faculty members’ academic life it may influence the organizational culture of a university with respect to attributes or demographics, such as academic rank, years teaching, content area, tenure status, gender, race/ethnicity.

**Purpose of the Study**

The purpose of the present study was to empirically assess the organizational culture as perceived by arts and sciences faculty at five state-supported universities in Ohio using the Denison Organizational Culture Survey (DOCS). The results of the survey were analyzed to
examine the differences in organizational culture with respect to faculty unionization and faculty attributes. The demographics or attributes of the faculty for this study were: academic rank, years teaching, content area, tenure status, gender, race/ethnicity.

The sample analyzed for this study consisted of 350 of the 1,876 full-time faculty employed during the spring semester of 2013 on the main campus of the following five state-supported universities: Kent State University, Miami University, Ohio University, University of Akron, and Wright State University. The participants who completed the survey were full-time faculty teaching in arts and sciences who were tenured, tenure track and, and non-tenure track (contingency).

**Research Questions**

The research questions for this study were centered about the four culture traits of the DOCS model, faculty unionization and the faculty attributes of academic rank, years teaching, content area, tenure status, gender, and race/ethnicity. The four cultural traits in the model are: involvement, consistency, adaptability, and mission (Denison & Mishra, 1989; Denison, 1990). These traits are explained below.

**Involvement.** This trait is measured by the faculty members’ perceptions of their personal commitment to the university, their influence on decisions that affect them, as well as the level of team orientation practiced by faculty on their campus.

**Consistency.** This trait is measured by the faculty members’ awareness of the university’s core values, their perception of the level of agreement among the faculty on their campus, as well as their awareness of coordination and integration of various entities on their campus.
Adaptability. This trait is measured by the faculty member’s perception of the ability of university to change, the importance of student focus, as well as their alignment with norms and commonly held beliefs on their campus.

Mission. This trait is measured by the faculty member’s perception of the purpose and direction of the university and how well these are articulated with respect to the stated goals, objectives, as well as their subscription to a shared vision of the future of their campus.

The seven research questions for this study are listed below.

1. What are the differences in perceived organizational culture with respect to the DOCS traits among full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio?

2. What are the differences in perceived organizational culture with respect to the DOCS traits among tenured, tenure track and non-tenure track full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio?

3. What are the differences in perceived organizational culture with respect to the DOCS traits among arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio as a function of the number of years they have taught at their present institution?

4. What are the differences in perceived organizational culture with respect to the DOCS traits among arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio as a function of discipline or content area?

5. What are the differences in perceived organizational culture with respect to the DOCS traits among arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio as a function of their academic rank?
6. What are the differences in perceived organizational culture with respect to the DOCS traits among arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio with respect to gender?

7. What are the differences in perceived organizational culture with respect to the DOCS traits among arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio with respect to race/ethnicity?

Theoretical Framework

The theoretical framework guiding this study was developed by Denison (1990) and Denison and Mishra (1995), and influenced by the contributions of Birnbaum (1988), Cameron (1978), Clark (1972), Kuh and Whitt (1988), and Rice (1986). Denison developed a conceptual model that describes and defines the culture of organizations based on the perceptions of the individuals that constitute the organization. The Denison Organizational Culture Survey measures the perceptions of organizational culture held by members of the organization and has been rigorously tested and found to be both reliable and valid (Casida, 2008; Denison, Haaland, & Goelzer, 2004; Denison et al., 2006; Fisher & Alford, 2000; Hostetler, 2007; Tojari, Heris, & Zarei, 2011; Yilmaz & Ergun, 2008).

The Denison Organizational Culture Model characterizes the culture of an organization along four traits or attributes that dynamically interact: involvement, consistency, adaptability, and mission. These same traits have been acknowledged as central to the culture of an organization (Ouchi & Wilkins, 1985; Peterson & Spencer, 1990; Schein, 2010) and their importance has been established by a number of researchers in the field of organizational culture research (Cameron 1978, 1982; Quinn & Rohrbaugh, 1983; Schein). The study of organizational culture developed as an acknowledged field in the latter half of the twentieth century. The field
grew from a blending of theories and concepts from a number of disciplines, anthropology, sociology and social psychology to name the most salient that combined to facilitate a more comprehensive understanding of the nature of organizational culture as it exists today.

In the first half of the twentieth century, the confluence of these borrowed theories resulted in a field of study that conceptualizes organizational culture as shared fundamental beliefs, values, attitudes and assumptions among members of a group which influences their behavior (Denison, 1984; Denison & Mishra, 1995; Ouchi & Wilkins, 1985; Schein, 2010, Yilmaz & Ergun, 2008). The contributions of anthropology is illustrated by the work of several anthropologists including, Radcliffe-Brown (1952), Goodenough (1970), and Geertz (1973). Radcliffe-Brown proposed that scholars should adopt a holistic approach by considering the whole society or group to determine how the social structure is developed and maintained through normal practices and beliefs. This holistic technique allows the researcher to recognize standardized modes of behavior and thought to which the group conforms. Goodenough asserted that the behavior of individuals in a group is controlled by specific knowledge and beliefs that can be identified and translated into algorithms. Shared knowledge is essential to an individual to be considered part of the group. The importance of immersion in discovering the “native’s“ point of view was advanced by Geertz. The researcher must become fully immersed in the language and the symbols people use to bring meaning to their existence to understand their culture. Research of this ilk requires intuition and the ability to acquire qualitative understanding of the meaning and interpretation of the language and symbols used by the members of the organization.

Sociologists also contributed to the development of organized culture as a field of study. The importance of myths and rituals in revealing the complex social reality as well as the deeper
strains and forces in organizations was promoted in 1893 by Durkheim (1893/1984), one of the pioneers in sociology. His contributions also included the observation that the work that we engage in shapes our lives and greatly affects our understanding of who we are and how we fit in to society. Weber (1922/1978), also a sociologist, argued that bureaucracy, characterized by stringent discipline and division of labor by specialization is the most efficient and stable form of organization. These assumptions were based on empirical studies of culture and adaptations that he made early in the twentieth century. Dennison and Mishra (1995) credit Weber’s work as the foundation for much of the empirical literature on organizational culture and effectiveness. A social psychologist, Mead (1934) advanced the idea that every individual in an organization is simultaneously an agent and a subject. The organization has structure because of rules and beliefs; however, these rules and beliefs only exist because they are subscribed to by the members of the organization. Individuals construct and reconstruct themselves daily as they interact with other members in their group, and thus we learn to view ourselves from the viewpoint of others.

In the last quarter of the twentieth century a schism developed in the study of organizational culture as developments in technology encouraged quantitative multivariate assessment as a way to characterize organizations, which was advocated by some researchers (Hinings & Lee, 1971; Zucker, 1977); while the remainder continued their subscription to qualitative methods that relied upon thick description (Blau & Scott, 1962; VanMaanen, 1979). These two oppositional methodologies developed their own professional journals to promote their approaches and excluded research that did not utilize their approved methods; according to Ouchi and Wilkins (1985), this divergence was thought to be advantageous for the advancement of the field of organizational culture as it spawned intellectual tension.
In the 1970s, several researchers found that their analysis of organizational cultures in educational settings indicated that these organizations did not seem to fit accepted models, regardless of methodology followed. The anomaly presented by education organizational cultures was described by Cohen, March and Olsen (1972) as “organized anarchies”. In the same time frame, using qualitative methods, Dornbush and Scott (1975) noted in their book, Evaluation and Authority, that university faculty were different from the other groups they studied. Weick (1976), an organizational theorist, turned his focus to higher education organizations and pronounced them “loosely coupled systems” because the components of a university respond to one another, yet maintain separateness. These findings demonstrated the unique nature of organizational cultures in higher education and advanced the necessity for further research, which will be reviewed in chapter two.

Contributing to the evolving field of quantitative analysis of organizational culture, Denison and Mishra (1989) and Denison (1990) combined an inductive theory building approach and deductive, quantitative methods to develop an emergent theory and then tested this theory with a questionnaire survey to assess organizational culture. Denison developed this survey to measure four different traits or attributes of an organizational culture that other researchers agreed were foundational to an organization’s culture organizations (Ouchi & Wilkins, 1985; Peterson & Spencer, 1990; Schein, 2010). The four traits are involvement, consistency, adaptability, and mission, which may, at times, be oppositional to one another. The goal of this research was to gain insights to the contextual meaning of specific settings as well as the generalities that permit comparisons among multiple organizations. The importance of the paradoxes and contradictions is that they are the essence of organizational life and they are integrated into Denison’s model. The effective balancing of these competing demands impacts
the functioning of organizations according to Quinn (1988). Initially, Denison’s theory and
survey instrument were tested using qualitative and quantitative methods in a study of five large
corporations. Subsequently, the survey instrument was tested using quantitative methods in 600
organizations and found to be both reliable and valid (Denison & Mishra, 1995). The approach
developed by Denison is a blending of the phenomenological and functionalist perspectives on
culture, as it links meaning with practice and encourages comparisons and generalizations
(Denison & Mishra, 1995). The Denison Organizational Culture Survey (DOCS) is a reliable
and valid instrument designed to measure an individual’s perceptions of their organizational
culture and promote comparison between organizations and as such, is an excellent tool to
explore the organizational culture of full-time arts and sciences at selected state universities.

Significance of the Study

The present study will add to the body of empirical knowledge concerning the
organizational culture of higher education faculty as measured by DOCS. Organizational
culture, integral to faculty work life, may be affected by collective bargaining and demographics.
The DOCS instrument has been administered in a wide array of organizations through-out the
world and has provided insight on organizational culture; this literature will be reviewed in
chapter two. Denison developed the instrument to measure organizational culture among
different businesses to be able to compare the results of the survey to the effectiveness of the
various firms. Effectiveness is contextual; however, many firms consider employee satisfaction
to be one of their criteria. Employee satisfaction, as a preexisting metric, has been central to the
measured effectiveness of a number of firms involved in DOCS research (Casida, 2008; Denison
et al., 2004; Denison et al., 2006; Denison & Mishra, 1995, 1989; Fey & Denison, 2003;
Gillespie, Denison, Haaland, Smerek, & Neale, 2008; Kotrba, Gillespie, Smerek, Ritchie, &
Denison, 2012; Nazir & Lone, 2008). The influence of the demographic attributes of employees on job satisfaction, including higher education faculty, has been the focus of considerable research on this topic (Bozeman & Gaughan, 2011; Cetin, 2006; Hagedorn, 1996; Hill, 1982; Myers, 2011; Sabharwal & Corley, 2009; Seifert & Umbach, 2008). It should be noted that DOCS does not measure employee satisfaction. The selection of the demographic attribute variables in the present study was based, instead, on the research in the extant literature on job satisfaction just cited. The perceived organizational culture of faculty, grouped by their demographic attributes, was assessed by DOCS across five state-supported higher education institutions; future research utilizing these findings might explore possible relationships between faculty organizational culture, faculty job satisfaction, and undergraduate retention rates.

As the number of campuses that elect to engage in collective bargaining increases, the nature of the relationship between unionization and perceived organizational culture will become more important for administrators and faculty. Knowledge of the perceived organizational culture on the part of faculty could influence the nature of the negotiations and contractual relationships between faculty and administrators regardless of whether or not a campus engages in collective bargaining.

**Definition of Terms**

**Academic rank.** For the purposes of this study this is defined as Instructor, Lecturer, Associate Lecturer, Senior Lecturer, Assistant Professor, Associate Professor, Professor, Full Professor. These ranks were obtained from the websites for each institution (AAUP- Kent State, n.d.; Miami University, 2012a; Ohio University, 2012a; University of Akron, 2011; Wright State University, 2012d).
**Contingent faculty.** Contingent faculty are those faculty with a set term of employment and are not in an employment track that will offer them the opportunity to achieve tenure (Nelson, 2010b).

**Discipline.** The content area that a faculty member identifies with, although the myriad of specialties was narrowed down to four general categories (Maassen, 1996).

**DOCS.** Denison Organizational Culture Survey. A 60-item survey with four traits measured by twelve indices, each consisting of five items. The responses are measured on a five-point Likert scale. (Denison, 1989, 1990)

**DOCS Culture Traits.** (Denison, 1989)

- **Involvement**—measures the perceptions by faculty of their commitment to the university, their level of ownership in the educational enterprise, as well as their ability to have input into the decisions that affect them, as an indication of their empowerment.

- **Consistency**—measures the perceptions of faculty concerning their subscription to core values, their ability to agree with each other, and the coordination and integration of their efforts.

- **Adaptability**—measures the faculty’s perception of the organization’s willingness to take risks and learn from mistakes as it responds to the outside environment.

- **Mission**—measures the faculty’s perception of their awareness of the purpose and direction of the university that defines the goals and objectives of the university and a shared vision of the future.

**Organized Culture.** The concept built on the taken-for-granted beliefs, thoughts, feelings, and perceptions of the members of the organization (Schein, 1985, 1992, 2004, 2010).

**Race/ethnicity.** These categories are the same as those used by the National Center for Educational Statistics (2009).
Tenure. The opportunity for life-time employment at an institution after a faculty member has successfully completed a probationary period and is judged worthy by faculty peers and administrators (Bess & Dee, 2008).

Tenure track or tenure eligible. A renewable employment contract with a finite limit that permits a faculty member to develop a portfolio for evaluation by peers and administrators for the awarding of tenure (Bess & Dee, 2008).

Organization of the Study

This study is organized as follows: chapter one consists of the statement of the problem, purpose of the study, research questions, theoretical framework, significance of the study, and definition of terms used in this study. Chapter two is a literature review of the organizational culture of higher education faculty. Chapter three is an explanation of the research methodology used, data collection, and procedures. Chapter four will describe the present study’s results and an analysis of the data. The last chapter, chapter five will summarize the present study’s major findings and include recommendations for future research.
CHAPTER II. LITERATURE REVIEW

In the spectrum of organizational culture research, higher education faculty organizational culture has been characterized as anomalous by a number of researchers (Cohen et al., 1972; Dornbush & Scott, 1975; Weick, 1976). Indeed, Cohen et al. described higher education organizational cultures as “organized anarchies” because of institution-wide lack of consistent perspective and consensus by faculty as well as their labile allegiances and participation. An organizational theorist, Weick, portrayed higher education organizational culture as “loosely coupled systems” and observed that although the various components of a university respond to one another, they steadfastly maintain their separateness. To better appreciate the distinctiveness of higher education faculty organizational culture, a brief overview of the discipline of organizational culture will be a component of this literature review, with an emphasis on quantitative methods and a focus on the instrument that was used to gather the cultural perceptions of faculty for the present study, the Denison Organizational Culture Survey (DOCS).

With foundations in anthropology, sociology, and psychology, the discipline of organizational culture studies initially relied upon qualitative methods to collect and analyze data; however, as the field evolved and technology advanced, the research methods employed expanded to include quantitative methods and the development of survey instruments. The culture of an organization, including that of higher education faculty engaged in teaching and research, is influenced by history, and is socially constructed by the combination of beliefs, thoughts, feelings, and perceptions of the members, which determine the underlying values and shapes the normative behavior of members of the organization (Clark, 1980; Denison, 1990; Hofstede et al., 1990; Kuh & Whitt, 1998; Ouchi & Wilkins, 1985; Schein, 1985, 1992, 2004, 2010; Tierney, 1988). The DOCS is an instrument developed to collect and analyze the
perceptions held by members of an organization with respect to the values embedded in their organization (Denison). Using data gathered by this survey instrument, the present study described and compared the organizational cultures of full-time university faculty teaching in arts and sciences at five state funded universities in Ohio with respect to participation in collective bargaining and faculty demographics rather than by institutions. Two of the five institutions, Miami University and Ohio University, have faculty that do not participate in collective bargaining whereas the other three do. As explained in chapter one, the demographic attributes collected in this study were selected because they have been related to a measure of the effectiveness of organizational culture, job satisfaction, in the extant literature. The following attribute information was solicited from the participants: academic rank, years of teaching, content area, tenure status, gender, race/ethnicity.

The DOCS is a quantitative instrument developed over a period of several years using a mixed methods approach (Denison, 1990; Denison & Mishra, 1985) that measures participants’ perception of both the internal and external aspects of their organization. The instrument has been rigorously tested and found to be both reliable and valid (Denison et al., 2006; Denison & Mishra). Although DOCS was developed to evaluate organizational culture with respect to profit and growth it has been applied to a range of employment situations throughout the world to describe and evaluate organizational culture for a variety of objectives other than the bottom line (Casida, 2008; Glaser, Zamanou, & Hacker, 1987; Hostetler, 2007). Because of its flexibility and proven ability to discern differences across nationalities and industries, DOCS is well suited for describing, assessing, and comparing the organizational culture of higher education faculty with respect to union status and attributes (Denison et al., 2004; Fey & Denison, 2003; Kahn et al., 2010; Nazir & Lone, 2008; Yilmaz & Ergun, 2008). Although there is abundant extant
literature on higher education faculty organizational culture, very few studies are quantitative
(Smerek, 2010). However, the ample existing published research offers a myriad of observations
and conclusions that provided insight for the present study of higher education faculty
organizational culture.

Seeking to organize the plenteous published literature focused on the organizational
culture of higher education faculty, Smerek (2010) proposed a meta-theoretical framework to
classify these works. The classification scheme Smerek developed is based on a method for
classifying organizational culture literature created by Martin (1992). There are three categories
in Smerek’s framework: integration, differentiation, and fragmentation. The classification of a
publication into one of these three categories is determined by the objectives of the author(s).
They have taken the integration approach if they are seeking to reveal the common ground
shared by the faculty. The objective of the differentiation perspective is to identify and describe
the many subgroups that compose a university faculty. The portrayal of ambiguity, change, and
irresolvable tensions among university faculty is the focus of the fragmentation perspective.
According to Smerek, the integration perspective is the most common in the literature followed
by differentiation and fragmentation. The present study adopted the differentiation perspective.

The published research from the differentiation perspective indicates that an individual
faculty member may identify with a number of different groups, based on their union status,
academic rank, years of teaching, content area, tenure status, gender, and race/ethnicity (Clark
1963a, 1983; Gouldner, 1957; Kuh & Whitt, 1988; Smerek, 2010). Members of these groups
may subscribe at different levels to various aspects of the organizational culture of the
institution. The present study looked at the following faculty attributes or demographics: union
status, academic rank, years teaching, content area, tenure status, gender, and race/ethnicity.
These attributes will be discussed in detail later in this chapter. One of the measures of effectiveness of an organization utilized in a number of publications that applied DOCS is pre-existing data concerning employee satisfaction or job satisfaction (Casida, 2008; Denison et al., 2004; Denison et al., 2006; Denison & Mishra, 1995; Fey & Denison, 2003; Gillespie et al., 2008; Kotrba et al., 2012; Nazir & Lone, 2008). Job satisfaction is a field of study that explores the relationship between individuals’ characteristics or demographics and their sense of commitment and responsibility to the organization. With respect to university faculty organizational culture, job satisfaction research lends insight to possible relationships between the faculty attributes of union status, academic rank, years teaching, content area, tenure status, gender, and race/ethnicity to their perceived alignment with shared beliefs, values, and assumptions of the institution. The use of employee satisfaction as a metric of organizational effectiveness in DOCS studies and the linkage between relevant job satisfaction research and organizational culture support the faculty attributes selected as variables for the present study.

Organizational Culture Studies

As noted in the introduction to this chapter, the field of organizational culture studies draws from principles and theories originating in three disciplines; anthropology, sociology, and psychology. Both qualitative and quantitative methodologies have been employed to collect information for the description and analysis of the culture of an organization. In the early history of the field, during the middle of the twentieth century, qualitative methods dominated, as researchers working in this emergent discipline observed approaches traditionally employed by anthropologists, to generate rich, thick, descriptions of their subjects. With the development of and continued advances in computer technology, the ability to analyze larger and larger data-sets became available to researchers, and quantitative methods became more popular. Consequently,
organizational culture researchers were able to engage in qualitative and quantitative methods to gather data for analysis.

Edgar Schein (1985, 1992, 2004, 2010), one of the most prolific and well regarded contributors in the field of organizational culture, developed a three-level framework for qualitative analysis of organizational cultures which he promoted, most notably in his book, *Organizational Culture and Leadership*, now in its fourth edition. He argued that there are basic taken-for-granted beliefs, thoughts, feelings, and perceptions that are the fundamental building blocks of culture. The values promoted by a culture are derived from these basic assumptions. The most visible aspects of a culture are the artifacts such as its structure and processes, which can sometimes be difficult to decipher. According to Ashkanasy, Broadfoot, and Flakus (2000), Schein’s three pillars of culture - shared basic assumptions, espoused values, and artifacts - were embellished and expanded by quantitative researchers into multidimensional instruments for analyzing organizational cultures, which when applied to an organization, have the potential to generate large amounts of data. This development in the field of organizational culture studies was made possible by technological advances that increased access to more powerful computational resources that allowed sophisticated statistical analyses to be applied to very large data sets. The competing values model (Quinn & Rohrbaugh, 1983) is one such quantitative instrument developed to help researchers assess and describe organizational cultures, based on Schein’s basic foundations.

**Competing Values Model**

The competing values model, advanced by Quinn and Rohrbaugh (1983), has three axes, or dimensions, that represent oppositional aspects of organizations. This model incorporates paradoxes that are inherent in organizational cultures: flexibility versus stability, internal versus
external, and means versus ends. The flexibility versus stability axis represents the tension that occurs in organizations where one end represents authority, structure, and coordination and the opposite end embodies diversity, individual initiative, and adaptability. Spontaneity is characteristic of the flexibility portion of the axis, while predictability is a hallmark of stability. The competing values of internal versus external represent the opposites of the goals of the organization in terms of task completion and the consideration of the individual members’ likes and dislikes. Short-term orientation is a feature of the internal end of the axis with long-term orientation at external end. The third set of juxtaposed values is means versus ends, where the means are what the organization does or needs to do to achieve the objectives and goals (the ends). At one end of this axis is an organization that fulfills all of its objectives and the opposite end are unused resources. To meet objectives, an organization uses resources, but must not deplete them. This model influenced subsequent work that relied on axes with oppositional end points.

Quinn continued to work on developing quantitative assessment instruments and in 1999 in collaboration with Cameron, published a book, *Diagnosing and Changing Organizational Culture*, in which their Organizational Culture Assessment Instrument (OCAI) debuted. Previously, building on the competing values framework, Quinn had worked with Cameron to develop a model with four culture types: hierarchy, market, clan, and adhocracy (Quinn & Cameron, 1988). The four culture types are determined by plotting members’ responses to the six items in the instrument on two perpendicular axes; flexibility and discretion versus stability and control, and internal focus and integration versus external focus and differentiation. The four culture types were named based on extant scholarly literature describing the values that organizations acquire and management theories. The integration of organizational culture
research from published literature with a survey instrument results also underpins the organizational culture model developed by Denison (1990, 1984).

**Denison Organizational Culture Survey (DOCS)**

The premise that members of an organization have shared beliefs, assumptions, and values as the foundation of their culture undergirds the model Denison developed to measure the more accessible surface cultural components that are manifestations of these deeper principles (Denison & Mishra, 1985, 1989). There are four cultural traits - involvement, consistency, adaptability, and mission - in this model. These traits reflect the tension between the internal (involvement and consistency) and the external (adaptability and mission) culture of an organization, as well as the contradictions that arise between flexibility (involvement and adaptability) and stability (consistency and mission). Each trait is gauged by a set of three unique indices or criteria. Empowerment, team orientation, and capability development are the three indices for the involvement trait, which is internal to the organization. A high score on the involvement trait implies that the organization members have a sense of ownership and responsibility to the organization. The consistency trait measures how an organization reconciles differences among members, coordinates daily operations, and the extent of shared values held by members of an organization; it is an internal trait. The adaptability trait measures how an organization responds to external environmental challenges while maintaining flexibility and it is measured by how change is affected, the importance of customer satisfaction, and the ability of the organization to learn and take risks. The mission trait gauges members’ understanding of the goals of the organization and the extent to which it imbibes members with a sense of purpose as well as the degree to which they share the vision of the future.
Development of the Model. The DOCS was developed utilizing both qualitative and quantitative methods (Denison, 1984; Denison & Mishra, 1985). The DOCS instrument is the result of the convergence of an inductive, theory building approach, based on data gathered through case studies, with deductive, quantitative research. Five firms that had been the subjects of several studies spanning more than a decade were selected for case studies because of the wealth of extant data. Qualitative data, gathered through document analysis and several hundred interviews conducted over several years, were part of these case studies. A theoretical model, build on four traits, that focused on the oppositional forces endemic in social constructs was formulated. The model also incorporated aspects of Schein’s (1985, 1992, 2004, 2010) work, specifically the importance of espoused values (adaptability) and shared assumptions (consistency) by members of the organization. Applying the four traits model (involvement, consistency, adaptability, and mission) a survey was developed to assess an individual’s perceptions of his or her organization along these traits. The reliability of the survey in measuring these four organizational traits for the five firms was established through statistical analysis and the significant correlations between the survey results and the findings of the case studies confirmed its validity. The DOCS instrument quantifies four organizational traits and the goal of the analysis performed by Denison was to relate the performance and effectiveness of the organization to the measures of these traits.

Further Research Applications of DOCS. The DOCS instrument was based on data collected from five large firms operating in the United States (Denison, 1984, 1990; Denison & Mishra, 1985, 1989). To develop and refine model, the instrument was administered in several hundred firms and the results were compared across and within firms, to analyze the impact organizational culture had on performance measures identified as important by those firms. The
performance measures represented the organizational effectiveness of the firms and included a variety of aspects of business prosperity, such as employee satisfaction, new product development, sales growth, profitability and overall performance. Although the model was developed using data gathered from large firms in the U.S., published research indicates that the DOCS instrument and model has been successfully applied in a number of different organizational situations in the U.S. and internationally (Casida, 2008; Denison et al., 2004; Fey & Denison, 2003; Gillespie et al., 2008; Kahn et al., 2010; Kortba et al., 2012; Nazir & Lone, 2008; Yilmaz & Ergun, 2008).

**Government Agency.** A study by Glaser et al. (1987), of a department within a United States’ government agency, statistically validated the survey as the DOCS findings corroborated the results of the analysis of personal interviews with the subjects. The measure of reliability Cronbach’s alpha, in this study was significant at the p< 0.001 level. This mixed methods approach confirmed that although DOCS was developed from data collected from business and industrial firms, the model could be successfully applied to a government organization. The focus of the research was to investigate if the organizational culture was contributing to the consistent low performance of a particular regional department within in a national regulatory agency. Both the DOCS results and personal interviews revealed that the organizational culture of the department suffered from members not having a sense of ownership and responsibility as well as an inability to reconcile differences among members.

**Medical Organizational Culture Studies.** Hospitals seeking to improve their financial performance have employed DOCS to help identify problems with their organizational culture. The University of Maryland Medical Center was experiencing declining profits and hired a consultant that used DOCS to determine that the perceived organizational culture scores of the
employees were very low across all traits. The consultants convinced the board of directors that the lack of a strong culture in the hospital was having a negative impact on the financial performance of the hospital (Hostetler, 2007). The hospital board of directors developed a plan to improve the organizational culture by implementing a variety of leadership training programs to cultivate a strong and healthy organizational culture. Subsequent to the leadership programs at the hospital, the DOCS scores improved in all areas and the net income of the hospital increased 150%.

In 2008, Casida used DOCS to explore and compare the organizational cultures of the acute and critical care units in the health care system in New Jersey. The study found that those units that had higher average scores in the four traits were higher performing than those with lower scores; the maximum score for any one trait is 5.0. In this study, high performance was measured by patient satisfaction and quality care ratings. Those units that had mean scores of less than 3.0 in mission and adaptability did not have a clear understanding of the competitive nature of health care, nor were they aware of the hospital’s mission, vision, and goals. Units that had mean scores of less than 3.0 in consistency and involvement experienced a lack of team spirit and tended not to observe protocols strictly. The DOCS has been utilized as an efficient instrument to enable hospitals to link organizational culture to effectiveness, where effectiveness is measured in patient safety, quality of care, and patient satisfaction, which are integral to success in acute critical care in the competitive health care environment.

**International Organizational Culture.** The DOCS has been used to assess organizational cultures by a number of researchers in a variety of industries and businesses in different countries around the world. In the beginning of this millennium, Fey and Denison (2003) studied 179 foreign owned companies operating in Russia using DOCS and case study
methods. As DOCS had been developed in the United States, the participants in Russia represented a different national culture than the participants that had provided the data for the development of the DOCS and model. For this study, researchers grounded the model with case studies and were able to validate the use of DOCS in Russia. They found that the adaptability trait was the strongest correlate of overall business performance, which was logical given the turbulent and unpredictable economic environment in Russia at this point in the country’s history.

Nazir and Lone (2008) applied DOCS to two firms in three different industries - steel, cement, and textile - for a total sample of six organizations in India and found that the results supported the model, with mission being the single most important trait related to bottom-line performance indicators. This research established the robustness and reliability of the DOCS instrument in the cultural setting of India and added to the support of the concept that the link between an organization’s effectiveness and culture transcends nationality.

Mission was found to be the most important trait related to overall firm performance for 134 Turkish manufacturing businesses representing 18 different industries such as automotive, textile, chemicals, and ship-building (Yilmaz & Ergun, 2008). This research also determined that imbalances between adaptability and mission traits and between involvement and consistency traits, that is, the tension between flexibility and stability in an organization, had a negative effect on firm effectiveness. However, imbalances between involvement and mission and between adaptability and consistency improved some effective measures. In terms of the tension between adaptability and consistency, a firm is likely to have better performance outcomes if the adaptability scores are greater than the consistency scores. These findings are
similar to those reported by Denison et al. (2006) in their meta-analysis of 160 organizations and more than 35,474 participants.

In 2010, Kahn et al. applied DOCS to analyze a number of different industry cultures in Pakistan. The firms, both private and public, operated in the banking sector, telecommunications sector, and pharmaceuticals. The findings from this research in Pakistan support the link between organizational culture and performance, with mission having the strongest influence.

In 2004, Denison et al. published research reporting on a study they had completed comparing organizational cultures of one particular type of industry in many different nations. Using DOCS they assessed the organizational culture of grocery stores in North America, Asia, Europe, Middle East, and Africa. They reported that the link between company culture and effectiveness was strong and consistent across nationalities. The scores for the four traits for high performing companies were essentially the same regardless of their national setting. The authors were not surprised by the consistency of results across nations as the DOCS model was designed to distinguish between effective and ineffective organizations, not to describe the differences between national cultures. The authors point out that the model detects the presence of desirable traits for organizational performance, but it says nothing about how those traits are expressed, which may vary by national context.

**Effectiveness, Performance Criteria of Organizations and DOCS**

According to Lewin and Minton (1986), the effectiveness, or performance criteria of an organization are not universal parameters. Using an engineering approach, they developed an organizational effectiveness model which required inputs of specific, quantified aspects of an organization to produce an output that measured the effectiveness for the given inputs. As the inputs varied, so did the measures of effectiveness. These authors agree with the earlier findings
of Cameron and Whetten (1983) that the concept of effectiveness is defined by the stakeholders, who may differ in the relative values placed on outcomes (such as profit versus environmental impact); thus, the perception of effectiveness varies by organization. Acknowledging the ambiguity of appropriate measures of effectiveness, the Denison Organizational Culture model defines effectiveness or performance with respect to the organizational outcomes deemed important by the firms being studied (Denison & Mishra 1985). In many businesses, high performance translates to the bottom line, growth, or resource acquisition (Denison, 1984; Denison & Mishra, 1989; Fey & Denison, 2003; Denison et al., 2006). The desired organizational outcomes may involve other criteria such as employee satisfaction, as previously mentioned, or customer satisfaction. In an analysis of a number of automobile dealerships and big box home improvement stores, Gillespie et al. (2008) used customer satisfaction (from extant data provided by the firms) as the performance criterion and found that organizational culture, as measured by DOCS was significantly and positively related to customer satisfaction. The authors found that in the business surveyed, the dealerships and stores with the highest customer service ratings had analogous high scores on their DOCS traits. The scores on the items that comprised the trait scores differed, but the aggregate trait scores were similar. The DOCS allows researchers to compare trait scores results between firms and between industries with respect to a variety of indicators, from profit, growth, and resource acquisition to employee and customer satisfaction.

**Higher Education Organizational Culture**

**Framework for Analyzing and Classifying Studies**

The extant literature pertaining to higher education organizational culture is extensive; however, this study was focused on research concerned with faculty culture. Even with this
limitation in topic, the wealth of published research is still abundant. Smerek (2010) proposed a meta-theoretical framework for classifying and analyzing literature focused on the organizational culture of higher education based on a classification system presented by Martin in 1992, which was developed to impose a structure on the massive and ever increasing contributions to the study of organizational culture. Martin’s classification system to aid researchers in organizing the literature has three categories: integration, differentiation, and fragmentation.

The integration perspective is the most frequently employed in organizational culture research (Martin, 1992). In this perspective, the members’ harmonious relationships and shared interests are the focus of study. The organizational culture, seen as egalitarian and homogeneous, is characterized by clarity and consistency. Researchers describe and stress organization consensus and explore shared meanings and assumptions, while downplaying any subcultural differences they may discover. The models and descriptions of tertiary education institution organizational culture from this viewpoint focus on what makes an institution distinct from others. This perspective does not recognize diversity, conflict, and ambiguities, thus overlooking important issues concerning gender and race/ethnicity.

The second perspective, differentiation, does not subscribe to the idea of cultural homogeneity; it seeks instead to get behind the façade presented to those outside the organization (Martin, 1992). In the differentiation view, rather than having a monolithic culture, organizations are composed of subcultures that co-exist in a very fluid manner as they may support, attack, or ignore one another depending upon the circumstances. Only within a subculture does clarity and consensus consistently occur. Organizational culture from this viewpoint is very dynamic and research in this perspective seeks to reveal how the various subcultures relate to each other and emphasizes their conflicts and differences. In this view,
organizational culture is characterized as pluralistic, for it provides a forum for subcultures overlap (Martin & Frost, 1966). Although this perspective stresses conflict and resolution, it omits ambiguity.

The third perspective, fragmentation, observes multiple and often antagonistic cultures that co-exist with high levels of complexity and ambiguity (Martin, 1992). This view rejects the notion of a coherent culture; it emphasizes ambiguity and the lack of clearly defined objectives. In this perspective, reality is constructed and reconstructed continually. Situations where the absence of a consistent perspective consensus and constantly shifting affinities and allegiances, dependent upon current issues, are what Cohen and March (1974) describe as “organized anarchies”. In this perspective, ambiguity is the focus, and the culture of an organization is observed to consist of a variety of different coalitions that fleetingly form and dissolve depending upon events and timeframe (Smerek, 2010).

Integration

The majority of the studies of higher education organizational culture, including the classics, are from the integration perspective, which emphasizes the distinctive nature and character of tertiary institutions. Writing in 1962, Riesman and Jencks observed that colleges have their own unique subcultures and advise researchers that to understand these cultures, they should employ those methods utilized by anthropologists when they are studying primitive tribes or contemporary communities. In 1970, Clark, a prodigious contributor to the study of higher education culture, published a book that examined the cultures of three colleges, Antioch, Reed, and Swarthmore. In this seminal study, the importance of belief and loyalty, on the part of the members of the institution, in the development of organizational sagas and unique institutional identity is advanced, the author stressed that this process requires decades to mature. Thirty
years later, Clark, still authoring publications, focused on institutional sagas, encouraged researchers to examine the genesis of the character of a college by performing a developmental historical analysis (2000).

The prospect of retrenchment at tertiary education institutions provided impetus for analyzing higher education organizational culture using the integration perspective (Dill, 1982; Hartley, 2003). Dill argued that a healthy organizational culture provides stability and a sense of continuity for members of a tertiary institution during times of economic uncertainty and stress. Dill suggested that the nurturing and maintenance of a healthy organizational culture in academia can be achieved by using management techniques developed by the Japanese such as those described in *Theory Z* by Ouchi (1981). Dill contended that faculty need to identify more strongly with the institution rather than their discipline to build a strong institutional culture. Advancement of symbolic life that sustains myths and rituals will encourage members of the organization to subscribe to common beliefs and values according to Dill and will foster organizational culture. The rapid growth of tertiary education has increased the employment opportunities for faculty and this fluid market has encouraged faculty to be more oriented towards their individual careers and disciplines to the detriment of the organizational culture of the institutions.

Drawing upon their considerable experience in higher education, Kuh and Whitt (1988) presented their view of organizational culture in higher education in a book entitled *The Invisible Tapestry: Culture in American Colleges and Universities*. They view culture as a framework that underlies events and actions, and influences the normative values, practices assumptions and beliefs held by the campus community. Although they begin with an integrative perspective, the view migrates to differentiation as the magnitude of the influence of subcultures is
acknowledged and then resolves in favor of a unitary culture for institutions of higher education. Culture is a social construct that is influenced by past and present members of the institution - students, faculty, administrators, and alumni. The culture of colleges and universities can be revealed through traditions and artifacts as well as assumptions and espoused values. The different cultures on a campus share overarching values, which serve as the threads that are woven into a unified culture.

Hartley (2003) used an ethnographic approach to study three small independent liberal arts colleges as they renewed their institutional purpose. According to Hartley, historically, liberal arts colleges are the bellwethers for the health of higher education. This study observed how three small liberal arts institutions emerged after successfully navigating through the dual threats of a hostile economic environment and in-fighting among faculty and administrators by rekindling idealism and developing a new and compelling vision. The conclusions reached by this research are that an institution that has shared ideals and values is both efficient and resilient and able to survive economic challenges and infighting. Sporn (1996) reached a similar conclusion in a study of the organizational culture at a large federal university in Austria. After analyzing the data, collected by a mixed methods approach, Sporn argued that a university with a strong common culture is more likely to successfully navigate challenges. Integration of the existing subcultures is the author’s recommendation to strengthen the organizational culture of the institution and to ensure its survival.

In 1988, Chaffee and Tierney, using case studies of seven tertiary education institutions, advanced a conceptual model that enables administrators to engage in self-assessment of their own organizational culture and permitted the researchers to compare and contrast findings among the institutions studied. Their model has three dimensions, structure, enacted
environment and values; and three themes, time, space, and communication. By locating the data collected from each institution along these six measures, the authors were able to observe the differences and similarities between the cultures. Using one of these case studies, Tierney (1988) developed an additional framework to study organizational culture in higher education. This framework has six categories: environment, mission, socialization, information, strategy, and leadership. The motivation for developing this tool was to enable administrators to assess the organizational culture of their institution so they could identify and address problems that were detrimental to performance.

Much of the integrated organizational culture research presented thus far has utilized qualitative phenomenological approach; however, quantitative research in organizational culture of tertiary education institutions was concurrently pursued. Peterson and Spencer (1990) observed in their review of the higher education culture literature, that the quantitative approach invites comparison which reveals cultural differences while the qualitative approach eschews comparison between institutions seeking instead to showcase the unique qualities of an institution. Quantitative methods may in some cases be more economical to conduct and the data lend themselves to comparing institutions.

**Organizational Culture Assessment Instrument (OCAI).** The Organizational Culture Assessment Instrument (OCAI), utilizing the competing values framework (as presented earlier) has been widely used in higher education (Cameron & Quinn, 1999; Quinn & Rohrbaugh, 1983). Responses to the OCAI six-item questionnaire are plotted on two orthogonal axes, one representing flexibility/discretion versus control/stability, the other internal maintenance/integration versus external positioning/differentiation. The location of the average of the responses by members on this graph indicates the culture type of the organization.
surveyed. The model posits that organizations belong to one of four culture types: hierarchy, market, clan, and adhocracy. Each type of culture is distinct from the others. A hierarchy has many rules, with clear lines of authority and values efficiency, while a market culture is characterized by stressing competition, environmental interaction and customer service. A clan type of organization is a culture that emphasizes shared values, goals, and a sense of belonging, while an adhocracy endorses entrepreneurship, creativity and adaptability.

Cameron and Ettington (1988) applied the OCAI model to 334 colleges and universities collecting questionnaires from more than 3400 respondents and discovered that, based on their data, clan culture is the strongest culture and also the most effective with respect to student development both academically and personally, student career access, and faculty and administrator job satisfaction. Smart and St. John (1996) reported that those higher education institutions with a strong culture as measured by the OCAI were more effective, regardless of culture type. They defined strong culture as those where there is congruence between espoused beliefs and actual practices. Although the competing values model allows researchers to compare across organizations and generalize about culture with large sample sizes, the weakness of this approach is that the ability to generalize is accomplished at the expense of losing the fine grained details that define the uniqueness and complexity of the culture in individual institutions (Cameron & Freeman, 1991). Despite this tradeoff, the competing values framework research on higher education organizational culture does generate valuable comparative data, which leads to a better understanding of topic.

Summation of Integration. The integration perspective is appropriate for studying the organizational culture of higher education institutions that have a strong culture. Although the precise definition of “strong” culture may vary, it is usually acknowledged as the existence of
consensus among the members with respect to assumptions, espoused values, vision, and mission. Clark (1983) observed that organizational scale has an effect on the strength of a culture; larger institutions tend to have more autonomous units than smaller ones, making the forging of common ideologies more difficult and thus may have a weaker organizational culture. Colleges and universities with a long and rich history have more readily identifiable underlying assumptions and have had time to develop a distinct culture. Smerek (2010) noted that since higher education institutions vary in size and age, the integration perspective may not be appropriate for the majority of tertiary education institutions, rather the differentiation or fragmentation perspectives might be more suitable. The present study is not from the integration perspective, but differentiation as it will investigate the differences in organizational culture perceptions between groups of faculty differentiated by their attributes and participation in collective bargaining.

**Differentiation**

The differentiation perspective seeks to identify and describe the cultures of the subgroups that compose an organization. The focus is on understanding the cultures developed within individual professional subgroups rather than on overarching common assumptions and espoused values. The opinion that contributions of subcultures are substantive to the organizational culture of the whole group has been forwarded by a number of researchers including Ouchi and Wilkins (1985), VanMaanen and Barley (1984, 1985), and Trice and Beyer (1984, 1985). Ouchi and Wilkins opined that a study of a firm’s culture that did not acknowledge subcultures was superficial. While Trice and Beyer are not as judgmental, they observe that although subcultures are a prominent part of work life, they are absent from most cultural studies. These subcultures develop, according to VanMaanen and Barley (1985), due to
the shared experiences and interactions of people in a common context that is brought about by the division of labor. Over time, the individuals identify themselves as members of a distinct group within the organization and develop a social cohesion with accompanying normative behavior expectations specific to their group.

**Faculty Subgroups.** A quarter of a century prior to the work just discussed, Gouldner (1957) described faculty at tertiary institutions as belonging to one of two groups with respect to their attitudes towards their work and colleagues. One group, Cosmopolitans, are characterized by their indifferent loyalty to their current employers and fellow employees: rather, they identify with groups outside their institution who share their specialized skill set. In contrast, Locals exhibit a high degree of loyalty to their current employer and identify with groups within the institution. Clark (1963a,) building upon Gouldner’s work, developed a model with three axes, all of which have oppositional end points, to better explain faculty professional orientation; cosmopolitan-local, pure-applied, and humanistic-scientific. This model defines six groups of faculty who very rarely interact with one another and may not be able to communicate with each other very effectively. The evolution of these divisions is a central component of Holland’s (1997) theory that advances that the socialization that takes place among members of a profession working in the same environment tends to encourage preferred activities and values. Faculty who display the preferred values by their behaviors and attitudes are rewarded, thus the process develops normative patterns for the group. Snow (1959) noted that scientists seek truth and are shallow proponents of social hope, while humanists comprehend the gravity of the condition of mankind. This work proposes an explanation for the schism between these two groups of academics that has been observed by many.
Although Clark is well known for his seminal work, *The Distinctive College: Antioch, Reed & Swarthmore*, from the integration perspective, the bulk of his published work utilizes the differential perspective and focuses on how subgroup cultures impact institutions of higher education (Clark 1963a, 1963b, 1968, 1980, 1983, 1984, 1985, 1987, 1989, 2000). Clark (1983) commented on how a faculty member simultaneously experiences allegiance to their discipline, their current employer, the professorial profession at large, as well as the national system of higher education. How faculty balance these multiple, often conflicting, loyalties was one of the questions researched in a 1987 study of 172 interviews with faculty conducted at 16 institutions. The subjects of the study taught at a variety of college and universities, from community colleges to research institutions and represented a range of disciplines: physics, biology, political science, English, business and medicine. Professors at the top of the institutional hierarchy were more likely to identify with the institution than those of lesser standing. Clark (1987) concluded that the analysis of the interview data provided little support for the existence of unique organizational cultures among tertiary institutions, and that discipline subcultures are a powerful phenomenon in everyday faculty life. Faculty do, however, believe that they share common values across disciplines, such as an abhorrence for plagiarism, while other common values such as academic freedom and personal autonomy have different meanings due to the variety of contexts for different disciplines (Clark 1989).

**Role of Discipline in Subgroups.** Sociologists, Lodahl and Gordon (1972), explored the relationship between the strength of paradigms in a discipline to task predictability in that discipline by analyzing responses to questionnaires from 80 graduate departments distributed equally among physics, chemistry, sociology, and political science. Their analysis indicated that those disciplines with strong paradigm development, physics and chemistry, had more agreement
concerning methodology and identification of problems that needed to be investigated than those disciplines with low paradigm development, sociology and political science. They conclude that these findings support the development of a culture among the graduate students that leads to successful collaboration with faculty and less conflict. The importance of a common socialization experienced by graduate students in a discipline in developing an occupational subculture is substantiated by research published by VanMaanen and Schein (1979) and Tierney (1997).

The role of paradigms in the development of discipline subcultures has been the focus of a number of studies. A three dimensional classification system was developed by Biglan (1973a, 1973b) based on empirical data. The three dimensions are paradigms, how knowledge is perceived, and how focused the discipline is on living systems. Physical sciences and mathematics tend to have a high degree of consensus with respect to paradigms and occupy one end of the dimension; while softer disciplines that support a more diffuse acceptance occupy the opposite end. The second dimension measures the importance of the practical application of knowledge (education and accounting) versus those that are not as concerned with the practicality of knowledge (mathematics and history). The third dimension contrasts those disciplines that are involved with living systems (biology and sociology) with inorganic systems such (computer science and mathematics). This classification system has been used to better understand disciplinary norms and beliefs as they influence cultural values in a discipline.

Becher (1981) took an ethnographic approach to studying the disciplines of physics, history, biology, sociology, engineers, mathematics, education, chemistry, language, geography, pharmacy, and law. An analysis of the data indicated that the epistemological characteristics of a discipline are derived from the research in which they are engaged. Some disciplines, such as
physics, are characterized by adding new knowledge to previous work, while others, such as
history is reiterative, and there is a stable body of ideas that is continuously reworked. Even
within a subculture there exists a lack of clarity as individuals identify with factions within the
subculture; thus subcultures may not be monolithic (Becher, 1984). Continuing to examine
disciplinary cultures in higher education, Becher (1990) discovered two oppositional cultural
patterns that cross disciplinary units. Some faculty pursue simplicity while others seek
complexity; these subcultures serve to further fragment groups. However, regardless of
discipline, Becher (1987) reported that academics uniformly value autonomy and a high degree
of job satisfaction. In the new millennium, Becher and Trowler (2001) collaborated to develop a
classification schema for academics with four groups: hard-pure, soft-pure, hard-applied, and
soft-applied. With an emphasis on simplification and quantification in developing new
knowledge, hard-pure disciplines subscribe to the principle that knowledge is cumulative. The
soft-pure disciplines are person-centered and are loosely structured. Hard-applied disciplines are
generally competitive and collaborative, while the soft-applied cultures focus on function and
practical application of knowledge. The culture of a discipline is developed by a group of like-
minded people engaged in the generation of knowledge and teaching of students, who inculcated,
will perpetuate the culture when they become the professors.

Using a differentiation perspective, Bergquist (1992) study of higher education organized
culture does not solely rely on academic disciplines to define the different cultures on campuses.
Bergquist (1992) four cultural archetypes transcend discipline and focus on values and the
functioning of the organization. The collegial culture is characterized by scholarly engagement
and is influenced by the disciplines of the faculty, while the managerial culture is concerned with
the goals and purposes of the institution as well as fiscal responsibility. The development culture
is rooted in the personal and professional growth of all members of the institution, while the negotiating the future culture supports equitable and egalitarian policies and procedures. These four cultural classes are proposed from a scholarly foundation based in history, anthropology, sociology and business, but were not empirically tested. With the contributions of a co-author, two more cultural groups were added (Bergquist & Pawlak, 2001). The virtual culture brings the reality of technology to the higher education enterprise, with acknowledgment of the impact of online and virtual universities. The tangible culture, the architecture and physical plan of a campus, an established variable in the culture of any higher education institution, is recognized. These six cultures provide a glimpse of what faculty life might be like and may help those outside higher education better understand the organizational culture of tertiary institutions.

**Summation of Differentiation.** Research in higher education organizational culture that emphasizes the importance of subgroups, each with their own culture characterizes the differentiation perspective. From this viewpoint, subgroup cultures subsume the concept of a unitary or monolithic culture on campuses. Exploring the lack of cohesion among faculty may result in a better, more realistic description of higher education organizational culture (Smerek, 2010). Faculty have experienced years of socialization in their disciplines, starting with their years of preparation, or apprenticeship, as graduate students. These subgroups, usually defined by discipline have established niches on campus and developed normative behaviors as a result of their shared values, beliefs, and experiences (VanMaanen & Schein, 1979). The differentiation perspective, however, does not incorporate the ambiguity and persistent conflicts that are integral to organizations.
Fragmentation

Some of the earliest published studies of tertiary education cultures are through the fragmentation lens, although subsequently, this approach has been used somewhat less than the integration and differentiation perspectives. Ambiguity, change, and irresolvable tensions are the hallmarks of this viewpoint. The fragmentation perspective, according to Smerek (2010), is challenging to convey because it targets ambiguity, a concept that by its nature resists a fixed definition.

Garbage Can Theory. The garbage can theory proposed by Cohen, et al. (1972) posits that decisions made at universities are not necessarily arrived at by rational methods due to the anarchical environment common in tertiary education institutions. The authors developed a computer model that simulates a decision making process characterized by inconsistent and ill-defined preferences, with poorly understood processes and inconsistent participation. This type of decision making practice is the consequence of ambiguous goals, which results in an erratic level of participation as members become involved with only those decisions that affect them. The garbage can decision making process is the result of uncoupling problems from choices which leads to an appreciation of the interrelatedness of an organization. The authors conclude that, although the garbage can process does not resolve problems very well, it does provide a method of making decisions in the face of goal ambiguity and conflict in a variable environment, which are characteristics of the organizational culture in a number of higher education institutions.

Organized Anarchy. Two years after the debut of their garbage can theory, Leadership and Ambiguity: The American College President was published; Cohen and March (1974) observed that the impact of ambiguous goals, unclear technology, and fluid participation are
major contributors to sustaining an “organized anarchy” which is characterized by shifting alliances in an enigmatic environment. An organized anarchy supports the garbage can model of decision making as they share common attributes. Birnbaum (1988) agrees that tertiary education institutions can be described as irrational and anarchical, fraught with ambiguity and uncertainty. This view conflicts with the academic archetype held by those outside of higher education, which envisions an academician’s life to be one of collegiality overlaid by a rational organizational environment. Smerek (2010) observes that although the theory of organized anarchy has not been tested empirically, it persists as researchers in organizational culture continue to invoke the metaphor because it resonates with their personal experience.

**Loosely Coupled Systems.** A major contributor to the study of higher education from the fragmentation perspective is Kenneth Weick (1976, 1982, 1983). According to Weick, the dominant activity in most universities is research, an often individual and isolating endeavor, which contributes to the differentiation of faculty by their research interests. Although differentiation may improve the effectiveness of producing knowledge, the danger is that it can obstruct sharing of knowledge by individuals across different groups or elements. Weick (1976) describes a system, which he calls a loosely coupled system, where different groups communicate and are responsive to one another, yet they maintain their separateness and identity.

**International Studies.** Organizational culture dominated by tension and conflict is not confined to higher education institutions in the United States; it has been reported in other nations as well. The University of Melbourne in Australia boasts a number of professional schools and an international reputation for scholarship. Harman (1989) conducted more than 100 interviews with the academic staff in an effort to understand faculty culture at this university.
One of the tensions revealed by the study is between academic and professional values for faculty. Harmon did not find a unitary culture at the university, as faculty identified themselves as members of multiple groups such as their discipline, subspecialty, and professional organizations. At times the interests of the subcultures were able to harmonize with one another, but the level and existence of cooperation constantly shifts. Silver (2003) examined the nature of university cultures in the United Kingdom with 221 individual interviews across all levels of teaching at 15 different universities. According to Silver, analysis of the data did not support a unitary culture at any of the universities in the study. Instead, Silver found that these universities were beset by tension and conflict, originating in increased demands on faculty and reduced budget allocations. Although the university provided the physical space for the academicians to conduct their professional lives, they did not share common values. The physical proximity of subcultures does not result in the development of an overarching culture.

**Summation of Fragmentation.** The fragmentation perspective embraces ambiguity, change, and irresolvable tensions all of which are detrimental to developing a monolithic culture. Studies from this perspective lack clarity that could help resolve issues and/or suggest possible remedial actions to improve the functioning of an institution; as a result this approach tends to be underutilized in the study of higher education organizational culture. Smerek (2010) comments that despite its lack of popularity, this perspective more than the other two, is perhaps the most sensitive to exposing the reality of organizational culture in institutions of higher education.

**Union Support, Demographic Attributes and Job Satisfaction**

The relationship between demographic attributes of higher education faculty (union membership, tenure status, number of years teaching, discipline, academic rank, gender, and race/ethnicity) and job satisfaction has been explored for over 50 years (see Bozeman &
Gaughan, 2011; Hagedorn, 2000, Lillydahl & Singell, 1993, Rosser, 2005; Sabharwal & Corley, 2009; Seifert & Umbach, 2008). In 1961, Likert suggested that satisfied employees are more likely to perform at their potential, as their positive feelings and attitudes about the job enhance their efforts and productivity. Invoking social exchange theory, Organ (1977) advanced the concept that employees are more likely to behave in a manner that increases the effectiveness of an organization if they feel grateful to the organization for providing them with a satisfying job. Contented employees are more apt to feel commitment to their job and enjoy a sense of responsibility toward the organization. More recently, O’Reilly, Chatman, and Caldwell (1991) observed a positive relationship between job satisfaction and an individual’s alignment with organizational values in an empirical longitudinal study they published. As previously noted, employee satisfaction as an indicator of organizational effectiveness has been integral in a number of organizational culture studies that utilized DOCS (Casida, 2008; Denison et al., 2004; Denison et al., 2006; Denison & Mishra, 1995; Fey & Denison, 2003; Gillespie et al., 2008; Kotrba et al., 2012; Nazir & Lone, 2008). The present study does not involve job satisfaction, except as a guide for selecting demographic attributes for grouping faculty.

As a concept and a global construct, job satisfaction can be operationally defined as an individual’s perception of the gap between what the individual wishes to gain from a job and her/his perception of what s/he can and will get from the job (Lund, 2003). Seibert, Silver, and Randolph (2004) point out that the results of organizational culture and job satisfaction surveys and questionnaires are the perceptions of the individuals participating in the research and, although these perceptions may not be accurate representations, they are critical to the culture of the organization regardless of their veracity.
A number of studies have determined that job satisfaction is positively related to the affective and normative commitment to an organization (Cetin, 2006; Johnsrud & Rosser, 2002; Meyer, Allen, & Smith, 1993; Meyer, Stanley, Herscovitch, & Topolnytsky, 2002; Organ & Ryan, 1995; Rosser, 2004, 2005; Rosser & Tabata, 2010; Terpstra & Rozell, 1993). An employee committed to an organization will subscribe, at varying degrees, to the shared beliefs, values, and assumptions that are the foundations of the culture of the organization. The framework of the culture of an organization at a basic level can be considered to be an agreement among its members on is what is important, and how things work. Research has found that employee attitudes, as indicated by job satisfaction, influences the culture of an organization, just as organizational culture affects job satisfaction (Gregory, Harris, Armenakis, & Shook, 2009; Ostroff, 1992; Ryan, Schmit, & Johnson, 1996; Siehl & Martin, 1990). Consequently, job satisfaction can be considered to be related to the culture of an organization.

Teaching on a campus that engages in collective bargaining and the demographic attributes selected for investigation in this study, tenure status, years of teaching, discipline, academic rank, gender, and race/ethnicity are the variables that will be examined; all have been the subject of job satisfaction research. The extant literature supports the premise that these variables are likely to have an effect on job satisfaction, and because job satisfaction is related to organizational culture (Gregory et al., 2009; Ostroff, 1992; Ryan et al., 1996; Siehl & Martin, 1990), these variables were selected as the criteria for grouping faculty in the present study. A review of the pertinent literature focused on these demographic attribute variables follows.

**Unionization**

The first occurrence of collective bargaining in higher education was in 1963 when Milwaukee Technical College, a two-year institution, negotiated a contract with a faculty
organization (Metchick & Singh, 2004). Subsequently, in 1966, faculty organized and negotiated the first contract at a four-year institution, U.S. Merchant Marine Academy. Faculty unions and associations had existed decades before these contracts were negotiated; the National Education Association (NEA) formed in 1857, followed almost 60 years later by the American Association of University Professors (AAUP) in 1913, and then the American Federation of Teachers (AFT) in 1916. The emergence of faculty collective bargaining in the 1960s was followed by two decades of increasing faculty unionization with negotiations peaking in the early 1980s (Dobbie & Robinson, 2008). There was a resurgence of collective bargaining in 2004 that eclipsed the height of the earlier wave, which may be related to budgetary concerns.

The quiescent period between the formation of unions and faculty associations and their engagement in collective bargaining negotiations may be related to pecuniary circumstances in higher education. Kerlin and Dunlap (1993) observed that peak faculty union activity and collective bargaining negotiations coincide with periods of economic exigency in higher learning institutions; they posit that faculty become politicized in an effort to affect decision making during times of retrenchment.

From their inception, the majority of U.S. colleges and universities were organizationally constructed from above by administrators and managers rather than from below in a grass roots fashion by faculty, and these institutions continue to be directed by strong management rather than by faculty (Neave & Rhoades, 1987). When university faculty feel disenfranchised, they may seek to gain influence in institution-wide decision making by unionizing, expecting that a collective voice, being stronger, will be acknowledged and heeded by administrators and boards of trustees.
In the 1970s, faculty unionized predominantly to afford themselves greater participation in establishing institution-wide policies concerning salary and benefits. Later in the 1990s the issues faculty confronted were the consequences of reduced institutional budgets, which frequently resulted in the elimination of academic programs and increased workload (Devinatz, 2003). In the new millennium, financial matters continue to plague higher education and several issues related to this fiduciary stress have developed. The growth in the number of part-time and contingent (not tenure-eligible) faculty employed on campus, combined with low or no salary increases, the introduction of distance learning, and the corporatizing of higher education, have many faculty seeking unionization with the expectation that collective bargaining will restore and/or preserve their working environment. In 2006, more than 318,000 faculty were covered by 575 separate bargaining units over 491 higher education institutions, representing 1,125 campuses. Almost 95% of these unionized faculty are employed in publicly supported institutions (National Center, 2006). According to Sun and Permuth (2007), the membership in faculty unions has increased by 62,000, or 24% since 1998, and 194,000, or 156% since 1988. On a number of campuses part-time and contingent faculty are represented by unions (Holsinger, 2008), which, as this particular sector of higher education faculty has been increasing rapidly, contributes to the overall growth of faculty union membership.

The proliferation of faculty unions and collective bargaining has occurred principally in publicly funded institutions due to the 1980 U.S. Supreme Court ruling that prohibits faculty at privately funded higher education institutions from engaging in collective bargaining. In a 5-4 split decision, the U.S. Supreme Court ruled that faculty employed full-time at private colleges perform many of the duties of managers and are therefore excluded from legal protection for collective bargaining endeavors under the National Labor Relations Act (NLRB v. Yeshiva
University, 1980). As of 2006, about five percent of the total faculty union members in the U.S. were employed at private colleges, and the majority of those had joined prior to the 1980 Supreme Court ruling (Sun & Permuth, 2007). Faculty at public institutions were not included in the Yeshiva decision, as individual states are charged with the responsibility to determine labor laws with respect to public employees in their state (DeCew, 2003). According to Metchick and Singh (2004), Ohio, along with Illinois and Washington, are three jurisdictions that have passed legislation since 1980 that supports higher education collective bargaining.

There are numerous excellent treatments in the literature of the antecedents of unionization as well as detailed reflections and analyses of the consequences of collective bargaining in higher education, but they are not the focus of the present study. However, a brief overview is merited to develop an appreciation for the likelihood of a relationship between faculty unions and organizational culture. Goeddeke and Kammeyer-Meuller (2010) noted in their research that those faculty who perceived a high level of support from the administration at their institution were less likely to support unionization. Even when faculty have been unionized for more than 30 years, a number of individual faculty indicated that they have more confidence in their personal ability to resolve discipline and working conditions issues that affect them than they do in the union (VanSell, Barclay, Willoughby, & York, 2006). These two pieces of research suggest that faculty members can develop a view of their own agency with the institution independent of the presence of a union. There is a perception that unionization generally results in more positive outcomes with respect to job security, tenure and promotion, and general working conditions (Wickens, 2008). Research reported by Devinatz (2003) indicates that the most adamant pro-union faculty are also those who traditionally have had lower status in higher education: women, contingent (not tenure-eligible) faculty, and those who do not
have a doctoral degree. Endorsement of unionization by these marginalized groups is not surprising, as they can anticipate an improvement of their working conditions through collective bargaining negotiations.

**Unionization and Job Satisfaction.** The influence of unionization on job satisfaction and commitment in higher education has been explored in the existing literature. Using the 2004 National Study of Post-Secondary Faculty (NSOPF:04), Myers (2011) investigated the association between job satisfaction and union status with 8,150 faculty. The analysis indicated that the most satisfied faculty were those employed at institutions that offered unionization and engaged in collective bargaining, but who chose not to join the union. This exhaustive study also found that the greatest variance in job satisfaction occurs at a single institution, not among institutions. In general, job satisfaction of union member faculty in collectively bargained contracts in this data set was significantly lower than that reported for faculty employed at institutions that do not offer unionization, regardless of faculty or institutional characteristics. Hill (1982) noted significantly higher levels of job satisfaction in unionized faculty in an analysis of data collected from 1,100 faculty surveyed at private and public institutions in Pennsylvania.

In a review of extant literature on the topic of faculty unionization and its relationship to job satisfaction, Wickens (2008) observes that many of the studies have failed to find any impact of unionization on job satisfaction; and those that have observed an effect, find that unionization has a negative influence on job satisfaction. Overall, the relationship between unionization and job satisfaction, as reported in the extant literature, is not definitive.

Job commitment is an affective measure of how an individual relates to their profession. As a component of job satisfaction, it has been linked to organizational commitment and it is also related to job satisfaction and performance (Cooper-Hakim & Viswesvaran, 2005). There
are a number of attributes that coalesce to produce commitment, including identification and involvement with an organization, degree of dependence on an organization for pay and benefits, and the obligation an employee feels to stay with an organization (Cooper-Hakim & Viswesvaran). In a 1989 publication, Ormsby and Watts reported the results of an experiment they conducted on faculty who were surveyed concerning their commitment to their job before and after their institution unionized and negotiated a contract. The authors found that unionization had no significant effect on the commitment of the faculty. In an earlier study, Schell and Loeb (1986) surveyed unionized and non-unionized Canadian faculty and found that there was no significant difference in terms of commitment to their institution with respect to unionization.

Tenure

There are two general categories of employment for faculty in higher education, tenure eligible and non-tenure eligible. In tenure eligible employment, according to Bess and Dee (2008), a faculty member is evaluated after a probationary period of time of employment, usually six years; and if the decision is favorable, the individual will be awarded tenure, which is the opportunity for lifetime employment at that institution. Faculty who do not meet the requirements for tenure are traditionally offered one more year of employment before their contract is terminated at that institution. The evaluation is conducted by a committee of tenured faculty in the individual’s academic department and the committee’s recommendations are forwarded to the appropriate administrators.

The number of non-tenure eligible positions in higher education has been steadily increasing (Baldwin & Wawrzynski, 2011; Morris, 2009; Nelson, 2010b; Schuster & Finkelstein, 2006; Umbach, 2007). A faculty member in a non-tenure eligible position usually has a fixed-
term contract, which in many cases can be renewed. The opportunity for lifetime employment is not offered to non-tenure eligible faculty, and thus these positions lack the potential job security afforded to those in tenure eligible positions. Clawson (2009) pointed out that tenure eligible positions reduce the flexibility of administrators and boards of trustees in responding to environmental and market pressures outside the institution. From a faculty point of view, however, the acquisition of tenure protects the job security of individuals and affords them professional autonomy (Nelson; Rhoades, 1998).

**Tenure and Job Satisfaction.** In the extant literature, the effect of tenured versus non-tenure eligible status on job satisfaction is equivocal, in that there is no difference, or a just slight one. Bozeman and Gaughan (2011), using data from the Survey of Academic Research collected in 2004-05, found that the respondents are generally quite satisfied with their jobs and there is no statistical difference in response between tenured, tenure eligible, and non-tenure eligible faculty. However, Benjamin (2003), analyzing 1999 data from the National Center for Education Statistics, found that in four-year institutions, tenure eligible faculty are slightly less satisfied than non-tenure eligible faculty. The difference in reported job satisfaction between tenured/tenure eligible and non-tenure eligible faculty as reported in the extant literature, is not remarkable.

**Tenure and Union Affiliation.** There is considerable research that explores the impact of tenure status on job satisfaction and attitudes towards unionization. In a study of attitudes of faculty towards faculty unions and collective bargaining with 1,644 full-time faculty in the U. S., Katchanovski, Rothman and Nevitte (2011) report that there is no statistically significant difference between tenured, tenure eligible and non-tenured eligible faculty. Similar results are described by Goeddeke and Kammeyer-Mueller (2010) in their analysis of the signing of voting
intention cards at a public Midwestern university. According to the results from these research projects, tenured, tenure eligible, and non-tenure eligible faculty show no difference in their measured attitude towards unionization and collective bargaining.

**Years of Teaching**

The relationship between job satisfaction and the number of years a faculty has been teaching has been a popular topic of research. Analyzing the NSOPF 1993 data, Hagedorn (2000) found that job satisfaction increases with both time teaching and rank. Cetin (2006) also reported a positive relationship between years of teaching and commitment to the institution. As faculty age they develop a normative commitment to their occupation and institution; however, in their first five years faculty have a lower measured commitment and have a low level of continuance in the profession. The opportunities for moving to another academic position decrease with increasing age and experience, which may explain the increase in commitment to the organization and occupation. Examining the attitudes of full-time faculty employed at six regional universities in Tennessee, Li-Ping Tang and Chamberlain (2003) note that the number of years teaching was inversely related to the belief in rewards. They report that faculty with five or fewer years of experience were likely to believe that rewards influence teaching, whereas the more experienced faculty did not hold this belief. These articles indicate that faculty in their first five years may have less commitment to their institution and lower job satisfaction, both of which are likely to increase as they progress in their career.

**Disciplines**

According to Holland’s (1997) theory of academic environments, certain personality types are attracted to educational and work environments that are compatible with their nature. This theory has been invoked numerous times in literature that pertains to academic disciplines
and their distinguishing characteristics. The majority of the extant literature regarding faculty and academic disciplines is focused on instructional techniques and their impact on student learning and interactions rather than organizational culture (Biglan, 1973a; Clark, 1987; Holland, 1997; Smart, Feldman & Ethington, 2000). It has been established in the literature that academic disciplines are characterized by varying patterns of attitudes, values, and assumptions, which results in their having different cultures (Kleijnen, Dolmans, Muijtjens, Willems, & VanHout, 2009; Lee, 2004; Maassen, 1966; Xu, 2008). Faculty are socialized to their chosen discipline during their graduate studies, which is in essence, an apprenticeship. Faculty inculcate the values of the discipline and professional visions into their graduate students (Gappa, 2001).

Expectations of job performance vary with discipline. Hardre et al. (2010) note that those disciplines that are production-based put more value on elements of service, while those that value reputation regard attainment of goals as essential to success in the professoriate. In a comprehensive analysis of data from a 1998 survey of more than 55,000 college and university faculty as part of the Cooperative Institutional Research Program (CIRP) sponsored by the American Council on Education and the Higher Education Research Institute (HERI) at the University of California, Los Angeles, Lee (2004) reported that faculty in political science and education departments share less of the institutional culture than do faculty in biology, business, and English. The author also observed that no two disciplines share the same patterns of culture elements, and suggested that future research be through a qualitative lens to explore why these differences exist.

**Discipline, Job Satisfaction and Union Affiliation.** The difference in organizational culture between the disciplines is manifested in their reported job satisfaction and also their support of unionization. In a survey of more than 1,644 faculty, tenure, tenure eligible, and non-
tenure eligible, Katchanovski et al. (2011) related that faculty in the sciences and mathematics are the least supportive of collective bargaining and union representation on campus. This same group of disciplines also reports higher satisfaction according to a study conducted by Hill (1982). Seifert and Umbach (2008) caution that in their analysis of information from 4,231 participants in the 1999 NSOPF data set, discipline affiliation accounts for only 2-6% of the overall variance in faculty job satisfaction. Theoretically, academic discipline influences the affective nature of faculty; however, the empirical data reported in the literature have yet to fully support this premise.

**Rank**

Academic rank is an important thread in the fabric of the life of a higher education faculty member. An elevation in academic rank is earned though professional accomplishments as judged by a committee of peers and is accompanied by more prestige and frequently an increase in compensation. For non-tenure eligible faculty there is very limited upward mobility with respect to rank; the full range from assistant to full professor is usually restricted to tenure track faculty. In researching the relationship between academic rank and unionization in public universities in Ohio, Wickens (2008) reported that unionization has a significantly positive effect on the probability that a professor will be promoted to a higher rank than one employed in a non-unionized institution. According to this research, at one university, unionization eliminates the perceived ambiguities in the promotion protocols. The years of service is also positively related to higher promotional rank in a unionized setting. The authors report that according to their research, union members perceive that unionization eliminates the arbitrariness of promotion decisions. In 2007, Smith and Shoho explored the relationship of trust in the institution and academic rank. They reported that there was an inverse relationship between trust and academic
rank; that is faculty trust in the institution declined with an increase in rank. Higher academic ranks are associated with more years of service, which may lead to increased cynicism in the professoriate and lack of trust in the institution.

**Rank and Job Satisfaction.** The relationship of academic rank and job satisfaction has been a frequent area of research in higher education. An analysis of the 1993 NSOPF data indicated that job satisfaction of faculty increases with rank; the higher the rank, the greater the reported perception of shared communality of purpose and profession (Hagedorn, 2000). This has been substantiated by empirical data in a study by Rosser (2004) that examines departure intentions of faculty. According to Rosser, faculty in lower status positions report that they have less job security and heavier workloads and are significantly less satisfied in their jobs than faculty of higher ranks. As a group, women are under represented among the professoriate, and this disparity widens with an increase in academic rank and institutional prestige, according to Maranto and Griffin (2011) who studied the faculty at one private Midwestern university. Academic rank is a complex attribute and is related to numerous other aspects of academic life such as duration of employment, and professional accomplishment all of which contribute to the perception by faculty of the relationship between the institution and the individual.

**Gender**

Gender and its relationship with the professoriate is well researched and has been the subject of numerous excellent studies, however the role of gender it is not the focus of this research, but one of a number of attributes to be considered in ascertaining higher education organizational culture. In 1986, Sandler described the working environment of female faculty as a “chilly climate”. This term has become a popular one for describing the exclusion, devaluation and marginalization that many female faculty experience. Maranto and Griffin (2011) pointed
out that academia has been traditionally male-dominated and gender-segregated. Historically, the number of female faculty in tertiary education has fluctuated from a high of 36 percent in 1879, through a decline of less than 22 percent in the 1960, only to eclipse the previous high in 2004. The ‘chilly climate’ is a major impediment for some female faculty. Clawson (2009) noted that as of the fall of 2003, at doctoral institutions, female faculty comprised 33.9% of the tenure and tenure track faculty and 48.9% of the non-tenure track faculty. As a result of this distribution in tenure status, female faculty, as a group, have lower salaries than male faculty; however, when Kim (2011) removed academic rank there was no significant difference between the salaries of female and male faculty. Female faculty also may be more likely to depart as, Xu (2008) reported that in science, engineering, and mathematics, gender is a significant factor in faculty turnover, which is associated with low job satisfaction.

**Gender and Job Satisfaction.** According to Seifert and Umbach (2008), female faculty may encounter a ‘chilly climate’ at their institution and they generally reported lower job satisfaction than their male co-workers. Lower job satisfaction is predictable among those faculty who have traditionally been marginalized in higher education as they have demographic characteristics that fall outside the historical norm. The extant literature focused on the effects of gender on job satisfaction in higher education faculty generally concur that female faculty report a lower job satisfaction than their male counterparts (Bozeman & Gaughan, 2011; Renzulli et al., 2006; Seifert & Umbach). After conducting an extensive literature review on the relationship between faculty job satisfaction and gender, Sabharwal and Corley (2009) observed that the literature asserts that female faculty in higher education have a lower overall job satisfaction than men. In the same paper the authors also analyzed data from the 2003 National Science Foundation’s Survey of Doctorate Recipients; using 238,674 participants, they found that female
faculty in sciences and social sciences report greater job satisfaction than men, an exception to the overall trend.

**Gender and Union Support.** A number of studies have observed that despite their lack of job satisfaction in some disciplines and their predisposition to departure, female faculty are no more supportive of unionization than their male counterparts (Hill, 1982; Holsinger, 2008; Katchanovski et al., 2011). In a study of faculty attitudes towards unions in both the U.S. and Canada, Katchanovski et al. reported that while female faculty in Canada support unionization significantly more than the men; the same is not true in the U.S. Their conclusions are based on analysis of 1,644 faculty participants who were part of the North American Academic Study Survey and included tenured, tenure eligible and non-tenure eligible full-time faculty.

**Race/ethnicity**

According to Aguirre and Martinez (2007), the normative view is that diversity strengthens an organizational culture and it follows that diversity is an inherently positive attribute for an organization. They observed that, although the ethnic diversity of the U.S. has been increasing steadily for decades, it is not proportionally reflected in the demographics of higher education faculty. With respect to job satisfaction, in their analysis of the 1999 NSOPF data, Seifert and Umbach (2008) found that Asian Pacific Islanders and Latino faculty are less satisfied with their compensation and opportunity for advancement than are their White colleagues. However, they report that African American, Asian Pacific Islander, Latino, and Native American faculty do not differ from their White colleagues in terms of satisfaction with the job autonomy. This finding conflicts with those of Astin, Antonio, Cress, and Astin (1997) who reported that faculty of color tend to be less satisfied in the autonomy and independence of their job than are their White peers. This conclusion is echoed in Rosser’s (2005) study where
job satisfaction was lower among faculty of color than that reported by White faculty. The relationship between minority status and trust in the institution was the focus of a 2007 study by Smith and Shoho. In their analysis of faculty at a large public southwestern institution, with 217 participants, they found that there was no difference in the level of reported trust, as measured by the survey they administered, between those faculty who identified as minorities with those that identified as not being a minority. The diversity of higher education faculty is increasing and the extant literature is divided on the relationship between job satisfaction and minority status.

**Summary**

The field of organizational culture studies draws upon principles, theories, and methodologies developed in three separate disciplines: anthropology, sociology, and psychology. Currently, researchers in this area utilize both qualitative and quantitative methods to describe and analyze the culture of an organization. In the late 1980s using a variety of methodological approaches, Daniel Denison developed a sixty question survey instrument to characterize the culture of an organization based on the participants’ perception of the organization in four areas: adaptability, mission, involvement, and consistency. Although the survey was originally developed to assess culture with respect to the effectiveness of an organization in terms of profit, growth, and resource acquisition in the U.S., the application of the instrument in a variety of international organizations established its utility to evaluate organization culture regardless of venue or objectives. The DOCS has been administered to more than 65,000 individuals employed in hundreds of different industries, business, and organizations around the world and is considered a valid instrument for assessing the organizational culture of a business or institution.

The culture of higher education has been a popular theme of study, with most of the research focused on either the student experience, or whole campuses (students, faculty, and
administrators). There are, however, a number of studies centered about faculty culture, the lure of me-search notwithstanding, the majority of which are qualitative or reflective. A framework for organizing faculty organizational studies, proposed by Smerek (2010), has three general categories - integration, differentiation, and fragmentation - based on the perspective of the researcher(s). The most common perspective in the extant literature is the integration approach, which seeks to identify the underlying harmonious relationships and shared interests of the members of the organization, while ignoring diversity, conflict and ambiguity. The differentiation perspective emphasizes subcultures within the organization and focuses on conflicts and differences, but disregards ambiguity. The third approach, fragmentation, embraces the concept of multiple and often antagonistic subcultures operating in a complex environment filled with ambiguity. These three perspectives emphasize different aspects of organizational culture however each approach contributes to the understanding of the organizational culture that faculty experience in their workplace. The present study is through the differentiation lens, as faculty attributes and characteristics (union affiliation, tenure status, number of years teaching, discipline, academic rank, gender, and ethnicity) are used to distinguish different groups of university faculty and compare DOCS data.

The faculty attributes and characteristics, union affiliation, tenure status, number of years teaching, discipline, academic rank, gender, and ethnicity, have been linked to perceived job satisfaction in the literature. Job satisfaction influences the intensity of the individuals’ subscription to shared beliefs, values and assumptions that are the foundations of the organizational culture. Faculty unionization and collective bargaining have been occurring on an increasing number of public higher education campuses. Faculty are motivated to join a union and engage in collective bargaining as they believe that they will have more of a voice in
administrative decisions that affect their professional life when they speak as a collective group. The current literature does not consistently concur on the effects of faculty unionization on job satisfaction, or on the relationships of these with other attributes of faculty members, tenure status, number of years teaching, discipline, academic rank, gender, and race/ethnicity. Contradictory finding are to be expected based on the observation of Myers et al. (2002), who in their meta-analysis of nationally collected data found that the variations in job satisfaction are greater within a campus than between campuses. Job satisfaction is individual and contextual. This conclusion echoes a similar finding, with different subjects within higher education, students, by Pascarella and Terenzini (2005). In their years of analyzing the effects of college on students they reported that when all of the data collected on numerous college students, on many campuses, over several decades is viewed en mass there is greater variation in effects within an institution than between institutions. While the research by Myers et al. and Pascarella and Terenzini are meta-studies, the present study is not, for it is focused on specific public universities in Ohio during a finite period of time. With this restricted context, relationships that lack clarity on a national scale or large time-frame will come into focus. Despite the considerable research published concerning higher education faculty organizational culture, none have empirically explored the potential influence and interaction of the faculty characteristics selected for this study on faculty culture.
CHAPTER III. METHODOLOGY

The purpose of this study was to describe and empirically assess the organizational culture as perceived by full-time arts and sciences faculty with respect to faculty collective bargaining as well as faculty attributes at five state-supported universities in Ohio. The Denison Organizational Culture Survey (DOCS) was the instrument employed to collect the organizational culture data and participants were also asked to provide information concerning their individual characteristics such as academic rank, tenure status, and content area expertise. This chapter explains the research design, the participating universities, the instrument used, as well as data collection and analysis procedures.

Research Design

This study utilized a causal comparative design and explored the differences in the dependent variable, perceived organizational culture, between different groups of full-time faculty teaching in arts and sciences. The perceptions of organizational culture among the participating faculty were measured with an existing commercial survey instrument - the Denison Organizational Culture Survey (DOCS). This instrument is a 60-item survey, with each item measured on a five-point Likert scale. Appended to the DOCS instrument were demographic or attribute questions; the responses to six of these items were used to partition the participants into different groups. The six items, the independent variables for the study, measured academic rank, years of teaching, content area, tenure status, gender, and race/ethnicity. These attributes were selected as the extant literature, reviewed in chapter two, has been found to be central to faculty job satisfaction and attitudes (Bozeman & Gaughan 2011; Rosser, 2005; Sabharwal & Corley, 2009; Seifert & Umbach, 2008). The initial comparison of faculty organizational cultures was between faculty that were engaged in collective bargaining
and those who were not. Subsequent comparisons of organizational culture compared scores of faculty grouped by their characteristics or attributes as well as the unionization.

**Participants**

The participants solicited to participate in the present study were a self-selected sample of the 1,876 full-time faculty teaching in the spring semester of 2013, in arts and sciences, at five state-supported regional universities in Ohio: Kent State University, Miami University, Ohio University, University of Akron, and Wright State University. A total of 407 arts and sciences faculty returned surveys.

All five of these institutions have experienced a decrease in state funding support, which will likely continue to diminish in the coming years. These five state-supported institutions have endured increasing scrutiny by tax payers and legislators and have been required to demonstrate their effectiveness in producing students who can complete their degree program within a four-year time frame and go on to contribute to the workforce and boost the state’s economy (Brinkman & Morgan, 2010; Conner & Rabovsky; Ohio Higher Education Funding Commission, 2012; Umbach, 2007). Kissler (1997) as well as Williams, Olswang, and Hargett (1986) observed that in their studies faculty morale drops during times of shrinking financial resources at universities. Full-time faculty at three of these universities, Kent State University, University of Akron, and Wright State University, engage in collective bargaining; all three are represented by the American Association of University Professors (AAUP) in their contract negotiations. Although all five universities face similar long term financial challenges, three of them are doing so with faculty that engage in collective bargaining, which affects fiscal planning (Clawson, 2009).
Faculty teaching in the arts and sciences were selected for the present study as those disciplines form the core of the traditional undergraduate education in the United States, and have done so since the seventeenth century (Agresto, 2011; Bastedo, 2005; Hawthorne, 1997). These core content areas are consistent from institution to institution and the faculty who teach courses in these disciplines have been socialized into their occupational subculture during their graduate student experience (apprenticeship or training) (Tierney, 1997; VanMaanen & Schein, 1979). Thus, theoretically, as proposed in extant literature, some of the differences in perceived culture among faculty in the same discipline might be attributed to differences in institutional environments, such as collective bargaining, rather than training.

The five state-supported universities in the present study were similar in that they rely on the state of Ohio to provide a portion of their operating budget each year and had comparable total student enrollment. With the reduction in resources universities are seeking to refined the terms and conditions of faculty members, which is likely to negatively affect faculty perceptions of their role at the institution (Lederman & Jaschik, 2011, Rosser, 2005). Four of the five universities had professional schools; Kent State University had a College of Podiatric Medicine, Ohio University had the Heritage College of Osteopathic Medicine, University of Akron had the Akron School of Law, and Wright State University had the Boonshoft School of Medicine and the School of Professional Psychology. The existence of a professional school might provide an institution with deeper financial reserves, greater resources, and a wider spectrum of assets, which might buffer some of changes in state funding support. Although the five institutions have different histories and origins; they all were engaged in navigating the significant challenges faced by state-supported higher education in the new millennium when this study was conducted. The following is a brief description of the five institutions participating in the current study.
Kent State University

Kent State Normal School, located in Kent, Ohio, was created by a bill passed by the Ohio legislature in 1910, as a two-year school to graduate school teachers (Kent State University, 1998). The school aspired to become a college and offer a four-year baccalaureate; with successful lobbying of state legislators, this goal was realized in 1929 when the Ohio General Assembly approved the transition from Kent State Normal School to Kent State College (Kent State University, 2010). By 2012, Kent State University had grown to include seven branch campuses and a College of Podiatric Medicine located in Cleveland. There were 27,855 students enrolled in classes on the main campus in Kent as of February 2012 (College Portrait, 2012a). There were 348 full-time faculty teaching in the arts and sciences college in 2012 (Kent State University, 2012).

The American Association of University Professors (AAUP) represents the full-time faculty in collective bargaining with the Kent State University administration. The tenured/tenure eligible faculty are one bargaining unit; the non-tenure eligible faculty are another; the units have separate contracts (AAUP-Kent State, n.d.). Initially, only tenured/tenure eligible faculty elected to be represented by AAUP in January 1976; the first comprehensive collective bargaining agreement was not approved until September 1978 (AAUP-A Brief History, n.d.). The non-tenure eligible bargaining unit approved their first contract in 1996 (AAUP-Brief History, n.d.).

The current contracts include the rank and titles of all full-time faculty at Kent State University (AAUP-Kent State, n.d.). Titles of tenured/tenure eligible faculty at Kent State University are, from highest rank to lowest: University Professor, Professor, Associate Professor, and Assistant Professor. The titles of full-time non-tenure eligible faculty are, from highest rank
to lowest for those faculty with a terminal degree in their discipline: Professor, Associate Professor, and Assistant Professor; and for those without a terminal degree Senior Lecturer, Associate Lecturer, and Lecturer.

**Miami University**

Miami University, located in Oxford, Ohio, was chartered by the state of Ohio in 1809; however, it did not admit students until 1824, when sufficient funds permitted the trustees to assemble a faculty (Knight & Commons, 1891). The university closed from 1873 until 1885 due to financial exigency (Knight & Commons). Since 1885 the university has grown and in 2013 it has four regional branch campuses in addition to the main campus in Oxford (Miami University, 2013). In the spring semester of 2012, there were 17,395 students enrolled at the Oxford campus (College Portrait, 2012b). The college of arts and sciences at the Oxford campus has 489 full-time faculty (Miami University, 2012a). The faculty of Miami University did not engage in collective bargaining at the time of the present study. The title and rank of all full-time faculty members who are tenured/tenure eligible are as follows in order of highest to lowest rank: Professor, Associate Professor, and Assistant Professor; full-time non-tenure eligible from highest to lowest rank: Lecturers and Instructors (Miami University, 2012b).

**Ohio University**

Ohio University, located in Athens, Ohio, has the dual distinctions of being the first university founded on the endowment of land from the federal government in the United States and the oldest college in the state of Ohio, formerly part of the Northwest Territory (Knight & Commons, 1891). In 1802 the legislature of the Northwest Territory passed an act establishing a university and granted land towards this endeavor. In 1804, a year after Ohio gained statehood; the general assembly chartered the university as Ohio University which superseded the earlier act
by the Northwest Territory legislature. The first students were admitted to the university in 1808. Financial exigency forced the university to close from 1845 to 1848. In 2012, Ohio University had seven regional branch campuses and the Heritage College of Osteopathic Medicine (Ohio University, 2012a). There were 21,356 students enrolled at the Athens main campus, in the spring semester of 2012, excluding the medical school (Ohio University, 2012b). The college of arts and sciences at the Athens campus has 418 full-time faculty (Ohio University, 2011) and they were not participating in collective bargaining at the time of the present study. The title and rank of all full-time faculty members, regardless of tenure status, are as follows, in order of highest to lowest rank: Professor, Associate Professor, and Assistant Professor (note: there are no faculty with the rank of lecturer or instructor) (Ohio University, 2011b).

University of Akron

The University of Akron, located in Akron, Ohio, began as Buchtel College, founded by the Ohio Universalist Convention in 1870 (University of Akron, 2012a). Students enrolled in the college in 1871 and by 1907 it became a non-denominational college. The assets of the college were transferred to the City of Akron in 1913 and it became the municipal University of Akron; in 1967 it became a regional state university. The University of Akron has five branch campuses in the region and the Akron School of Law (University of Akron 2012b). In the spring of 2012 there were 25,276 students enrolled on the Akron campus, excluding the law school (University of Akron, 2012c). The Buchtel College of Arts and Sciences has 254 full-time faculty (University of Akron, 2012d). Both the tenured/tenure eligible and the non-tenure eligible faculty engage in collective bargaining and are represented by the AAUP which negotiates one contract for all full-time faculty (AAUP, 2004). The faculty elected to be represented by AAUP in March of 2003 and the first contract was approved in December of 2005 (University of Akron,
The current contract enumerates the rank and titles for full-time faculty. They are, for full-time tenured/tenure eligible faculty in order of rank from highest to lowest: Professor, Associate Professor, and Assistant Professor; for full-time non-tenure eligible from highest to lowest Senior College Lecturer/Instructor, Associate College Lecturer/Instructor, and College Lecturer/Instructor (University of Akron-AAUP, 2011). The difference between a lecturer and an instructor at all three levels is determined by their workload; lecturers are assigned teaching duties exclusively, while instructors are assigned teaching, research, and service duties.

Wright State University

Wright State University, located in Dayton, Ohio, began as a branch campus of both Ohio State University and Miami University in 1964 (Wright State, 2012a). Wright State University was granted independent state university status in 1967 as promised by the state legislature when enrollment requirements were met. Wright State University has two professional schools; the Boonshoft School of Medicine and the School of Professional Psychology as well as one branch campus (Wright State University, 2012b). In the spring of 2012 there were 15,506 students enrolled on the Dayton campus, excluding the two professional schools (Wright State University, 2012c). The 367 full-time faculty that teach in the disciplines of arts and sciences are divided into two different colleges: the College of Liberal Arts and the College of Science and Mathematics (Wright State University, 2011). In May of 1998 the tenured/tenure eligible faculty elected to have AAUP represent them in collective bargaining with the administration of the university and the first contract was approved in December of 1999 (Goldfinger & Spetter, 2008). In December of 2012, the non-tenure track faculty voted to form a collective bargaining unit with the local American Association of University Professors, joining the tenure and tenure track faculty (DeSantis, 2012). The rank and titles for tenured/tenure eligible faculty are, from
highest to lowest rank: Professor, Associate Professor, and Assistant Professor. The ranks and titles for non-tenure eligible faculty from highest to lowest rank are: Instructor, Lecturer, and Senior Lecturer (Wright State University, 2012d).

Summary

The participants in this study were full-time faculty members at state-supported regional universities teaching in the arts and sciences colleges on the main campuses. Table 1 summarizes the above information concerning their location, founding data, number of branch campuses, professional schools, enrollment, number of fulltime arts and sciences faculty, participation in collective bargaining and date of first contract agreement. Of the five institutions in the present study, three had faculty that collectively bargain and were represented by the AAUP. The composition of the bargaining unit varied by university. Kent State University full-time faculty had two separate agreements—one for tenured/tenure track faculty and another for non-tenure track faculty. The University of Akron had one bargaining unit that encompassed all full-time faculty: tenured/tenure track as well as non-tenure track. Wright State University was similar to the University of Akron with one bargaining unit that represented all of the full-time faculty: tenured/tenure track and non-tenure track. Two of the institutions, Ohio University and Miami University, have faculty that were not engaged in collective bargaining at the time of the present study. It is interesting to note that these two universities are among the oldest institutions of higher education in the state of Ohio.
<table>
<thead>
<tr>
<th>University</th>
<th>Kent State University</th>
<th>Miami University</th>
<th>Ohio University</th>
<th>University of Akron</th>
<th>Wright State University</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td>Kent</td>
<td>Oxford</td>
<td>Athens</td>
<td>Akron</td>
<td>Dayton</td>
</tr>
<tr>
<td><strong>Founding</strong></td>
<td>1910- 2 yr</td>
<td>1809</td>
<td>1802</td>
<td>1870 Buchtel College</td>
<td>1967</td>
</tr>
<tr>
<td></td>
<td>1929-4 yr</td>
<td>1824 first students</td>
<td>1808 first students</td>
<td>1913 City College</td>
<td></td>
</tr>
<tr>
<td><strong># Branch Campuses</strong></td>
<td>7</td>
<td>4</td>
<td>7</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td><strong>Professional Schools</strong></td>
<td>College of Podiatric Medicine</td>
<td>None</td>
<td>Heritage College of Osteopathic Medicine</td>
<td>Akron School of Law</td>
<td>Boonshoft School of Medicine School of Professional Psychology</td>
</tr>
<tr>
<td><strong>Total # Students Enrolled Main Campus</strong></td>
<td>27,855</td>
<td>17,395</td>
<td>21,356</td>
<td>25,276</td>
<td>15, 506</td>
</tr>
<tr>
<td><strong># Full-time Arts &amp; Sciences Faculty</strong></td>
<td>348</td>
<td>489</td>
<td>418</td>
<td>254</td>
<td>367</td>
</tr>
<tr>
<td><strong># Participants</strong></td>
<td>72</td>
<td>86</td>
<td>48</td>
<td>89</td>
<td>55</td>
</tr>
<tr>
<td><strong>Collective Bargaining</strong></td>
<td>2 unions T/TT NTT Eligible</td>
<td>None</td>
<td>None</td>
<td>1 union for both T/TT and NTT</td>
<td>1 union for both T/TT and NTT</td>
</tr>
</tbody>
</table>
Instrumentation

This study utilized an online survey with a total of 71 questions that combined the 60-item Denison Organizational Culture Survey (DOCS) with 11 demographic questions (see Appendix A). Some of the wording of the DOCS items was changed to reflect a higher education environment; these adaptations were judged by Ken Uehara and Levi Nieminen, both researchers at Denison Consulting (personal communication, December, 2012), to have no effect on the reliability or validity of the survey. A number of items refer to campus rather than university, because all of the participating institutions have one or more branch campuses. The invitation to participate in the survey was sent only to arts and sciences faculty at the main campuses of the selected universities and can be found in Appendix B. The first 60 items of the survey comprise the DOCS, which are measured on a five-point Likert scale (1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree), the remaining 11 items solicit demographic or attribute information. The demographic questions were situated after the DOCS survey questions, as advised by Dillman (2007).

Denison Organizational Culture Survey

The Denison Organizational Culture Survey (DOCS), developed by Denison, used case studies of five organizations to ground the theory (Denison & Mishra, 1989). The model has four cultural traits: involvement, consistency, adaptability, and mission. The instrument measures the perceptions of individuals with sixty questions, equally divided among the four traits of the model. Each trait is subdivided into three component indices; each index is measured by the responses to five survey items. In the extant literature, the mean trait scores are utilized, not the indices or individual items (Casida, 2008; Denison et al., 2004; Kahn et al., 2010; Kotrba et al., 2012; Nazir & Lone, 2008; Yilmaz & Ergun, 2008). All responses are
measured on a five point Likert scale. Items 15, 34, 29, 34, 39, 43, 50, and 58 are reverse-scaled and were transformed before analysis. The use of reverse-scaled items, negative statements interspersed in a series of positive statements, is a technique suggest by Likert (1961) to improve the validity of a survey. Mean trait scores of 3.5 to 4.0, are considered higher agreement and indicate a greater alignment of members with their organization (Casida; Denison et al.; Nazir & Lone). The four traits, each composites of three indices are briefly explained below.

**Involvement.** The involvement trait measures how well an organization engenders commitment from members by empowering them, and giving them input into decisions that affect their work, as well as developing members’ capability at all levels. This trait is evaluated on three indices: empowerment, team orientation, and capability development. Mean scores above 3.5 on this trait indicate that the members have a perception of ownership and responsibility toward the organization and that they work cooperatively towards common goals, sharing responsibility for achieving those goals and that the organization continually invests in development of members’ skills (Denison & Mishra, 1995).

**Consistency.** The consistency trait measures the level of integration and coordination across the organization, which encourages normative behavior due to consensual support resulting in implicit control of members’ action rather than explicit external rules and regulations. The three indices comprising the consistency trait are core values, agreement, and coordination and integration. Organizations that score above 3.5 on the consistency trait have employees with shared values that espouse an internal sense of what the right and wrong way to do things. Members are able to agree on critical issues and reconcile differences when they occur; and are able to work across organizational boundaries to achieve common goals (Denison & Mishra, 1995).
Adaptability. Organizations that score high on this trait are willing to take risks and learn from their mistakes. They do not avoid change, indeed, they continuously change to improve the organization’s response to the outside environment. This trait is measured on following three indices: creating change, customer focus, and organizational learning. The organization members subscribe to a system of norms and beliefs which enables planned change with a focus on meeting anticipated future needs. Organizations that score above 3.0 on adaptability are those that are experiencing growth in sales and market share (Denison & Mishra, 1995).

Mission. The mission trait evaluates the clarity of purpose and direction members have as defined by their understanding of the goals and objects of the organization as well as the vision of the future. Members’ behaviors are guided by their shared perceptions of the envisioned future. The three indices for this trait are: strategic direction and intent, goals and objectives, and vision. Organizations that score high on this trait have members who understand their individual role in moving the organization towards the desired future state by meeting goals and objectives which are clearly linked to the mission.

Table 2 presents the 60 DOCS items arranged by trait and index.
Table 2

**DOCS Traits, Indices, and Items**

<table>
<thead>
<tr>
<th>Trait</th>
<th>Index</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involvement</td>
<td>Empowerment</td>
<td>1. Most faculty are highly involved in their work.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Decisions are usually made at the level where the best information is available.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Information is widely shared so that everyone can get the information he or she needs when it's needed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Every faculty member believes that s/he or she can have a positive impact.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Planning for the future is ongoing and involves everyone in the process to some degree.</td>
</tr>
<tr>
<td>Team Orientation</td>
<td></td>
<td>6. Cooperation across different parts of this campus is actively encouraged.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7. Faculty work like they are part of a team.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8. Teamwork is used to get work done, rather than hierarchy.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9. Teams are our primary building blocks.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10. Work is organized so that each faculty member can see the relationship between his or her job and the goals of this campus.</td>
</tr>
<tr>
<td>Capability Development</td>
<td></td>
<td>11. Authority is delegated so that people can act on their own.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12. The academic capability of the faculty is constantly improving.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13. There is continuous investment in the skills of the faculty.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14. The capabilities of faculty are viewed as an important source of competitive advantage.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15. Problems often arise because faculty members do not have the skills necessary to do the job. (Reversed Scale)</td>
</tr>
<tr>
<td>Consistency Core Values</td>
<td></td>
<td>16. The President, Provost, Deans and other administrators &quot;practice what they preach&quot;.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>17. The President, Provost, Deans and other administrators have a characteristic management style and a distinct set of management practices.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>18. There is a clear and consistent set of values that governs the way we do business our campus.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>19. Ignoring core values will get you in trouble.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20. There is an ethical code that guides our behavior and tells us right from wrong.</td>
</tr>
<tr>
<td>Trait</td>
<td>Index</td>
<td>Item</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Agreement     | 21. When disagreements occur, we work hard to achieve "win-win" solutions. | 22. There is a "strong" culture on this campus.  
23. It is easy to reach consensus on campus, even on difficult issues.  
24. We often have trouble on this campus reaching agreement on key issues. (Reversed Scale)  
25. There is a clear agreement about the right way and the wrong way to do things. |
|               | Coordination and Integration | 26. Our approach to education is very consistent and predictable on this campus.  
27. Faculty from different parts of the campus organization share a common perspective.  
28. It is easy to coordinate projects across different parts of this campus.  
29. Working with someone from another part of this on this campus is like working with someone from a different university. (Reversed Scale)  
30. There is good alignment of goals across this campus levels. |
| Adaptability  | Creating Change            | 31. The way things are done is very flexible and easy to change on this campus.  
32. We respond well to competitors and other changes in higher education.  
33. New and improved ways to teach and do research are continually adopted.  
34. Attempts to create change usually meet with resistance. (Reversed Scale)  
35. Different parts of the campus the organization often cooperate to create change |
| Student Focus |                            | 36. Student comments and recommendations often lead to changes.  
37. Student input directly influences our decisions.  
38. All faculty members have a deep understanding of student wants and needs.  
39. The interests of students often get ignored in our decisions. (Reversed Scale)  
40. We encourage faculty to have direct contact with the entire study body. |
<table>
<thead>
<tr>
<th>Trait</th>
<th>Index</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational Learning</td>
<td></td>
<td>41. We view failure as an opportunity for learning and improvement.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>42. Innovation and risk taking are encouraged and rewarded.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>43. Lots of things &quot;fall between the cracks&quot;. (Reversed Scale)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>44. Faculty learning is an important objective in our day-to-day work.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>45. We make certain that the &quot;right hand knows what the left hand is doing&quot;.</td>
</tr>
<tr>
<td>Mission</td>
<td>Strategic Direction &amp; Intent</td>
<td>46. There is a long-term purpose and direction on this campus.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>47. Our strategy leads other universities to change the way they compete in higher education.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>48. There is a clear mission that gives meaning and direction to our work.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>49. There is a clear strategy for the future.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50. Our strategic direction is unclear to me. (Reversed Scale)</td>
</tr>
<tr>
<td>Goals &amp; Objectives</td>
<td></td>
<td>51. There is widespread agreement about goals.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>52. The President, Provost, Deans and other administrators set goals that are ambitious, but realistic.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>53. The President, Provost, Deans and other administrators have &quot;gone on record&quot; about the objectives we are trying to meet.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>54. We continuously track our progress against our stated goals.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>55. Faculty members understand what needs to be done for us to succeed in the long run.</td>
</tr>
<tr>
<td>Vision</td>
<td></td>
<td>56. We have a shared vision of what the campus will be like in the future</td>
</tr>
<tr>
<td></td>
<td></td>
<td>57. The President, Provost, Deans and other administrators have a long-term viewpoint.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>58. Short-term thinking often compromises our long-term vision. (Reversed Scale)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>59. Our vision creates excitement and motivation for our faculty.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60. We are able to meet short-term demands without compromising our long-term vision.</td>
</tr>
</tbody>
</table>

**Validity and Reliability of DOCS.** There are a number of articles in the current literature demonstrating the validity and reliability of the Denison Organizational Culture Survey. Using factor analysis, where organizational effectiveness was the dependent variable and the four traits as independent variables, Denison and Mishra (1989) analyzed survey
responses from 969 organizations and found significant relationships between each of the four traits and organizational effectiveness. To explore the applicability of the model and the instrument outside North America, Fey and Denison (2003) deployed the instrument in Russia by surveying 179 firms. This research included case studies of four of the surveyed firms to ground the theory in Russia, as instruments developed in one country cannot be assumed to be transferable to other countries and ethnic cultures. The authors found, through factor analysis of the data and comparison of the result to the case studies, that the relationships between organizational culture traits as measured by DOCS and firm effectiveness in Russia was similar to those found in the U.S. The reliability coefficients for each of the DOCS subscales for the present study were calculated using Cronbach’s alpha and are presented and discussed in chapter four.

In 2006, Denison et al. established the psychometric reliability and validity of the sixty survey items in the survey with respect to organizational effectiveness using responses from 35,474 individuals employed in 160 different organizations. The firms participating in the study were headquartered in North America, Europe, Asia, and the Middle East. They reported an acceptable level of internal consistency for all twelve indices as the Cronbach's alphas for the indices ranged from 0.70 to 0.85. The validity was established by correlating the responses with the participants’ rating of the effectiveness of their organization in terms of sales growth, market share, profitability, and employee satisfaction. The correlation coefficients were statistically significant at the 0.01 level for all indices. The survey data collected had a high degree of homogeneity within the organizations as demonstrated by maximal dissensus distribution, a measure of internal consistency. The analysis of this large and diverse data set confirmed that the survey and underlying conceptual model are both reliable and valid over a variety of
organizations and nationalities. The extensive application of this survey in many different venues and cultures indicates that this instrument is both reliable and valid in assessing the perceived level of shared basic assumptions and espoused values among members of an organization; organizational culture. The comparison of the measures of these traits, Involvement, Consistency, Adaptability, and Mission, among groups of full-time arts and sciences faculty at selected state-supported universities in Ohio partitioned by the independent variables was the focus of this study.

**Demographics**

There were 11 questions in the demographic portion of the survey. These 11 questions followed the DOCS questions, adhering to observations made by Dillman (2007) that respondents wish to get to the topic of the survey and find demographic queries less interesting and may feel less connected to the purpose of the survey if they are asked to supply this information first. Participants in the current study were asked: if their position was considered full-time, their current academic rank, the highest degree earned, if their degree was considered terminal in the field, their citizenship status, their participation in a faculty union (if one existed on their campus), the number of years they have been teaching at their current institution, their content area expertise, their tenure status, their gender, and their race/ethnicity. The demographic queries are summarized in Table 3.
<table>
<thead>
<tr>
<th>Item</th>
<th>Demographic Attribute</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Current Position</td>
<td>Full-time, Part-Time, Prefer not to answer</td>
</tr>
<tr>
<td>2</td>
<td>Academic Rank</td>
<td>Instructor, Lecturer, Senior lecturer, Assistant professor, Associate professor, Full Professor, Visiting, Prefer not to answer</td>
</tr>
<tr>
<td>3</td>
<td>Highest Degree Earned</td>
<td>Bachelor’s (B.A., B.S., etc.), Master’s (M.A., M.S., M.F.A., M.B.A., etc.), LL.B., J.D., M.D., D.D.S. (or equivalent), Other post-baccalaureate professional degree (e.g., D.D., D.V.M.), Ed.D., Ph.D., Other degree, None, Prefer not to answer</td>
</tr>
<tr>
<td>4</td>
<td>Terminal Degree</td>
<td>Yes, No, Prefer not to answer</td>
</tr>
<tr>
<td>5</td>
<td>Citizenship Status</td>
<td>U.S. citizen, Resident alien, Non-resident alien, Prefer not to answer</td>
</tr>
<tr>
<td>6</td>
<td>Union membership</td>
<td>I am a member of the faculty union, I am not a union member although I am eligible, There is no faculty union on my campus, Prefer not to answer</td>
</tr>
<tr>
<td>7</td>
<td>Number of Years Teaching</td>
<td>Fill in the number of years</td>
</tr>
</tbody>
</table>
To select meaningful demographic attributes, the researcher looked to the extant literature on faculty job satisfaction and found that the demographic attributes of faculty such as, academic rank, number of years teaching, content area expertise, tenure status, gender, and race/ethnicity have been shown to influence attitudes towards jobs and job satisfaction (Bozeman & Gaughan 2011; Rosser, 2005; Sabharwal & Corley, 2009; Seifert & Umbach, 2008). Employee attitudes, as indicated by job satisfaction, affect the culture of an organization (Gregory et al., 2009; Ostroff, 1992; Ryan et al., 1996). The faculty attributes of academic rank, number of years teaching, content area expertise, tenure status, gender, and race/ethnicity, were used to partition the participants into groups and compare the groups’ DOCS scores on the four traits: Involvement, Consistency, Adaptability, and Mission. The remaining attributes of citizenship
status, highest degree earned and if the degree was considered terminal in the field were collected to better characterize the participants.

**Data Collection**

The survey was administered online to full-time faculty teaching in the arts and sciences colleges at five Ohio regional universities: Kent State University, Miami University, Ohio University, University of Akron, and Wright State University. The survey was open for 22 days, from January 28 through February 18, 2013. Survey Monkey was the online survey tool utilized for administering this survey. Invitations to participate were sent to 2,347 individuals identified as arts and sciences faculty at the five institutions, although there were only 1,876 full-time faculty at these universities according to their offices of Institutional Research. With the exception of Miami University, the participating institutions denied the researcher’s request for the email addresses of full-time arts and sciences faculty. The e-mail addresses employed to invite faculty to participate in the study were obtained by sifting through institutional directories and department websites in the arts and sciences colleges at four of the institutions; however, the majority of these sources did not identify faculty as full or part-time, thus in the effort to contact all full-time faculty some part-time faculty were inadvertently contacted. The invitation to participate (see Appendix B) notes that the study was exclusive to full-time faculty. One of the items in the survey (see Appendix A, #61) asked if the respondent was considered a full-time faculty member; this item was used to identify those participants who were eligible to take part in the study.

There were 407 surveys returned, some were incomplete and others were from part-time faculty, resulting in 350 usable surveys after data screening. This number represented an 18.8% return rate, with respect to the 1,876 potential participants, full-time faculty in arts and sciences in the selected five universities. According to Deutskens, Ruyter, Wetzels, and Oosterveld
(2004), surveys over 20 questions in length have an average response rate of 17.1%. They also noted that the length of the survey did not have a deleterious effect on the quality of the responses, just the quantity. Professionals are less likely to respond to e-mail surveys (Mensch, 2012). In general, response rates for all surveys in the U.S. have been decreasing over the last decade, and incentives do not seem to make a significant difference (Manzo & Burke, 2012). With respect to the previously cited works, the response rate for this survey was what within the range of what should be expected.

The participants recruited to take the survey were a mix of tenured/tenure track, and non-tenure track, or contingency, full-time faculty employed at the five target institutions in January 2013. The invitation letter and the consent letter for participants are contained in Appendices B and C, respectively. There were two reminder e-mails sent to those faculty who had received an invitation and had not returned a survey or opted out. The findings of Deutskens et al. (2012) were that a one week reminder schedule is the most efficient and that no more than two reminders should be sent. Following this advice, the first reminder (see Appendix D) was sent to invited faculty on February 4, 2012, and a second reminder was sent seven days later on February 11, 2013 (see Appendix E). After the first reminder 43 surveys were returned, following the second, 26 were returned, for a total of 407 for the study. Survey Monkey allowed each of the participating institutions to have its own collector for responses.

The confidentiality of the respondents was maintained by Survey Monkey which uses secure sockets encryption (SSL) to preserve the confidentiality of the participants, but not necessarily their anonymity, as responses to demographic questions could reveal their identity. The collected data from the participants resides in a password protected Bowling Green State University data storage account.
The Bowling Green State University Human Subjects Review Board approved this study (see Appendix F). Permission to conduct the online survey at each of the five universities was obtained; these approvals are contained in Appendix G. The collected data were analyzed to develop responses to the research questions enumerated the next section.

**Research Questions**

1. What are the differences in perceived organizational culture among full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio?

2. What are the differences in perceived organizational culture among tenured, tenure eligible and non-tenured eligible full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio?

3. What are the differences in perceived organizational culture among full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio as a function of the number of years they have taught at their present institution?

4. What are the differences in perceived organizational culture among arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio as a function of content area expertise?

5. What are the differences in perceived organizational culture among full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio as a function of their rank?

6. What are the differences in perceived organizational culture among full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio with respect to their gender?
7. What are the differences in perceived organizational culture among full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio with respect to their race/ethnicity?

**Data Analysis Procedures**

The independent variables for this study were faculty unionization, academic rank, number of years teaching, content area expertise, tenure status, gender, and race/ethnicity. All of the independent variables were discrete or categorical. The number of years of teaching was categorized into six groups, each representing four years; this procedure is explained in the next section. The dependent variables in the study were a gauge of the participant’s perception of their organizational culture as measured by the Denison Organizational Culture Survey (DOCS), specifically their scores on the four traits: Involvement, Consistency, Adaptability, and Mission. These variables are continuous and are measured on a scale of one to five.

The data were screened to assure their quality. Of the 407 returned surveys, 350 met the criteria of being full-time, completing at least half of the demographic items, and having no more than two missing items per index in the DOCS portion of the survey. Eight of the DOCS items (15, 24, 29, 34, 39, 43, 50, and 58) were phrased negatively and were reverse coded before resolving the missing data items. Missing DOCS data were handled with a procedure developed at Denison Consulting by Dr. Michael Gillespie (personal communication, March, 2013). For cases where there were one or two blank items among the five needed to calculate an index, the missing data were replaced with the average of the existing scores for that index for that individual case. Each trait was calculated using three indices; in cases where more than one index out of the three had insufficient data, that case was discarded.
After examination, data for two of the independent variables, academic rank and race/ethnicity, required regrouping. For the academic rank variable, one category, senior lecturer, had only one case for the non-union group, which would skew the results of statistical tests. The categories of instructor, lecturer, and senior lecturer were combined to form one new category: instructor/lecturer as shown in Table 4.

Table 4

*Frequencies of Academic Rank Original and Regrouped*

<table>
<thead>
<tr>
<th></th>
<th>Original data</th>
<th>Regrouped data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Union</td>
<td>Non-union</td>
</tr>
<tr>
<td>Instructor</td>
<td>f</td>
<td>f</td>
</tr>
<tr>
<td>Lecturer</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>Sr. Lecturer</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>Assistant Prof</td>
<td>38</td>
<td>18</td>
</tr>
<tr>
<td>Associate Prof</td>
<td>56</td>
<td>45</td>
</tr>
<tr>
<td>Full Prof</td>
<td>63</td>
<td>45</td>
</tr>
<tr>
<td>Visiting</td>
<td>14</td>
<td>11</td>
</tr>
</tbody>
</table>

The independent variable, race/ethnicity, had a number of categories that were low and one that was empty. There were 25 of the 350 respondents who selected a race/ethnicity other than White/Caucasian, and 44 who either declined to answer or left the item blank. The
The race/ethnicity variable was regrouped into three groups: White/Caucasian, All others, and declined. The raw data and the new categories are presented in Table 5.

Table 5

*Frequencies of Race/ethnicity Data Original and Regrouped*

<table>
<thead>
<tr>
<th>Original Data</th>
<th>Regrouped Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian/Alaskan</td>
<td>All others</td>
</tr>
<tr>
<td>Native</td>
<td></td>
</tr>
<tr>
<td>Asian American/Asian</td>
<td>White/Caucasian</td>
</tr>
<tr>
<td>Black/African American</td>
<td>Declined</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td></td>
</tr>
<tr>
<td>Native Hawaiian/Other Pacific Islander</td>
<td></td>
</tr>
<tr>
<td>White/Caucasian</td>
<td></td>
</tr>
<tr>
<td>Declined to Answer</td>
<td></td>
</tr>
<tr>
<td>Left Blank</td>
<td></td>
</tr>
</tbody>
</table>

Participants were asked to enter the number of years they had been teaching, that allowed the researcher to establish categories based on the data provided. After examining a histogram (Figure 1) of the raw data, six groups were determined: one to four, five to nine, 10-14, 15-19, 20-24, and 25 years and over. Figure 2 presents a histogram of the years of teaching grouping. Having six groups for this variable permitted more concise analysis of the statistical testing results.
Figure 1. A Histogram of Raw Data for Years of Teaching Variable.

Figure 2. A Histogram of the Years of Teaching Variable Grouped Into Six Categories.

Three different statistical tests were applied to these data to generate empirical evidence that informed the responses to the research questions; t-test of independent samples, analysis of variance (ANOVA), and factorial ANOVA. The first research question explored the
differences in the scores on the four DOCS traits between faculty at unionized and non-unionized institutions using inferential statistics with a t-test of independent samples.

The remaining six research questions investigated the relationship of faculty unionization and faculty attributes on DOCS trait scores employing ANOVA when there was only one dependent variable and factorial ANOVA when two independent variables were considered simultaneously. The second research question investigated the differences in the DOCS traits with respect to tenure status and faculty unionization. The relationship of number of years teaching as well as faculty unionization on DOCS trait scores was the focus of the third research question. The fourth research question explored the differences in DOCS traits scores with respect to content area expertise as well as faculty unionization. The relationship between DOCS trait scores and academic rank and faculty unionization is the object of the fifth research question. The sixth research question examines the differences in DOCS trait scores regarding gender and faculty unionization. The relationship between DOCS trait scores and race/ethnicity as well as faculty unionization is the focus of the seventh research question. The research questions and the associated statistical tests are summarized in Table 6.
Table 6

*Research Questions and Data Analysis*

<table>
<thead>
<tr>
<th>Research questions</th>
<th>Independent variable(s)</th>
<th>Dependent variable(s)</th>
<th>Data analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What are the differences in perceived organizational culture among full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio?</td>
<td>Union status</td>
<td>Organizational culture</td>
<td>t-test of independent samples</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Involvement Trait</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consistency Trait</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adaptability Trait</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mission Trait</td>
<td></td>
</tr>
<tr>
<td>2. What are the differences in perceived organizational culture among tenured, tenure eligible and non-tenured eligible full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio?</td>
<td>Tenure status/eligibility</td>
<td>Organizational culture</td>
<td>ANOVA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Involvement Trait</td>
<td>Factorial ANOVA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consistency Trait</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adaptability Trait</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mission Trait</td>
<td></td>
</tr>
<tr>
<td>3. What are the differences in perceived organizational culture among full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio as a function of the number of years they have taught at their present institution?</td>
<td>Number of years teaching</td>
<td>Organizational culture</td>
<td>ANOVA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Involvement Trait</td>
<td>Factorial ANOVA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consistency Trait</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adaptability Trait</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mission Trait</td>
<td></td>
</tr>
<tr>
<td>4. What are the differences in perceived organizational culture among arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio as a function of discipline or content area?</td>
<td>Content area</td>
<td>Organizational culture</td>
<td>ANOVA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Involvement Trait</td>
<td>Factorial ANOVA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consistency Trait</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adaptability Trait</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mission Trait</td>
<td></td>
</tr>
<tr>
<td>5. What are the differences in perceived organizational culture among full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio as a function of their rank?</td>
<td>Faculty rank</td>
<td>Organizational culture</td>
<td>ANOVA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Involvement Trait</td>
<td>Factorial ANOVA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consistency Trait</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adaptability Trait</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mission Trait</td>
<td></td>
</tr>
<tr>
<td>Research questions</td>
<td>Independent variable(s)</td>
<td>Dependent variable(s)</td>
<td>Data analysis</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------------</td>
<td>-------------------------</td>
<td>----------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>6. What are the differences in perceived organizational culture among full-time</td>
<td>Gender</td>
<td>Organizational culture</td>
<td>ANOVA</td>
</tr>
<tr>
<td>arts and sciences faculty teaching at unionized and non-unionized public</td>
<td>Union status</td>
<td>Involvement Trait</td>
<td>Factorial ANOVA</td>
</tr>
<tr>
<td>universities in Ohio with respect to their gender?</td>
<td></td>
<td>Consistency Trait</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adaptability Trait</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mission Trait</td>
<td></td>
</tr>
<tr>
<td>7. What are the differences in perceived organizational culture among full-time</td>
<td>Race/ethnicity</td>
<td>Organizational culture</td>
<td>ANOVA</td>
</tr>
<tr>
<td>arts and sciences faculty teaching at unionized and non-unionized public</td>
<td>Union status</td>
<td>Involvement Trait</td>
<td>Factorial ANOVA</td>
</tr>
<tr>
<td>universities in Ohio with respect to their race/ethnicity?</td>
<td></td>
<td>Consistency Trait</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adaptability Trait</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mission Trait</td>
<td></td>
</tr>
</tbody>
</table>

** Assumptions and Delimitations **

There are a number of assumptions associated with this study. It was assumed that all of the full-time faculty at the five state-supported universities received an invitation to participate in the study, and further that they opened the message and read it. It is assumed that the participants supplied accurate information when they completed the survey. Another assumption is that the respondents are representative of their population on their respective campuses.

There are a number of delimitations for this study that must be considered. Only full-time arts and sciences faculty were solicited to complete the survey. Just five state-supported universities selected for this study. Generalizing the findings of this study to other types of higher education institutions and other types of faculty must be tempered with these delimitations.
CHAPTER IV. RESULTS

This chapter presents the results of the statistical analysis performed for this study. The purpose of this study was to measure organizational culture as perceived by Arts and Sciences faculty and compare these measures with respect to faculty unionization and a number of demographic attributes. Data for this study were generated by responses to an online survey composed of 71 items; the first 60 items are a valid and reliable organizational culture survey from Denison Consulting, and the remaining 11 items solicit demographic information. The responses to the survey were analyzed using descriptive statistics and statistical methods to compare the measured organizational culture using the Statistical Package of the Social Sciences (SPSS) with respect to faculty unionization and demographic attributes.

Descriptive Results

Demographic Characteristics

The participants for this study are full-time faculty teaching in Arts and Sciences at one of five universities: Kent State University, Miami University, Ohio University, University of Akron, and Wright State University. According to the Institutional Research offices at these five institutions, there was a total of 1,876 full-time faculty employed in arts and sciences when the survey was administered online in January of 2013. Miami University provided the researcher with current e-mail addresses for its full-time faculty in arts and sciences; however, the other institutions declined to furnish this information. The e-mail addresses for the faculty at four of the universities were obtained by collecting the addresses from departmental websites and institutional directories, which frequently did not note full or part-time appointment, resulting in a larger number (2,017) of invitations to participate than had been anticipated (1,876). The response rate for the target population or 1,876 was 21.7%. Although 407 surveys were returned, only 350 met the study requirements, yielding an operational response rate of 18.7%.
Of the 350 participants in this study, 216, or 62%, teach in a unionized environment, although the population invited to participate had 52% employed on unionized campuses. More than 85% of the respondents reported that they have attained a Ph.D. or other doctoral level degree, while 14% have a Master’s degree, the remainder have no degree beyond a Bachelor’s. The participants also related that 87% have a terminal degree. The majority of the respondents (94%) were U.S. citizens, with 5% having Resident Alien status; the rest were Non-Resident Aliens. With respect to tenure status, 60%, or 205, participants were tenured, and 12% were tenure track, while 27% were not in a tenure track position. The targeted population had 63% tenured, 15% tenure track, and 22% not-tenure track. The demographics of tenure status paralleled the academic rank of the respondents with 60% having achieved the title of full or associate professor, while 16% had assistant professor status, and 17% were instructors and lecturers. The population invited to participate had 33% full professors, 35% associate professors, 23% assistant professors, and 9% lecturers and instructors. More than 17% of the respondents reported that they have been teaching for more than 25 years, while 40% have 10 to 24 years of teaching experience, and 43% had taught for less than 10 years. The Social Sciences and Humanities were almost equally represented, at 35% and 36%, respectively. The Natural Sciences and Mathematics comprised 26% of the sample and the Arts 4%. The targeted population had 37% humanities, 20% social sciences, 39% natural sciences and mathematics, and 4% in Arts. Women were 54% of the respondents and men the remaining 46%. The population invited to participate had 58% men and 42% women. Although the gender item had a transgender response, it was not selected by any of the 350 participants in the sample. The ethnicity and race of the respondents was 80% White/Caucasian, with 13% declining to answer, and only 7% selecting any of the other five categories. The targeted population had 83%
White/Caucasian, 15% All Others, and 2% unknown. Of the non-White/Caucasian portion of the targeted population, Asian/Asian Americans were 7%, and African American/Black and Latino were each 4% of the total population. Table 7 presents a summary of the frequency of the demographic variables listed and enumerated by the research questions and partitioned by union status.

Table 7

Frequency Summary of Demographic Variable Characteristics by Research Question

<table>
<thead>
<tr>
<th>Research Question/Demographic Variable</th>
<th>Union</th>
<th>Non-Union</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>1. Union status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>216</td>
<td>62</td>
<td>134</td>
</tr>
<tr>
<td>2. Tenure status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tenured</td>
<td>116</td>
<td>56</td>
<td>89</td>
</tr>
<tr>
<td>Tenure track (tenure eligible)</td>
<td>27</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>Not tenure track (not tenure eligible)</td>
<td>64</td>
<td>31</td>
<td>28</td>
</tr>
<tr>
<td>Totals</td>
<td>207</td>
<td>61</td>
<td>132</td>
</tr>
<tr>
<td>3. Number of years teaching</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 to 4</td>
<td>39</td>
<td>21</td>
<td>22</td>
</tr>
<tr>
<td>5 to 9</td>
<td>40</td>
<td>22</td>
<td>26</td>
</tr>
<tr>
<td>10 to 14</td>
<td>24</td>
<td>13</td>
<td>22</td>
</tr>
<tr>
<td>15 to 19</td>
<td>27</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>20 to 24</td>
<td>21</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>25 +</td>
<td>34</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>Totals</td>
<td>185</td>
<td>62</td>
<td>112</td>
</tr>
<tr>
<td>4. Content Area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Sciences</td>
<td>77</td>
<td>37</td>
<td>41</td>
</tr>
<tr>
<td>Humanities</td>
<td>67</td>
<td>32</td>
<td>55</td>
</tr>
<tr>
<td>Natural Sciences and Mathematics</td>
<td>54</td>
<td>26</td>
<td>34</td>
</tr>
<tr>
<td>Arts</td>
<td>12</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Totals</td>
<td>210</td>
<td>61</td>
<td>132</td>
</tr>
</tbody>
</table>
## Summary of DOCS Results

The survey administered for this study consisted of 71 items, the first 60 comprise the Denison Organizational Culture Survey (DOCS), the remaining 11 are employment and demographic attributes. Each of the four DOCS traits - Involvement, Consistency, Adaptability, and Mission - is determined by the average of three indices and each of the indices is defined by the responses to five items in the survey. The responses to the items are on a five-point Likert scale: 1=strongly disagree, 2=disagree, 3=neither disagree nor agree, 4=agree, and 5=strongly agree. For the 350 respondents, the Involvement trait, a measure of an organization’s members’ commitment and sense of ownership, had the highest average score of all four traits, 2.97. The Consistency trait, a measure of organizational stability and internal integration, had an average score of 2.88. The trait of Adaptability, a measure of organizational risk taking and

<table>
<thead>
<tr>
<th>Research Question/Demographic Variable</th>
<th>Union</th>
<th></th>
<th>Non-Union</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
</tr>
<tr>
<td>5. Academic Rank</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full Professor</td>
<td>63</td>
<td>29</td>
<td>45</td>
<td>34</td>
<td>108</td>
<td>31</td>
</tr>
<tr>
<td>Associate Professor</td>
<td>56</td>
<td>26</td>
<td>45</td>
<td>34</td>
<td>101</td>
<td>29</td>
</tr>
<tr>
<td>Assistant Professor</td>
<td>38</td>
<td>18</td>
<td>18</td>
<td>13</td>
<td>56</td>
<td>16</td>
</tr>
<tr>
<td>Instructor/Lecturer</td>
<td>45</td>
<td>21</td>
<td>15</td>
<td>11</td>
<td>60</td>
<td>17</td>
</tr>
<tr>
<td>Visiting Faculty</td>
<td>14</td>
<td>6</td>
<td>11</td>
<td>8</td>
<td>25</td>
<td>7</td>
</tr>
<tr>
<td>Totals</td>
<td>216</td>
<td>62</td>
<td>134</td>
<td>38</td>
<td>350</td>
<td></td>
</tr>
<tr>
<td>6. Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>111</td>
<td>56</td>
<td>63</td>
<td>50</td>
<td>174</td>
<td>54</td>
</tr>
<tr>
<td>Men</td>
<td>88</td>
<td>44</td>
<td>63</td>
<td>50</td>
<td>151</td>
<td>46</td>
</tr>
<tr>
<td>Totals</td>
<td>199</td>
<td>61</td>
<td>126</td>
<td>39</td>
<td>325</td>
<td></td>
</tr>
<tr>
<td>7. Race/ ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>175</td>
<td>81</td>
<td>106</td>
<td>79</td>
<td>281</td>
<td>80</td>
</tr>
<tr>
<td>Decline to answer</td>
<td>29</td>
<td>13</td>
<td>15</td>
<td>11</td>
<td>44</td>
<td>13</td>
</tr>
<tr>
<td>All Others</td>
<td>12</td>
<td>6</td>
<td>13</td>
<td>10</td>
<td>25</td>
<td>7</td>
</tr>
<tr>
<td>Totals</td>
<td>216</td>
<td>62</td>
<td>134</td>
<td>38</td>
<td>350</td>
<td></td>
</tr>
</tbody>
</table>
organizational nimbleness, and Mission, a measure of organizational purpose and direction, were slightly lower, each with an average of 2.83. Implications with respect to these findings are discussed in chapter five. Tables 8, 9, 10, and 11 summarize the DOCS data collected and analyzed in this study for each item, index and trait. These tables also include the Cronbach’s alpha for indices and traits. This measure is an estimate of the reliability of the instrument; a value of 0.70 or greater indicates an acceptable level internal consistency (Cortina, 1992). The overall reliability for the 60 items DOCS survey is high with a Cronbach’s alpha of 0.97.
Table 8

*Descriptive Statistics for Involvement Trait (n=350)*

<table>
<thead>
<tr>
<th>Involvement trait</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Empowerment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Most faculty are highly involved in their work.</td>
<td>3.99</td>
<td>0.91</td>
</tr>
<tr>
<td>2. Decisions are usually made at the level where the best information is available.</td>
<td>2.47</td>
<td>1.03</td>
</tr>
<tr>
<td>3. Information is widely shared so that everyone can get the information he or she needs when it's needed.</td>
<td>2.59</td>
<td>1.15</td>
</tr>
<tr>
<td>4. Every faculty member that s/he can have a positive impact on this campus.</td>
<td>2.95</td>
<td>1.16</td>
</tr>
<tr>
<td>5. Planning for the future is ongoing and involves everyone in the process to some degree.</td>
<td>2.95</td>
<td>1.25</td>
</tr>
<tr>
<td><em><em>Empowerment Index (α=0.78</em>)</em>*</td>
<td>2.99</td>
<td>0.80</td>
</tr>
<tr>
<td><strong>Orientation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Cooperation across different parts of this campus is actively encouraged.</td>
<td>3.12</td>
<td>1.11</td>
</tr>
<tr>
<td>7. Faculty work like they are part of a team.</td>
<td>2.85</td>
<td>1.13</td>
</tr>
<tr>
<td>8. Teamwork is used to get work done, rather than hierarchy.</td>
<td>2.66</td>
<td>1.18</td>
</tr>
<tr>
<td>9. Teams are our primary building blocks.</td>
<td>2.67</td>
<td>1.02</td>
</tr>
<tr>
<td>10. Work is organized so that each faculty member can see the relationship between his or her work and the goals of this campus.</td>
<td>2.50</td>
<td>1.05</td>
</tr>
<tr>
<td><em><em>Team Orientation Index (α=0.85</em>)</em>*</td>
<td>2.76</td>
<td>0.87</td>
</tr>
<tr>
<td><strong>Capability</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Authority is delegated so that people can act on their own.</td>
<td>3.00</td>
<td>1.09</td>
</tr>
<tr>
<td>12. The academic capability of the faculty is constantly improving.</td>
<td>3.36</td>
<td>1.06</td>
</tr>
<tr>
<td>13. There is continuous investment in the skills of the faculty.</td>
<td>2.77</td>
<td>1.16</td>
</tr>
<tr>
<td>14. The capabilities of faculty are viewed as an important source of competitive advantage.</td>
<td>3.07</td>
<td>1.23</td>
</tr>
<tr>
<td>15. Problems often arise because we do not have the skills necessary to do our work as faculty members. (Reversed Scale)</td>
<td>3.65</td>
<td>0.95</td>
</tr>
<tr>
<td><em><em>Capability Development Index (α=0.71</em>)</em>*</td>
<td>3.17</td>
<td>0.75</td>
</tr>
<tr>
<td><strong>Involvement trait (average of above 3 indices)</strong></td>
<td>2.97</td>
<td>0.73</td>
</tr>
</tbody>
</table>

Note: α=Cronbach’s alpha
Table 9

*Descriptive Statistics for Consistency Trait (n=350)*

<table>
<thead>
<tr>
<th>Consistency trait</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Core Values</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. The President, Provost, Deans and other administrators &quot;practice what they preach&quot;.</td>
<td>2.41</td>
<td>1.09</td>
</tr>
<tr>
<td>17. The President, Provost, Deans and other administrators have a characteristic management style and a distinct set of management practices.</td>
<td>3.44</td>
<td>0.97</td>
</tr>
<tr>
<td>18. There is a clear and consistent set of values that governs the way we do business on our campus.</td>
<td>2.88</td>
<td>0.98</td>
</tr>
<tr>
<td>19. Ignoring core values will get you in trouble.</td>
<td>3.64</td>
<td>0.95</td>
</tr>
<tr>
<td>20. There is an ethical code that guides our behavior and tells us right from wrong.</td>
<td>3.81</td>
<td>0.84</td>
</tr>
<tr>
<td>Core Values Index (<em>α=0.70</em>)</td>
<td>3.24</td>
<td>0.56</td>
</tr>
<tr>
<td><strong>Agreement</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. When disagreements occur, we work hard to achieve &quot;win-win&quot; solutions.</td>
<td>2.86</td>
<td>1.04</td>
</tr>
<tr>
<td>22. There is a &quot;strong&quot; culture on this campus.</td>
<td>2.97</td>
<td>1.07</td>
</tr>
<tr>
<td>23. It is easy to reach consensus on campus, even on difficult issues.</td>
<td>2.34</td>
<td>0.86</td>
</tr>
<tr>
<td>24. We often have trouble on this campus reaching agreement on key issues. (Reversed Scale)</td>
<td>2.52</td>
<td>0.92</td>
</tr>
<tr>
<td>25. There is a clear agreement about the right way and the wrong way to do things on this campus.</td>
<td>2.48</td>
<td>0.87</td>
</tr>
<tr>
<td>Agreement Index (<em>α=0.81</em>)</td>
<td>2.63</td>
<td>0.72</td>
</tr>
<tr>
<td><strong>Coordination &amp; Integration</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. Our approach to education is very consistent and predictable on this campus.</td>
<td>2.77</td>
<td>1.06</td>
</tr>
<tr>
<td>27. Faculty from different parts of the campus share a common perspective.</td>
<td>2.67</td>
<td>0.99</td>
</tr>
<tr>
<td>28. It is easy to coordinate projects across different parts of the campus.</td>
<td>2.54</td>
<td>0.99</td>
</tr>
<tr>
<td>29. Working with someone from another part of this campus is like working with someone from a different university. (Reversed Scale)</td>
<td>3.13</td>
<td>0.97</td>
</tr>
<tr>
<td>30. There is good alignment of goals across this campus.</td>
<td>2.74</td>
<td>0.97</td>
</tr>
<tr>
<td>Coordination &amp; Integration Index (<em>α=0.79</em>)</td>
<td>2.77</td>
<td>0.74</td>
</tr>
<tr>
<td>Consistency trait (average of above 3 indices)</td>
<td>2.88</td>
<td>0.57</td>
</tr>
</tbody>
</table>

Note: *α=Cronbach’s alpha
Table 10

**Descriptive Statistics for Adaptability Trait (n=350)**

<table>
<thead>
<tr>
<th>Adaptability trait</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Creating Change</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31. The way things are done is very flexible and easy to change on this campus.</td>
<td>2.08</td>
<td>0.89</td>
</tr>
<tr>
<td>32. We respond well to competitors and other changes in the environment of higher education.</td>
<td>2.83</td>
<td>1.02</td>
</tr>
<tr>
<td>33. New and improved ways to teach and do research are continually adopted.</td>
<td>3.32</td>
<td>0.99</td>
</tr>
<tr>
<td>34. Attempts to create change usually meet with resistance. (Reversed Scale)</td>
<td>2.55</td>
<td>0.97</td>
</tr>
<tr>
<td>35. Different parts of the campus often cooperate to create change.</td>
<td>2.97</td>
<td>0.90</td>
</tr>
<tr>
<td><em><em>Creating Change Index (α=0.78</em>)</em>*</td>
<td>2.75</td>
<td>0.70</td>
</tr>
<tr>
<td><strong>Student Focus</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36. Student comments and recommendations often lead to changes.</td>
<td>2.95</td>
<td>1.02</td>
</tr>
<tr>
<td>37. Student input directly influences our decisions.</td>
<td>3.08</td>
<td>1.02</td>
</tr>
<tr>
<td>38. All faculty members have a deep understanding of student wants and needs.</td>
<td>2.54</td>
<td>0.96</td>
</tr>
<tr>
<td>39. The interests of the students often get ignored in our decisions. (Reversed Scale)</td>
<td>3.32</td>
<td>1.04</td>
</tr>
<tr>
<td>40. We encourage faculty to have direct contact with the entire student body.</td>
<td>3.28</td>
<td>1.03</td>
</tr>
<tr>
<td><em><em>Student Focus Index (α=0.79</em>)</em>*</td>
<td>3.03</td>
<td>0.75</td>
</tr>
<tr>
<td><strong>Organizational Learning</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41. We view failure as an opportunity for learning and improvement.</td>
<td>2.94</td>
<td>0.94</td>
</tr>
<tr>
<td>42. Innovation and risk taking are encouraged and rewarded.</td>
<td>2.83</td>
<td>1.04</td>
</tr>
<tr>
<td>43. Lots of things &quot;fall between the cracks&quot;. (Reversed Scale)</td>
<td>2.43</td>
<td>0.93</td>
</tr>
<tr>
<td>44. Faculty learning is an important objective in our day-to-day work.</td>
<td>2.94</td>
<td>1.05</td>
</tr>
<tr>
<td>45. We make certain that the &quot;right hand knows what the left hand is doing&quot;.</td>
<td>2.37</td>
<td>0.92</td>
</tr>
<tr>
<td><em><em>Organizational Learning Index (α=0.82</em>)</em>*</td>
<td>2.70</td>
<td>0.75</td>
</tr>
</tbody>
</table>

**Note: α=Cronbach’s alpha**
Table 11

**Descriptive Statistics for Mission Trait (n=350)**

<table>
<thead>
<tr>
<th>Mission trait</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategic Direction &amp; Intent</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>46. There is a long-term purpose and direction on this campus.</td>
<td>3.12</td>
<td>1.17</td>
</tr>
<tr>
<td>47. Our strategy leads other universities to change the way they compete in higher education.</td>
<td>2.66</td>
<td>0.88</td>
</tr>
<tr>
<td>48. There is a clear mission that gives meaning and direction to our work.</td>
<td>2.94</td>
<td>1.09</td>
</tr>
<tr>
<td>49. There is a clear strategy for the future.</td>
<td>2.94</td>
<td>1.07</td>
</tr>
<tr>
<td>50. Our strategic direction is unclear to me. (Reversed Scale)</td>
<td>2.77</td>
<td>1.16</td>
</tr>
<tr>
<td><em><em>Strategic Direction &amp; Intent Index (α=0.89</em>)</em>*</td>
<td>2.89</td>
<td>0.91</td>
</tr>
<tr>
<td><strong>Goals &amp; Objectives</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>51. There is widespread agreement about goals.</td>
<td>2.57</td>
<td>0.96</td>
</tr>
<tr>
<td>52. The President, Provost, Deans and other administrators set goals that are ambitious, but realistic.</td>
<td>2.74</td>
<td>1.09</td>
</tr>
<tr>
<td>53. The President, Provost, Deans and other administrators have &quot;gone on record&quot; about the objectives we are trying to meet.</td>
<td>3.49</td>
<td>0.98</td>
</tr>
<tr>
<td>54. We continuously track our progress against our stated goals.</td>
<td>3.07</td>
<td>0.94</td>
</tr>
<tr>
<td>55. Faculty members understand what needs to be done for us to succeed in the long run.</td>
<td>3.03</td>
<td>1.01</td>
</tr>
<tr>
<td><em><em>Goals &amp; Objectives Index (α=0.75</em>)</em>*</td>
<td>2.98</td>
<td>0.70</td>
</tr>
<tr>
<td><strong>Vision</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>56. We have a shared vision of what the campus will be like in the future</td>
<td>2.44</td>
<td>0.95</td>
</tr>
<tr>
<td>57. The President, Provost, Deans and other administrators have a long-term viewpoint.</td>
<td>3.33</td>
<td>1.05</td>
</tr>
<tr>
<td>58. Short-term thinking often compromises our long-term vision. (Reversed Scale)</td>
<td>2.36</td>
<td>1.00</td>
</tr>
<tr>
<td>59. Our vision creates excitement and motivation for our faculty.</td>
<td>2.34</td>
<td>0.98</td>
</tr>
<tr>
<td>60. We are able to meet short-term demands without compromising our long-term vision.</td>
<td>2.63</td>
<td>0.92</td>
</tr>
<tr>
<td><em><em>Vision Index (α=0.85</em>)</em>*</td>
<td>2.62</td>
<td>0.77</td>
</tr>
<tr>
<td><strong>Mission trait (average of above 3 indices)</strong></td>
<td>2.83</td>
<td>0.74</td>
</tr>
</tbody>
</table>

Note: α=Cronbach’s alpha
Results by Research Question

The analysis for this study was based on seven research questions that compared the perceived organizational culture as measured by DOCS among Arts and Sciences faculty at institutions that engage in collective bargaining for faculty and those that do not with respect to a number of demographic attributes. For all statistical analysis in this study $\alpha=0.05$ was the significance level used for inferential results.

Research Question #1

What are the differences in perceived organizational culture among full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio?

Independent samples t-tests were utilized to determine if there were statistically significant differences in the four DOCS trait scores between faculty teaching at union and non-union universities. Table 12 summarizes the results of these tests.

Table 12

<table>
<thead>
<tr>
<th>Trait</th>
<th>Union n=216</th>
<th>Non-union n=134</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Involvement</td>
<td>2.99</td>
<td>0.69</td>
<td>2.95</td>
<td>0.78</td>
</tr>
<tr>
<td>Consistency</td>
<td>2.89</td>
<td>0.55</td>
<td>2.87</td>
<td>0.61</td>
</tr>
<tr>
<td>Adaptability</td>
<td>2.82</td>
<td>0.65</td>
<td>2.85</td>
<td>0.61</td>
</tr>
<tr>
<td>Mission</td>
<td>2.90</td>
<td>0.74</td>
<td>2.71</td>
<td>0.78</td>
</tr>
</tbody>
</table>

Note. ** Significant at $\alpha=.05$. Cohen’s d=0.254.

T-test results revealed a difference in only one trait - Mission - in which unionized faculty report more agreement than non-union faculty. This result indicates that faculty teaching
on unionized campuses report a greater understanding of the purpose and direction of their university as well as their role in moving the campus towards the shared vision of the future. No statistically significant (α=.05) differences were found in the traits of Involvement, Consistency, and Adaptability traits between the union and non-union faculty. Because unionization had no statistically significant effect on them, subsequent testing of the scores on these three traits was conducted using just the demographic variables. The demographic variables, enumerated in research questions two through seven, were tested sequentially with one-way ANOVA to determine statistically significant difference in scores on the three traits: Involvement, Consistency, and Adaptability. The unionized faculty scored higher than non-unionized faculty on Mission; since the responses for the Mission trait did vary significantly with union status, further analysis was warranted on this trait. The Mission trait was analyzed with a factorial ANOVA using two independent variables, union status and a demographic variable for each research question two through seven.

**Research Question #2**

What are the differences in perceived organizational culture among tenured, tenure eligible and non-tenure eligible full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio?

There were three categories for tenure status: tenured, tenure track, and non-tenure track. A one-way ANOVA was conducted for the three traits, Involvement, Consistency, and Adaptability, with respect to tenure status, the results are displayed in Table 13. The results of the ANOVA indicated that there was a statistically significant difference in the scores on three traits among the three tenure status groups. The post hoc tests (Bonferroni’s) revealed that the tenured group’s perceptions were statistically significantly lower than both the tenure track and
non-tenure track groups for Involvement, Consistency and Adaptability. There was no statistically significant difference between the tenure track and non-tenure track groups for these three traits.

Table 13

**ANOVA Results for Traits by Tenure Status (N=339)**

<table>
<thead>
<tr>
<th></th>
<th>Tenured a</th>
<th></th>
<th>Tenure track b</th>
<th></th>
<th>Non-tenure track b</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Involvement</td>
<td>205</td>
<td>2.82</td>
<td>0.68</td>
<td>42</td>
<td>3.14</td>
<td>0.65</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>92</td>
<td>3.24</td>
<td>0.78</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consistency</td>
<td>205</td>
<td>2.75</td>
<td>0.54</td>
<td>42</td>
<td>3.01</td>
<td>0.55</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>92</td>
<td>3.10</td>
<td>0.58</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adaptability</td>
<td>205</td>
<td>2.70</td>
<td>0.59</td>
<td>42</td>
<td>2.98</td>
<td>0.63</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>92</td>
<td>3.05</td>
<td>0.67</td>
</tr>
</tbody>
</table>

Note. Post hoc tests revealed a significantly different from b at α=.05 for union and non-union.

Table 14 presents the descriptive statistics for the Mission trait partitioned by unionization for the three tenure status categories: tenured, tenure track, and non-tenure track.

Table 14

**Descriptive Statistics for Mission Trait by Union Status and Tenure Status (N=339)**

<table>
<thead>
<tr>
<th></th>
<th>Union n=207</th>
<th></th>
<th>Non-union n=132</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M</td>
<td>SD</td>
<td>n</td>
</tr>
<tr>
<td>Tenured a</td>
<td>116</td>
<td>2.73</td>
<td>0.69</td>
<td>89</td>
</tr>
<tr>
<td>Tenure track b</td>
<td>27</td>
<td>3.09</td>
<td>0.58</td>
<td>15</td>
</tr>
<tr>
<td>Non-tenure track b</td>
<td>64</td>
<td>3.13</td>
<td>0.73</td>
<td>28</td>
</tr>
</tbody>
</table>

Note. Factorial ANOVA post hoc results: a scored lower than b for tenure status regardless of union status; α=.05.
A factorial ANOVA was conducted to compare the scores for the dependent variable, Mission trait, with respect to the two independent variables, union status and tenure status. The results of this test are shown in Table 15. The analysis revealed that the scores on the Mission trait were significantly different with respect to tenure status, but not union status. The factorial ANOVA indicated that there was no significant interaction effect between the independent variables union status and tenure status with respect to the Mission trait. The main effect results revealed that Mission trait scores were significantly different with respect to tenure status, $F(2,333)=14.29$, $p<.001$, partial $\eta^2=0.079$. A Bonferroni’s post hoc test was conducted to determine which categories of tenure status had significantly different scores on the Mission trait. Results revealed that tenured faculty had significantly lower Mission trait scores that both the tenure track and non-tenure track faculty.

Table 15

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>$F$</th>
<th>$p$</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Union status</td>
<td>1, 333</td>
<td>1.59</td>
<td>0.209</td>
<td>0.005</td>
</tr>
<tr>
<td>Tenure status</td>
<td>2, 333</td>
<td>14.29**</td>
<td>&lt;0.001</td>
<td>0.079</td>
</tr>
<tr>
<td>Union status*Tenure status</td>
<td>2, 333</td>
<td>0.39</td>
<td>0.677</td>
<td>0.002</td>
</tr>
</tbody>
</table>

Note. ** Significant at $\alpha=.05$

**Research Question #3**

What are the differences in perceived organizational culture among full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio as a function of the number of years they have taught at their present institution?

In the administered survey the participants were asked to enter the number of years that they had been teaching at their present institution, there were no range of years categories options for this item. The responses ranged from one to 44 years and were placed into categories
before further analysis, this process was explained in chapter three. The categories were 1-4 years, 5-9 years, 10-14 years, 15-19 years, 20 to 24 years, and 25 years and over. A one-way ANOVA was conducted for the three traits, Involvement, Consistency, and Adaptability, with respect to the categorized number of years teaching. The results are displayed in Table 16. Examination of the one-way ANOVA revealed that there was a statistically significant difference in the scores on all three traits with respect to years of teaching. The post hoc test (Bonferroni’s) indicated that scores of the participants teaching for 1-4 years were statistically significantly higher than all other groups for Involvement and Consistency traits. For the Adaptability trait 1-4, 5-9, and 20-25 years were statistically significantly higher than the 10-14 and 15-19 year groups.
Table 16

ANOVA results for Traits by Years of Teaching (N=297)

<table>
<thead>
<tr>
<th>Trait</th>
<th>1 - 4 years</th>
<th>5 - 9 years</th>
<th>10-14 years</th>
<th>15-19 years</th>
<th>20-24 years</th>
<th>25+ years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M</td>
<td>SD</td>
<td>F(5,291)</td>
<td>p</td>
<td></td>
</tr>
<tr>
<td>Involvement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ANOVA result between groups</td>
</tr>
<tr>
<td>1 - 4 years</td>
<td>61</td>
<td>3.45</td>
<td>0.68</td>
<td>F(5,291)=8.962, p&lt;.0001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 - 9 years</td>
<td>66</td>
<td>3.00</td>
<td>0.67</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-14 years</td>
<td>46</td>
<td>2.70</td>
<td>0.68</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-19 years</td>
<td>38</td>
<td>2.75</td>
<td>0.66</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-24 years</td>
<td>36</td>
<td>2.92</td>
<td>0.73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25+ years</td>
<td>50</td>
<td>2.79</td>
<td>0.71</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Consistency

<table>
<thead>
<tr>
<th></th>
<th>1 - 4 years</th>
<th>5 - 9 years</th>
<th>10-14 years</th>
<th>15-19 years</th>
<th>20-24 years</th>
<th>25+ years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M</td>
<td>SD</td>
<td>F(5,291)=18.54, p&lt;.0001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 - 4 years</td>
<td>61</td>
<td>3.25</td>
<td>0.57</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 - 9 years</td>
<td>66</td>
<td>2.90</td>
<td>0.53</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-14 years</td>
<td>46</td>
<td>2.64</td>
<td>0.49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-19 years</td>
<td>38</td>
<td>2.75</td>
<td>0.58</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-24 years</td>
<td>36</td>
<td>2.82</td>
<td>0.58</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25+ years</td>
<td>50</td>
<td>2.71</td>
<td>0.56</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Adaptability

<table>
<thead>
<tr>
<th></th>
<th>1 - 4 years</th>
<th>5 - 9 years</th>
<th>10-14 years</th>
<th>15-19 years</th>
<th>20-24 years</th>
<th>25+ years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M</td>
<td>SD</td>
<td>F(5,291)=8.54, p&lt;.0001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 - 4 years</td>
<td>61</td>
<td>3.14</td>
<td>0.65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 - 9 years</td>
<td>66</td>
<td>2.85</td>
<td>0.59</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-14 years</td>
<td>46</td>
<td>2.59</td>
<td>0.58</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-19 years</td>
<td>38</td>
<td>2.63</td>
<td>0.54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-24 years</td>
<td>36</td>
<td>2.88</td>
<td>0.59</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25+ years</td>
<td>50</td>
<td>2.63</td>
<td>0.66</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Post hoc results: a scored higher than b for Involvement, Consistency and Adaptability traits; α=.05.

Table 17 presents the descriptive statistics for the Mission trait partitioned by union status for the six categories of years teaching: 1-4 years, 5-9 years, 10-14 years, 15-19 years, 20-24 years, and 25 years and over.
A factorial ANOVA was conducted to compare the scores for the dependent variable, Mission trait, with respect to the two independent variables, union status and years of teaching. The results of this test are shown in Table 18. The analysis showed that the scores on the Mission trait were significantly different with respect to both years of teaching and union status. The factorial ANOVA indicated that there was no significant interaction effect between the independent variables union status and years of teaching with respect to the Mission trait. The main effect results revealed that unionized faculty had higher scores on the Mission trait, $F(1,285)=5.440$, $p<.020$, partial $\eta^2=0.019$. Mission trait scores were also significantly different for faculty with different Years of Teaching, $F(2,285)=4.563$, $p<.001$, $\eta^2=0.074$. A Bonferroni’s post hoc test was conducted to determine which categories of years of teaching had significantly different scores on the Mission trait. Results revealed that the faculty with 10-14, 15-19 and 20-24 years of teaching experience had significantly lower scores on the Mission trait than all other faculty.
Table 18

Results of Factorial ANOVA for Mission Trait with Respect to Union Status and Years of Teaching

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>F</th>
<th>p</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Union Status</td>
<td>1, 285</td>
<td>5.440**</td>
<td>0.020</td>
<td>0.019</td>
</tr>
<tr>
<td>Years of teaching</td>
<td>2, 285</td>
<td>4.563**</td>
<td>0.001</td>
<td>0.074</td>
</tr>
<tr>
<td>Union status*Years of teaching</td>
<td>2, 285</td>
<td>0.518</td>
<td>0.763</td>
<td>0.009</td>
</tr>
</tbody>
</table>

Note. ** Significant at α=.05

Research Question #4

What are the differences in perceived organizational culture among full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio as a function of content area expertise?

A one-way ANOVA was conducted for the three traits, Involvement, Consistency, and Adaptability, with respect to four content areas: Arts, Humanities, Natural Sciences and Mathematics, and Social Sciences. Table 19 presents the results of this analysis. Examination of the ANOVA indicated that there was a statistically significant difference in the scores for the Involvement trait with respect to content area. The post hoc test (Bonferroni’s) revealed that the Involvement trait scores of the Natural Sciences and Mathematics faculty were significantly higher than those of the Arts, Humanities and the Social Sciences for the Involvement trait.
Table 19

*ANOVA Results for Three Traits by Content Area Expertise (N=342)*

<table>
<thead>
<tr>
<th>Trait</th>
<th>Arts</th>
<th>Humanities</th>
<th>Natural Sciences and Mathematics</th>
<th>Social Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Involvement</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>M</td>
<td>SD</td>
<td>ANOVA result between groups</td>
</tr>
<tr>
<td>Involvement</td>
<td>14</td>
<td>2.91</td>
<td>0.81</td>
<td>( F(3,338)=4.096, p&lt; .007 )</td>
</tr>
<tr>
<td>Humanities</td>
<td>122</td>
<td>2.88</td>
<td>0.76</td>
<td></td>
</tr>
<tr>
<td>Natural Sciences and Mathematics</td>
<td>88</td>
<td>3.16</td>
<td>0.65</td>
<td></td>
</tr>
<tr>
<td>Social Sciences</td>
<td>118</td>
<td>2.89</td>
<td>0.71</td>
<td></td>
</tr>
</tbody>
</table>

| **Consistency** |       |            |                                  |                 |
| Consistency     | n     | M          | SD                               | ANOVA result between groups |
| Arts            | 14    | 2.90       | 0.61                             | \( F(3,338)=1.236, p< .297 \) |
| Humanities      | 122   | 2.86       | 0.59                             |                  |
| Natural Sciences and Mathematics | 88    | 2.93       | 0.51                             |                  |
| Social Sciences | 118   | 2.83       | 0.60                             |                  |

| **Adaptability** |       |            |                                  |                 |
| Adaptability    | n     | M          | SD                               | ANOVA result between groups |
| Arts            | 14    | 2.91       | 0.63                             | \( F(3,338)=1.939, p< .123 \) |
| Humanities      | 122   | 2.85       | 0.63                             |                  |
| Natural Sciences and Mathematics | 88    | 2.89       | 0.57                             |                  |
| Social Sciences | 118   | 2.73       | 0.69                             |                  |

Note. Post hoc results: \(^a\) scored higher than \(^b\) for only the Involvement trait; \(\alpha=.05\).

Table 20 presents the descriptive statistics for the Mission trait partitioned by union and non-union for the four content areas: Arts, Humanities, Natural Sciences and Mathematics, and Social Sciences.
Table 20

Descriptive Statistics for Mission Trait by Union Status and Content Area

<table>
<thead>
<tr>
<th></th>
<th>Union n=210</th>
<th></th>
<th>Non-union n=132</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n  M  SD</td>
<td>n  M  SD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arts</td>
<td>12 2.97 0.71</td>
<td>2 2.17 1.27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humanities</td>
<td>67 2.94 0.70</td>
<td>55 2.64 0.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural sciences and Mathematics</td>
<td>54 2.89 0.73</td>
<td>34 2.82 0.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Sciences</td>
<td>77 2.82 0.71</td>
<td>41 2.78 0.73</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A factorial ANOVA was conducted to compare the scores for the dependent variable, Mission trait, with respect to the two independent variables, union status and content area. The results of this test are shown in Table 21. The analysis showed that the scores on the Mission trait were significantly different with respect to union status. The factorial ANOVA indicated that there was no significant interaction effect between the independent variables union status and content area with respect to the Mission trait. The main effect results revealed that unionized faculty had higher scores on the Mission trait, $F(1,334)=5.712$, $p<.017$, partial $\eta^2=0.017$. The test did not support the hypothesis that Mission trait scores differed by content area.

Table 21

Results of Factorial ANOVA for Mission Trait with Respect to Union Status and Content Area

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>F</th>
<th>p</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Union status</td>
<td>1,334</td>
<td>5.712**</td>
<td>0.017</td>
<td>0.017</td>
</tr>
<tr>
<td>Content area</td>
<td>3,334</td>
<td>0.205</td>
<td>0.893</td>
<td>0.002</td>
</tr>
<tr>
<td>Union status*Content area</td>
<td>3,334</td>
<td>1.549</td>
<td>0.202</td>
<td>0.014</td>
</tr>
</tbody>
</table>

Note. ** Significant at $\alpha=.05$
Research Question #5

What are the differences in perceived organizational culture among full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio as a function of their rank?

The survey participants were given seven options: instructor, lecturer, senior lecturer, assistant professor, associate professor, full professor, and visiting to describe their current academic appointment. The categories of instructor, lecturer, and senior lecturer were grouped together to facilitate statistical testing; this process is described in chapter three. A one way ANOVA was conducted for the three traits, Involvement, Consistency, and Adaptability, with respect to academic rank, the results are presented in Table 22. The independent variable, academic rank, had five categories: instructor/lecturer, assistant professor, associate professor, full professor, and visiting. Examination of the one-way ANOVA indicated that there were statistically significant differences in the scores for all three traits with respect to academic rank. The post hoc tests revealed that instructor/lecturers and assistant professors had statistically significantly higher scores than associate and full professors on all three traits. The visiting faculty scores for all three traits were not statistically significantly different from those of the instructor/lecturers and assistant professors.
### ANOVA Results for Three Traits by Academic Rank (N=350)

<table>
<thead>
<tr>
<th>Trait</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>ANOVA result between groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involvement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructor/lecturer</td>
<td>a</td>
<td>60</td>
<td>3.16</td>
<td>0.77</td>
</tr>
<tr>
<td>Assistant professor</td>
<td>a</td>
<td>56</td>
<td>3.21</td>
<td>0.68</td>
</tr>
<tr>
<td>Associate professor</td>
<td>b</td>
<td>101</td>
<td>2.80</td>
<td>0.65</td>
</tr>
<tr>
<td>Full professor</td>
<td>b</td>
<td>108</td>
<td>2.86</td>
<td>0.71</td>
</tr>
<tr>
<td>Visiting</td>
<td>b</td>
<td>25</td>
<td>3.21</td>
<td>0.82</td>
</tr>
<tr>
<td>Consistency</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructor/lecturer</td>
<td>a</td>
<td>60</td>
<td>3.07</td>
<td>0.50</td>
</tr>
<tr>
<td>Assistant/Professor</td>
<td>a</td>
<td>56</td>
<td>3.02</td>
<td>0.56</td>
</tr>
<tr>
<td>Associate professor</td>
<td>b</td>
<td>101</td>
<td>2.77</td>
<td>0.56</td>
</tr>
<tr>
<td>Full professor</td>
<td>b</td>
<td>108</td>
<td>2.76</td>
<td>0.54</td>
</tr>
<tr>
<td>Visiting</td>
<td>b</td>
<td>25</td>
<td>3.08</td>
<td>0.74</td>
</tr>
<tr>
<td>Adaptability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructor/lecturer</td>
<td>a</td>
<td>60</td>
<td>3.02</td>
<td>0.66</td>
</tr>
<tr>
<td>Assistant professor</td>
<td>a</td>
<td>56</td>
<td>3.02</td>
<td>0.62</td>
</tr>
<tr>
<td>Associate professor</td>
<td>b</td>
<td>101</td>
<td>2.69</td>
<td>0.57</td>
</tr>
<tr>
<td>Full professor</td>
<td>b</td>
<td>108</td>
<td>2.74</td>
<td>0.61</td>
</tr>
<tr>
<td>Visiting</td>
<td>b</td>
<td>25</td>
<td>2.90</td>
<td>0.79</td>
</tr>
</tbody>
</table>

Note. Post hoc results: a scores higher than b for all three traits; α=.05.

Table 23 presents the descriptive statistics for the Mission trait partitioned by unionization for the five academic rank categories, instructor/lecturer, assistant professor, associate professor, full professor and visiting.
Table 23

Descriptive Statistics for Mission Trait by Union Status and Academic Rank

<table>
<thead>
<tr>
<th></th>
<th>Union n=216</th>
<th></th>
<th>Non-union n=134</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M</td>
<td>SD</td>
<td>n</td>
</tr>
<tr>
<td>Instructor/lecturer</td>
<td>45</td>
<td>3.11</td>
<td>0.72</td>
<td>15</td>
</tr>
<tr>
<td>Assistant professor</td>
<td>38</td>
<td>3.16</td>
<td>0.63</td>
<td>18</td>
</tr>
<tr>
<td>Associate professor</td>
<td>56</td>
<td>2.75</td>
<td>0.67</td>
<td>45</td>
</tr>
<tr>
<td>Full professor</td>
<td>63</td>
<td>2.73</td>
<td>0.70</td>
<td>45</td>
</tr>
<tr>
<td>Visiting</td>
<td>14</td>
<td>2.91</td>
<td>0.70</td>
<td>11</td>
</tr>
</tbody>
</table>

Note. Factorial ANOVA post hoc results:  a scored higher than  b regardless of union status;  α=.05.

A factorial ANOVA was conducted to compare the scores for the dependent variable, Mission trait, with respect to the two independent variables, union status and academic rank. The results of this test are shown in Table 24. The analysis revealed that the scores on the Mission trait were significantly different with respect to academic rank. The factorial ANOVA indicated that there was no significant interaction effect between the independent variables of union status and academic rank with respect to Mission trait scores. The main effect results revealed that that the Mission trait scores differed with respect to academic rank unionized faculty had higher scores on the Mission trait,  \( F(1,285)=5.440, p<.020, \) partial  \( \eta^2=0.019. \) Mission trait scores were also significantly different for faculty with different Years of Teaching,  \( F(4,340)=5.890, p<.001, \)  \( \eta^2=0.065. \) A Bonferroni’s post hoc test was conducted to determine which academic ranks had significantly different scores on the Mission trait. Results revealed that the instructor/lecturer group as well as the assistant professor group had scores that are significantly higher for the Mission trait than associate and full professors; these results are similar to those revealed by the one-way ANOVA on the other three traits.
Table 24

Results of Factorial ANOVA for Mission Trait With Respect to Union Status and Academic Rank

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>F</th>
<th>p</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Union status</td>
<td>1,340</td>
<td>1.013</td>
<td>0.315</td>
<td>0.003</td>
</tr>
<tr>
<td>Academic rank</td>
<td>4,340</td>
<td>5.890**</td>
<td>&lt;.001</td>
<td>0.065</td>
</tr>
<tr>
<td>Union status*Academic rank</td>
<td>4,340</td>
<td>0.954</td>
<td>0.433</td>
<td>0.011</td>
</tr>
</tbody>
</table>

Note. ** Significant at α=.05

Research Question #6

What are the differences in perceived organizational culture among full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio with respect to their gender?

A one way ANOVA was conducted for the three traits, Involvement, Consistency, and Adaptability, with respect to gender, the results are displayed in Table 25. Examination of the one-way ANOVA did not reveal a statistically significant difference in scores on the three traits of Involvement, Consistency, and Adaptability with respect to gender.

Table 25

ANOVA Results for Traits by Gender (N=325)

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>ANOVA Result between groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involvement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Woman</td>
<td>174</td>
<td>2.99</td>
<td>0.74</td>
<td>$F(1,323)=0.120, p&lt;0.912$</td>
</tr>
<tr>
<td>Man</td>
<td>151</td>
<td>3.00</td>
<td>0.72</td>
<td></td>
</tr>
<tr>
<td>Consistency</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Woman</td>
<td>174</td>
<td>2.92</td>
<td>0.59</td>
<td>$F(1,323)=1.389, p&lt;0.239$</td>
</tr>
<tr>
<td>Man</td>
<td>151</td>
<td>2.84</td>
<td>0.57</td>
<td></td>
</tr>
<tr>
<td>Adaptability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Man</td>
<td>174</td>
<td>2.86</td>
<td>0.64</td>
<td>$F(1,323)=1.344, p&lt;0.247$</td>
</tr>
<tr>
<td>Woman</td>
<td>151</td>
<td>2.78</td>
<td>0.65</td>
<td></td>
</tr>
</tbody>
</table>

Table 26 presents the descriptive statistics for the Mission trait partitioned by union status for gender: woman and man.
Table 26

*Descriptive Statistics for Mission Trait by Union Status and Gender*

<table>
<thead>
<tr>
<th></th>
<th>Union n=199</th>
<th></th>
<th>Non-union n=126</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n M SD</td>
<td>n M SD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Woman</td>
<td>111 2.99 0.70</td>
<td>63 2.73 0.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Man</td>
<td>88 2.81 0.74</td>
<td>63 2.72 0.79</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A factorial ANOVA was conducted to compare the scores for the dependent variable, Mission trait, with respect to the two independent variables, union status and gender. The results of this test are shown in Table 27. The analysis showed that the scores on the Mission trait were significantly different with respect to union status. The factorial ANOVA indicated that there was no significant interaction effect between the independent variables union status and gender. The main effect results revealed that unionized faculty had higher scores on the Mission trait, $F(1,321)=4.142$, $p<.043$, partial $\eta^2=0.013$. Neither the one-way ANOVA nor the factorial ANOVA revealed a statistically significant in trait scores with respect to gender.

Table 27

*Results of Factorial ANOVA for Mission Trait With Respect to Union Status and Gender*

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>$F$</th>
<th>$p$</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Union status</td>
<td>1, 321</td>
<td>4.142**</td>
<td>.043</td>
<td>.013</td>
</tr>
<tr>
<td>Gender</td>
<td>2, 321</td>
<td>1.244</td>
<td>.266</td>
<td>.004</td>
</tr>
<tr>
<td>Union status*Gender</td>
<td>2, 321</td>
<td>1.057</td>
<td>.305</td>
<td>.003</td>
</tr>
</tbody>
</table>

Note. ** Significant at $\alpha=.05$

*Research Question #7*

What are the differences in perceived organizational culture among full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio with respect to their race/ethnicity?
In the administered survey, participants were asked to describe their race/ethnicity using six categories: American Indian/Alaskan Native, Asian American/Asian, Black/African American, Hispanic/Latino, Native Hawaiian/Other Pacific Islander, and White/Caucasian. Relatively few participants selected a race/ethnicity other than White/Caucasian, and a number either left the question blank or selected prefer not to answer. Before subjecting these data to analysis the race/ethnicity categories had to be reconfigured so that each category had sufficient numbers; this process is described in chapter three. The three categories for race/ethnicity used in the statistical analysis are: White/Caucasian, All Others, and decline to answer. A one-way ANOVA was conducted for the three traits, Involvement, Consistency, and Adaptability, with respect to race/ethnicity; the results are displayed in Table 28. Examination of the one-way ANOVA results did not reveal a statistically significant effect of race/ethnicity on any of the three traits.

### Table 28

*ANOVA Results for Traits by Race/ethnicity (N=350)*

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>ANOVA result between groups</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Involvement</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>281</td>
<td>2.98</td>
<td>0.73</td>
<td>$F(2,347)=2.235, \ p&lt;0.108$</td>
</tr>
<tr>
<td>All Others</td>
<td>25</td>
<td>3.17</td>
<td>0.80</td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>44</td>
<td>2.80</td>
<td>0.66</td>
<td></td>
</tr>
<tr>
<td><strong>Consistency</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>281</td>
<td>2.88</td>
<td>0.57</td>
<td>$F(2,347)=1.464, \ p&lt;0.233$</td>
</tr>
<tr>
<td>All Others</td>
<td>25</td>
<td>3.02</td>
<td>0.60</td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>44</td>
<td>2.78</td>
<td>0.56</td>
<td></td>
</tr>
<tr>
<td><strong>Adaptability</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>281</td>
<td>2.82</td>
<td>0.63</td>
<td>$F(2,347)=0.134, \ p&lt;0.875$</td>
</tr>
<tr>
<td>All Others</td>
<td>25</td>
<td>2.89</td>
<td>0.72</td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>44</td>
<td>2.82</td>
<td>0.60</td>
<td></td>
</tr>
</tbody>
</table>

Table 29 presents the descriptive statistics for the Mission trait partitioned by unionization for the three race/ethnicity categories, White/Caucasian, All Others, and unknown.
Table 29

Descriptive Statistics for Mission Trait by Union Status and Race/ethnicity

<table>
<thead>
<tr>
<th></th>
<th>Union (n=216)</th>
<th>Non-union (n=134)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M</td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>175</td>
<td>2.88</td>
</tr>
<tr>
<td>All others</td>
<td>12</td>
<td>3.33</td>
</tr>
<tr>
<td>Unknown</td>
<td>29</td>
<td>2.83</td>
</tr>
</tbody>
</table>

A factorial ANOVA was conducted to compare the scores for the dependent variable, Mission trait, with respect to the two independent variables, union status and race/ethnicity. The results of this test are shown in Table 30. The analysis showed that the scores on the Mission trait were significantly different with respect to union status. The factorial ANOVA indicated that there was no significant interaction effect between the independent variables union status and race/ethnicity with respect to the Mission trait. The main effect results revealed that unionized faculty had higher scores on the Mission trait, $F(1,344)=7.691$, $p<.006$, partial $\eta^2=0.022$.

Table 30

Results of Factorial ANOVA for Mission Trait With Respect to Union Status and Race/ethnicity

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>F</th>
<th>p</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Union Status</td>
<td>1,344</td>
<td>7.691**</td>
<td>0.006</td>
<td>0.022</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td>2,344</td>
<td>1.131</td>
<td>0.324</td>
<td>0.007</td>
</tr>
<tr>
<td>Union Status * Race/ethnicity</td>
<td>2,344</td>
<td>1.518</td>
<td>0.221</td>
<td>0.009</td>
</tr>
</tbody>
</table>

Note. ** Significant at $\alpha=.05$

Summary

The purpose of this study was to assess the possible influence of unionization and demographics on faculty perceptions of organizational culture at five state-supported institutions.
of higher education in Ohio. Of the five institutions selected to take part of this study, two did not have a faculty union on campus, while the other three were engaged in collective bargaining and all full-time faculty, regardless of tenure status, were eligible to join the union. The faculty perception of organizational culture was measured by a reliable and valid survey developed by Denison (1984). The data was collected from an e-mail survey that concatenated the 60 item Denison Organizational Survey (DOCS) and an 11 item demographic survey. There were a total of 350 surveys used in this study.

The first research question addressed a possible relationship between unionization and organizational culture as perceived by faculty. The resulting analysis indicated that of the four foundational traits, Involvement, Consistency, Adaptability, and Mission, only the scores for the Mission trait, or the purpose, direction and clarity of goals and objectives of the university, were statistically significantly related to the presence of a faculty union. The second research question, explored the relationship of tenure to perceived organizational culture. Non-tenured and tenure track faculty had higher scores than those who were tenured for all four of the DOCS traits. The third question investigated the relationship of years of teaching to perceptions of organizational culture. Faculty in their first four years of teaching scored statistically significantly higher than those with 10-19 years of teaching on all four traits, but were not statistically different from 5-9 and 20-25 years for Adaptability, and were no different from 5-9,15-19, and 25+ years of teaching for Mission. The fourth question tested the relationship of content area expertise on perceptions of organizational culture; faculty in natural sciences and mathematics as well as arts had statistically significantly higher scores than their peers in Humanities and Social Sciences on the Involvement trait. The other three traits showed no statistically significant difference in scores among the content areas. The academic rank of
faculty, the focus of the fifth research question, was found to be statistically significantly related to DOCS trait scores; assistant professors and instructors/lecturers had higher scores than associate and full professors across all four traits. The sixth and seventh research questions considered the effect of gender and race/ethnicity, respectively, on perceptions of organizational culture. Both gender and race/ethnicity failed to show a statistically significant relationship with DOCS trait scores. Table 31 summarizes the inferential results by Research Question.
Table 31

*Summary of Inferential Results by Research Question*

<table>
<thead>
<tr>
<th>Research Question</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Results reported at α=0.05 level</strong></td>
</tr>
<tr>
<td><strong>DOC trait</strong></td>
</tr>
</tbody>
</table>

1. **What are the differences in perceived organizational culture among full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio?**
   - t-test of independent samples: Union > Non-union
   - Mission

2. **What are the differences in perceived organizational culture among tenured, tenure eligible and non-tenured eligible full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio?**
   - ANOVA: Tenured< Tenure track and Non-tenured
   - Involvement, Consistency, Adaptability
   - Factorial ANOVA: Tenured< Tenure track and Non-tenured
   - Mission

3. **What are the differences in perceived organizational culture among full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio as a function of the number of years they have taught at their present institution?**
   - ANOVA: 1-4 years > all others
   - Involvement, Consistency
   - ANOVA: 1-4, 5-9, 20-25 years > 10-14, 15-19, 25+ years
   - Adaptability
   - Factorial ANOVA: 1-4 ,5-9, 15-19, and 25+ years >10-14 and 20-24 years, and Union > Non-union
   - Mission

4. **What are the differences in perceived organizational culture among full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio as a function of content area expertise?**
   - ANOVA: Arts and Natural Sciences and Mathematics > Humanities and Social Sciences
   - Involvement
   - Factorial ANOVA: Union > Non-union
   - Mission

5. **What are the differences in perceived organizational culture among full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio as a function of their rank?**
   - ANOVA: Instructor/Lecturer and Assistant Professors > Associate Professor and Full Professor
   - Involvement, Consistency
   - Factorial ANOVA: Instructor/Lecturer and Assistant Professor > Associate Professor and Full Professor
   - Adaptability
   - Mission
<table>
<thead>
<tr>
<th>Research Question</th>
<th>Results reported at α=0.05 level</th>
<th>DOC trait</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. What are the differences in perceived organizational culture among full-time</td>
<td>• ANOVA: No statistically significant differences</td>
<td>Involvement</td>
</tr>
<tr>
<td>arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio with respect to their gender?</td>
<td>• Factorial ANOVA: Union &gt; Non-union</td>
<td>Consistency</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adaptability</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mission</td>
</tr>
<tr>
<td>7. What are the differences in perceived organizational culture among full-time</td>
<td>• ANOVA: No statistically significant differences</td>
<td>Involvement</td>
</tr>
<tr>
<td>arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio with respect to their race/ethnicity?</td>
<td>• Factorial ANOVA: Union &gt; Non-unions</td>
<td>Consistency</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adaptability</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mission</td>
</tr>
</tbody>
</table>
CHAPTER V. DISCUSSION AND CONCLUSIONS

The purpose of this study was to empirically assess the organizational culture as perceived by full-time arts and sciences faculty at five state-supported universities in Ohio using the Denison Organizational Culture Survey (DOCS). The responses to the survey were analyzed across the five institutions with respect to the following attributes: unionization, tenure status, number of years teaching, content area expertise, academic rank, gender, and race/ethnicity. Full-time faculty, regardless of tenure status, were participating in collective bargaining at three of the participating universities at the time of the survey.

The data for this study were collected with an online survey that was open for three weeks in February 2013, and was administered through Survey Monkey for all full-time arts and sciences faculty at Kent State University, Miami University, Ohio University, University of Akron, and Wright State University. The participants recruited to take part in the survey were a mix of tenured/tenure track, and non-tenure track, or contingency, full-time faculty employed at these five public comprehensive institutions. After screening, the survey data were analyzed using Statistical Package of the Social Sciences (SPSS). The four DOCS traits - Involvement, Consistency, Adaptability, and Mission - were used to measure the participants’ perception of the organizational culture of their campus. The researcher examined differences in organizational culture between different groups defined by attributes across the five universities. The statistical significance of these differences was determined by several statistical tests to compare group means: t-test of independent samples, analysis of variance (ANOVA), and factorial ANOVA.

Chapter five presents a discussion of the findings of the DOCS and the statistical analyses of those data with respect to the measured attributes. The results of the DOCS are considered
first, followed by the findings of the statistical analyses for each research question. Next, recommendations are offered along with suggestions for future research. The chapter closes with conclusions drawn from the present study.

**Discussion**

**Denison Organizational Culture Survey Trait Scores**

The value for each trait was determined by the average of three indices, and each index was computed as the average of the responses to five items in the survey for that index. A Likert scale that ranged from 1-5 (strongly disagree to strongly agree) was used to solicit the responses for the 60 items. A mean trait score of 3.0 indicated that the participants have a neutral response to the statements in the survey, while a score of 2.0 signified disagreement. The means of the four trait scores calculated for all participating faculty ranged from a low of 2.71 to a high of 2.97.

The mean trait scores for the participants in the current study are generally lower than those reported for DOCS traits in the extant literature (Casida, 2008; Denison et al., 2004; Denison et al., 2006; Fey & Denison, 2003; Glaser et al., 2007; Khan et al., 2010), although the standard deviations are similar. Denison et al. (2004) reported mean trait scores of 3.01 to 3.47 and standard deviations of 0.67 to 0.77 in their analysis of 35,474 participants employed at 160 organizations. In another study, mean trait scores of 2.0 to 2.7 corresponded with firms that had low employee job satisfaction and an overall low effectiveness; scores of 2.9 to 3.3 were moderately effective, whereas those with scores of 3.3 to 4.5 were highly effective (Fey & Denison, 2003). Using this metric, the participants in the current study were employed in a moderately effective organization. Assessing the effectiveness of higher education is a complex and contentious topic that will not be explored in the current study; some of the effectiveness
metrics proposed in the literature include retention of students, time to graduation, retention of graduates in the state (Jaeger & Eagen, 2011; Liu, 2011). In the medical field, high performance critical care facilities had mean trait scores in the 3.5 to 3.7 range (Casida). In a study of a regional government regulatory facility, Glaser, et al. (2007) found that mean trait scores of less than 3.0 indicated a lack of articulation between administrators and employees. Dr. Michael Gillespie (personal communication, April 2013) judged the mean trait scores of the participants in the current study to be low with respect to his experience with DOCS scores for professionals.

At the time this study was conducted the extant literature had no reports of DOCS results for higher education faculty. The majority of quantitative survey studies focused on higher education faculty have been conducted through the lens of the competing values framework, which utilizes at six-item survey (Cameron & Ettington, 1998; Cameron & Freeman, 1991; Cameron & Quinn, 1999; Quinn & Rohrbaugh 1983, Smart & St. John, 1996). A possible explanation for these low DOCS trait scores could be that, typically, university faculty have a propensity to be heterogeneous in their views and perceptions in general and this dissimilitude carries through to their perceptions concerning faculty organizational culture at their university, according to researchers over the last 50 years such as Clark (1963a), Birnbaum (1988), Cameron (1982), Gumport (1997), Keller (1983), Kuh and Whitt (1988), Rhoades (1998), Tierney (1988), and Weick (1982), to name a few. The DOCS results reported in the literature have, for the most part, been with respect to business organizations where homogeneity is favored over heterogeneity.

Rhoades (1998) remarked that many faculty tend to be very independent and are more committed to their own interests rather than that of the institution that employs them; in other words, faculty are more cosmopolitan as defined by Gouldner in 1957. If the tension that faculty
may experience between allegiance to their institution and their dedication to their profession (Keller, 1983) is resolved in favor of the individual and their position in their profession, their commitment to the university may lessen. Gumport (2007) has opined that faculty are not of one mind whether they are self-regulating professionals or employees of a large organization. When faculty members enjoy status and recognition in their field, they may perceive that they work through the university rather than for the university. This change in perspective could lessen their commitment to and involvement with their employing institution. With respect to independence of thought, it seems that faculty celebrate and cultivate their diffuse viewpoints, they pride themselves in the dispersion of their perspectives; most faculty have been grounded in critical thinking and can develop numerous exceptions to a given statement (Birnbaum, 1988; Clark, 1987; Hermanowicz, 2012).

Considering these prevailing attitudes and practices it is not surprising that the overall mean scores on the DOCS traits among full-time arts and sciences faculty at five state-supported universities in Ohio were lower than those found among other professional groups. The faculty in this study had mean trait scores that were marginally negative with ranges from 2.83 to 2.97 for three of the four traits. The comparison of higher education faculty DOCS scores to those of other professionals may not be as informative as comparing mean trait scores between different groups of higher education faculty. As previously noted, at the time of this study the extant literature had no reports of DOCS findings for higher education faculty. The results of the current study, evaluating DOCS mean trait scores with respect to demographic attributes of union status, academic rank, years of teaching, content area, tenure status, gender, and race/ethnicity will contribute to a future database on the organizational culture of higher education faculty.
The highest mean trait scores were found among four different faculty groups: non-tenure track, in their first four years of teaching, instructor/lecturers, and associate professors; with mean trait scores consistently above 3.0. The implication of these findings will be discussed later in this chapter. In comparing the mean trait scores between unionized and non-unionized faculty, it was revealed that only the Mission trait mean scores for the unionized and non-unionized faculty were statistically significantly different, with the unionized faculty scoring higher than the non-unionized. The mean Mission score for the non-union faculty was the lowest mean score over all four traits at 2.71, whereas the unionized faculty had a score of 2.90. The implications of this score will be discussed in detail in the following section.

**Research Questions**

Seven research questions were posed for the current study; each explored the influence of an aspect of academic life or individual attribute on perceived organizational culture of full-time arts and sciences faculty at five state-supported schools in Ohio. The results of the DOCS were grouped for comparison by the following faculty attributes: unionization, tenure status, number of years teaching, content area expertise, academic rank, gender, and race/ethnicity. The following discussion considers each research question in order, comments on the findings of this study with respect to the extant literature, and presents implications based on an interpretation of these results.

**Research Question #1.** What are the differences in perceived organizational culture among full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio?

The target population offered the opportunity to participate in this study were approximately equally divided between unionized (51.4%) and non-unionized (48.6%); however
the unionized faculty had a higher response rate (60%) than the non-unionized (40%) non-unionized faculty. The results of a t-test of independent samples showed that faculty unionization had no effect on the mean scores of three of the four organizational culture traits: Involvement, Consistency, and Adaptability. However, this test revealed that the unionized faculty group scored statistically significantly higher than non-unionized faculty group on the Mission trait, 2.90 and 2.71, respectively. The Mission trait measures the perception of the participants with respect to their comprehension of the purpose, direction and consistency of their university’s goals and strategic objectives, as well as their role as a faculty member, in moving the institution towards the realization of these goals and objectives. Simply put, the Mission trait reflects the perceptions of the members with respect to why the university exists, where it is headed and their part in getting it there; a shared vision for the future.

The results of the t-test with respect to the mean Mission trait scores were considered from two perspectives. One perspective explored possible rationales for unionized faculty having higher Mission trait scores, as per the t-test, while the other dug deeper and investigated the difference in mean Trait scores by institution with a factorial ANOVA.

One perspective for explaining the greater mean for the Mission trait for unionized faculty with respect to non-unionized faculty is that the unionized faculty may be more aware of the mission of their university and that they are mindful of their role in moving the university into the future by virtue of the collective bargaining on campus (DeCew, 2003; Nelson, 2010b; Rhoades, 2007). Faculty on a unionized campus, who are union members, are expected to review and decide whether or not to accept the contract negotiated on their behalf by the union representatives with the university administrators. The evaluation of the proposed contract may encourage them to become more aware of the purpose and direction the university is taking and
the progress that is being made in achieving a shared vision of the future. Although not all faculty on a unionized campus are members of the union and are eligible to vote on the contract, the contract review period stimulates discussion among all faculty as the terms apply to members and non-members alike. Wickens (2008) notes that faculty (union members and non-members) at unionized universities have expressed a sense of empowerment with respect to their potential to shape the goals and objectives of the university through their collective efforts, represented by the union. Thus, from this perspective, it is not surprising that the unionized faculty scored higher on the Mission trait than the non-unionized faculty.

The impetus for the second perspective was the concept of “organizational saga” developed by Clark (1972). “Organizational saga” describes the depth of shared culture that develops on university and college campuses that have been in existence for many years; the older the campus the stronger the shared culture and more universal the vision for the future, or mission (Clark). The oldest higher learning institution in the state of Ohio, Ohio University, and the second oldest, Miami University, comprised the non-unionized universities group in the present study. The oldest universities in the study reporting the lowest Mission trait scores are antithetical to Clark’s model that global subscription to the mission contributes to the strength of institutional culture and that organizational culture strength is proportional to the age of the institution. From a perspective based on Clark’s “organizational saga”, the findings with respect to the Mission trait represent a divergence from an accepted concept and warranted further investigation which follows.

For the second perspective, the participants for this study were grouped not by attributes, professional and personal, but by institution. According to Clark (1972), the oldest institutions should have the highest mean Mission trait scores. To discern how the Mission trait scores varied
by institution, the means for the scores for this trait were subsequently examined by university, a departure from the research design of this study. The level of participation varied by university. University of Akron had 35% response rate, followed by 20.7% at Kent State University, next Miami University 17.6%, then Wright State, 15%, with the lowest Ohio University, 11.5%. The institution with the highest mean Mission trait score was Wright State University (3.10), followed by Miami University (2.85), Kent State University (2.84), University of Akron (2.83), with Ohio University having the lowest score (2.45). While not part of the original research questions for this study, the statistical significance of the differences in these means was tested using a factorial ANOVA. The analysis revealed that the scores for the Mission trait were statistically significantly different across the five institutions at $p < .001$, with $F(4,345)=4.828$, $\eta^2=.053$. The post hoc tests (Bonferroni’s) indicated that the mean Mission score for participants from Ohio University were significantly lower than those of all of the other universities at a significance level of $\alpha=.05$. There was no statistically significant difference among the mean Mission trait scores for the other four universities. Ohio University had the lowest response rate and the lowest Mission trait scores. Over the past several years, a portion of the faculty have participated in several campaigns to bring collective bargaining to Ohio University’s campus, but have yet to achieve the required majority (C. Archer, personal communication, April, 2013).

The mission of many regional and teaching universities, such as the institutions in this study, have been experiencing mission creep since World War II (Wood, 2011). The missions of public comprehensive four-year institutions have become more research oriented; these changes have been driven by administrators responding to economic pressures (Gonzales, 2012). Under financial stress, decision making becomes more centralized resulting in the faculty becoming disenfranchised and they may respond by unionizing to regain their influence (Kissler, 1997).
Indeed, three of the five universities in this study have faculty that engage in collective bargaining with their administration. The significantly lower mean Mission trait scores for the faculty at Ohio University may be a manifestation of the tension between administrators and faculty at this institution as they grapple with the changes in the institution necessitated by constantly dwindling financial resources.

The mean Mission trait score for Miami University, the second oldest higher education institution in the state of Ohio, was not statistically significantly different from the score of the unionized universities in this study. The second perspective suggests that faculty unionization may not have an effect on mean Mission scores. This observation, along with the results of the t-test of independent samples for the other three traits, supports the premise that unionization may not have a significant effect on the perception of organizational culture as measured by the four traits, Involvement, Consistency, Adaptability, and Mission in the DOCS.

Although the t-test of independent samples revealed a significant difference in the Mission trait scores between unionized and non-unionized faculty, the effect size, as measured by Cohen’s d was 0.25, indicating that the means differed by 0.25 standard deviations. This measure suggests that the magnitude of the difference between the two means was small (Cohen, 1992). The subsequent investigation (second perspective) of the differences between Mission trait scores with respect to universities with factorial ANOVA showed that there was a statistically significant difference between mean Mission trait scores among the five universities. The post hoc test (Bonferroni’s) revealed that the mean score for Ohio University was significantly different. However, the magnitude of that difference, as reflected in the effect size measure, was very small, slightly greater than 5% of the variance (Richardson, 2011). The determination of the practical meaning of effect size measurements is dependent upon the
number of studies conducted and the amount of data analyzed with respect to the target population, in this case, higher education faculty (Richardson). The current study explored new territory using DOCS to assess the organizational culture of higher education faculty; the real-world significance of these effect measures has yet to be ascertained. In the absence of well-established measures of effect size for DOCS results for the target population of higher education faculty, both perspectives concerning the interpretation of the Mission trait scores can be considered. However, the first perspective, that unionization has a positive effect on Mission, could be slightly favored, as the effect size was slightly greater.

**Research Question #2.** What are the differences in perceived organizational culture among tenured, tenure eligible and non-tenure eligible full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio?

There were three categories for tenure status in this study, tenured, tenure track, and non-tenure track (or contingency). The response rates for these categories with respect to the population and sample were tenured, 62.3% (population) and 60.5% (sample); tenure track 15.3% (population) and 12.4% (sample), non-tenure track 22.4% (population) and 27.1% (sample). The analysis of the DOCS data revealed that the tenured group’s responses (2.82) were statistically significantly lower than both the tenure track (3.14) and the non-tenure track (3.24) groups for the Involvement trait, as well as the Consistency trait (2.75, 3.01, and 3.10, respectively) and the Adaptability trait (2.70, 2.98, and 3.05, respectively). The Involvement trait reflects the faculty’s commitment to the university and their sense of ownership in the university’s educational endeavor, as well as their perception that they have input into the decisions that affect their work. The Consistency trait assesses the ability of the university to coordinate and integrate processes across the institution. Central to coordination and integration
is the degree of consensus by the faculty on the right and wrong way to do things on campus, an implicit control based on internalized values. The Adaptability trait measures the university’s facility for change in response to external environment. Successful, intentional change is supported by norms and commonly held beliefs. There were no statistically significant differences between the responses of the non-tenure track and tenure track groups for these three traits.

When the mean scores of the Mission trait were statistically tested with respect to tenure status, a pattern similar to the other three traits emerged. The tenured group’s mean Mission score (2.66) was statistically significantly lower than both the tenure track (3.02) and the non-tenure track (3.12) groups. There were no statistically significant differences between the tenure track and the non-tenure track Mission trait means. There was no statistically significant interaction between unionization and tenure status. The Mission trait reflects the degree to which the university has a clear sense of purpose and direction that defines the institution’s goals and objectives and a shared vision of the future.

Keeping in mind that a trait mean of 3.0 on the DOCS instrument indicates a neutral response by the participant, the results of the data analysis of the current study data indicated that the tenure track and the non-tenure track faculty were neutral in their perception of their organizational culture. The tenured faculty, however, had a statistically significantly lower perception of their campus organizational culture than the tenure track and the non-tenure track faculty.

The scores of tenured faculty indicated a lower sense of commitment to the university, than the non-tenured faculty, as well as a perception that they are not involved in making the decisions that affect them. The tenured faculty reported less commitment, discerned less
coordination and integration between different parts of their campus than the tenure track and non-tenure track faculty, and they reported a lack of alignment with the norms and commonly held beliefs on campus. They also indicated that they have less of an understanding of where the university is heading and their role in getting there than the tenure track and non-tenure track faculty. Many of these views could be attributed to the fact that almost all of the tenured faculty have been working on their campus for six years or more. Over time, faculty may become disenchanted with different aspects of their campus. As their years in the workplace increase, their sensitivity to the inconsistencies and discrepancies that are integral to higher education may also increase.

Another possible explanation for these lower trait scores for tenured faculty is the process of achieving tenure. According to Bess and Dee (2008) tenure is awarded to those faculty who have contributed significantly in three arenas: teaching, research, and university community service. As state support has declined, the importance of securing outside funding for research by faculty has become increasingly more important, and this aspect of a faculty member’s tenure portfolio has, in some cases, superseded teaching and service, in importance in gaining tenure (Lechuga, 2006). To acquire outside funding for research a faculty member must gain status in his or her field of expertise, which is done through publishing his or her work in professional journals. This process encourages faculty to become more cosmopolitan, as they identify with groups outside the university who share their specialization and may become somewhat indifferent to their campus peers and culture Gouldner (1957).

Tenured faculty employed at their university since before the millennium may have witnessed the emphasis of their job shift from teaching to research and publication. This change might be a source of disillusionment for some seasoned faculty. According to Binder, Chermak,
Krause, and Thacker (2012) undergraduate instruction no longer confers prestige, regardless of the skill and acknowledgment by students; the coin of the realm is publications and research. They found that devotion to teaching was penalized, even when publications and research expectations were met. In the current state of restricted financial resources, universities are expecting tenured faculty to acquire prestige through publishing and secure financial resources through research grants, and leave the instruction to contingent faculty (Ehrenberg, 2012). For the more experienced faculty these changes in what is expected from them may result in a lack of alignment with the current organizational culture of their campus.

**Research Question #3.** What are the differences in perceived organizational culture among full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio as a function of the number of years they have taught at their present institution?

There were six categories for the number of years teaching: 1-4 years, 5-9 years, 10-14 years, 15-19 years, 20 to 24 years, and 25 years and over. Analysis of the DOCS data revealed that the mean scores for faculty teaching 1-4 years were statistically significantly higher for Involvement (3.45) and Consistency (3.25) than all of the other groups, and were the highest scoring group for Adaptability and Mission traits, albeit not significantly so. Unionized faculty, regardless of years of teaching groupings reported higher Mission trait scores than the non-unionized faculty. The mean trait scores of faculty in their first four years of teaching indicated that they had a stronger sense of commitment to their university, perceived that they had a greater influence on decisions that affect them, and reported a higher level of belief that there were right and wrong ways to do things on their campus compared to faculty with more years of teaching. Faculty in their first four years of teaching perceived that the university had articulated
a clear purpose and direction that defined the goals and objectives and that was a shared vision of
the future for their campus. The findings with respect to the Adaptability trait indicated that 1-4
years, 5-9 years, and 20-24 years were not statistically significantly different from one another in
their perception of their alignment with the norms and commonly held beliefs on campus. These
mean trait scores for Adaptability were statistically significantly higher than the scores for the
10-14 years and the 15-19 years groups. These results indicated that faculty in their first nine
years as well as those in years 20-24 reported a higher level of alignment with their university’s
norms and shared beliefs, which reflects more confidence in the ability of their university to
adjust as the external environment changes than those faculty teaching 10-19 15-19, and 25 plus
years. There was no statistically significant interaction between unionization and years of
teaching.

Analysis of the data from the current study indicates that faculty in their first four years
of teaching perceive their organizational culture in a more positive way than those who have
been working on campus longer. This finding contradicts the increase in job satisfaction over
time teaching as reported by Hagedorn (2000), who used National Study of Postsecondary
Faculty 1993 data for their analysis. On the other hand, a more recent study by Li-Ping Tang and
Chamberlain (2003) noted that faculty belief in rewards for merit was inversely proportional to
the number of years at an institution. Confidence that meritorious work will be rewarded
supports a positive attitude towards the organizational culture, which corresponds to the findings
of the current study. The data for the Hagedorn study was collected more than 20 years before
the present study and the demographics of higher education faculty and the economic
environment have changed considerably since then. Li-Ping Tang and Chamberlain noted that
the opportunities for faculty to move to another academic position with similar rank, salary and
job security decrease with increasing experience and time at an institution. Their findings may help explain the results of the present study where faculty with 10-19 years of experience had lower mean scores across all four traits in that they may be aware of having less job mobility in terms or replicating their current position at another university. Another contributing factor to the low trait scores for this 10 to 19 years group may be related to what Becher and Trowler (2001) observed, that initially faculty have high expectations with respect to what they will achieve, but as their careers progress they become downwardly mobile and end up less accomplished in their field than they anticipated when they began working at a university.

The faculty in the 20 years plus groups also had relatively low trait scores, which may be attributed to these faculty looking forward to a possible change in employment status such as retirement; thus both the 10-19 and 20 year plus groups may be experiencing some loss of personal and professional affiliation with the organizational culture of their campus (Lawrence, Ott, & Bell, 2012). In a recent study, Fidelity (2013) reported that three fourths of higher education faculty in the 49-67 years of age group plan to delay retirement, or not retire at all. The surveyed faculty cited professional reasons and financial concerns for staying on the job. This trend may contribute to fewer tenure track job openings as these older faculty stay at their positions. The DOCS results indicate that faculty with more than 20 years of experience are not particularly very well aligned with their campus faculty organizational culture having mean trait scores well below 3.0, neutral. This trend of older faculty not retiring may have a deleterious effect on faculty organizational culture on some campuses.

There are a number of possible rationales for faculty in their first four years perceiving more concordance with the organizational culture than those faculty with greater teaching experience, as measured by DOCS. New faculty have been recently recruited and the fact that
they chose to accept the offer of employment indicates that they have a positive view of the university, and the fact that they were recruited indicated that those involved in the hiring process believed them to be a good fit with the campus. Recent faculty hires are apt to have met and spoken with various administrators during their job interview more recently and more deeply, thus may perceive that they have a personal relationship with these individuals. It is likely that faculty in their first four years of teaching have been initiated into the current organizational culture from the institution with its new faculty orientation and continuing support programs. Higher learning institutions have mechanisms in place to actively acclimate and indoctrinate faculty in their first few years of employment, which may explain the higher trait scores for the 1-4 year faculty group. Descriptively, unionized faculty in their first four years of teaching had the highest mean trait scores, although the statistical analysis indicated no significant interaction between these two variables. New faculty may have experienced unionization as a graduate student and are more likely to promote and join unions (Wickens, 2008). Recent faculty hires on unionized campuses have most likely been acclimated to their campus through three distinct mechanisms: faculty peers in their academic department, administrative orientation programs, and faculty union membership recruitment and orientation; so it is not surprising that they report a relatively high degree of alignment with their campus faculty organizational culture on the DOCS.

**Research Question #4.** What are the differences in perceived organizational culture among arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio as a function of content area expertise?

There were four content areas in this study, arts, humanities, natural sciences and mathematics, and social sciences. The response rates for these categories with respect to the
population and sample were as follows: arts, 3.6% (population) and 4.1% (sample); humanities, 37.3% (population) and 35.7% (sample); natural sciences and mathematics, 39% (population), 25.7% (sample); social sciences, 20.1% (population) and 34.5% (sample). There were no statistically significant differences between the mean trait scores for Consistency (2.93-2.90), Adaptability (2.85-2.91), and Mission (2.80-2.87) across all content area expertise groups. This result indicated that in terms of coordination and integration as a function of consensus by faculty on the right and wrong way to do things, the ability of the organization to change in response to changes in external environment, and the degree to which the university has a clear sense of purpose and direction, there was no statistically significant difference in the perceptions of the participating faculty regardless of content area expertise.

However, the Involvement trait scores of the Natural Sciences and Mathematics faculty (3.16) were statistically significantly higher than those of the Humanities (2.88) and the Social Sciences (2.89), and Arts (2.91) in the current study. The Natural Sciences and Mathematics faculty perceived a higher sense of commitment and team work on campus and reported a greater belief that they have input into the decisions that affect them than faculty in the Humanities and the Social Sciences. This result may be due to the reality that much of the research work in sciences and mathematics is accomplished through team work; faculty are socialized to their content area and methods of conducting research during their graduate school years (Holland, 1997; Lodahl & Gordon, 1972; Tierney, 1997; VanMaanen & Schein, 1979) and this may carry over into their careers as academics. There was no statistically significant interaction between unionization and content area for the Mission trait.

The results of the DOCS analysis indicated that the faculty in the present study had no statistically significant differences in their perceptions for three of the four traits. The
participating faculty, across all universities in the current study consistently reported that they perceived at the same level: the integration and coordination of their campuses, the capability of their university to change in response to the external environment; and the degree to which their institution is clear on its purpose and direction. In the current study the social sciences faculty responded at a higher rate (34.5%) than expected (20.1%) in terms of their portion of the population sampled, and the science and mathematics faculty were under represented. This result is similar to that reported by Lawrence et al. (2012) who, in a 2003 survey across 15 institutions within a state-supported system, reported proportionally more respondents from the social sciences and fewest from the sciences in their study. Perhaps, the over representation of social science faculty in the current study resulted from “survey karma” as social scientists often administer surveys as part of their research and are willing to participate in surveys that they receive in the hopes that subjects will opt to participate in theirs, whereas surveys are not as common a method of data collection among science and mathematics faculty.

For all content areas faculty teaching on unionized campuses had statistically significantly higher mean trait scores for all four traits. This finding indicates that unionized faculty, regardless of content area perceive a more positive alignment with their organizational culture than faculty who teach at non-unionized universities.

**Research Question #5.** What are the differences in perceived organizational culture among full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio as a function of their rank?

There were five categories for academic rank: instructor/lecturer, assistant professor, associate professor, full professor, and visiting. The response rates for these categories with respect to the population and the sample were as follows: full professor 31.6% (population) and
31% (sample); associate professor 33.4% (population) and 30.1% (sample); assistant professor 19.8% (population), 17.2% (sample); instructor/lecturer 10% (population) and 16.1% (sample), visiting 5.2% (population) and 5.6% (sample). Analysis of the DOCS data revealed that the means for all traits, Involvement, Consistency, Adaptability, and Mission for instructor/lecturers and assistant professors were statistically significantly higher than the trait means for associate and full professors. Visiting faculty, on campus for a specified short term, had mean trait scores that were not significantly different from instructors/lecturer and assistant professors. There was no statistically significant interaction between unionization and academic rank.

The junior faculty (instructor/lecturers and assistant professors) reported a more positive perception of their commitment to the university, coordination and integration across the university by virtue of consensus and shared values, belief in the capacity of the university to change to meet new demands from outside the institution, support the norms and commonly held beliefs, as well as the degree to which the university has a clear sense of purpose and direction, than the senior faculty (associate and full professors). These results correspond with the findings of Smith and Shoho (2007), who reported a direct relationship between higher academic ranks and increased cynicism. A recent study by Maranto and Griffin (2011) opined that academic rank is a complex attribute and is intertwined with other aspects of academic life such as duration of employment and professional accomplishment, which affect the relationship between an individual and the university. Analysis of the DOCS responses collected for the present study indicated that the junior faculty have a more positive perception of the organizational culture which complements the pattern observed with these data with respect to years of teaching. Faculty of lower academic rank are more likely to have been teaching at the institution for fewer years than those of higher rank. As previously discussed (Research Question #3), the results of
this study suggest that faculty with 10 to 20 years of teaching are less sympathetic with the organizational culture of their university than those with nine years or less. As state-supported universities have been forced to become more entrepreneurial and seek outside funding due to the reduction in state funding their missions have evolved to emphasize research, but the teaching loads have remained the same (Jaeger & Eagen, 2011; Liu, 2011; Li-Ping Tang & Chamberlain, 2003). Faculty who have been teaching for more than 10 years are likely to have been recruited before the mission creep and were hired to teach, but now are expect to do funded research to help the university cope with an increasingly adverse financial circumstances.

**Research Question #6.** What are the differences in perceived organizational culture among full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio with respect to their gender?

In the demographic portion of the survey there were three choices for gender identification: man, woman, and transgender. None of the participants who completed the surveys used for this analysis selected the transgender option. Consequently, the statistical analysis was performed with two gender choices, woman and man. The response rates for the gender categories with respect to the population and sample, as reported from the Institutional Research Departments, were as follows: man 58% (population) and 53.5% (sample); woman 42% (population) and 46.5% (sample). Analysis of the DOCS data collected for the gender categories man and woman, study revealed that there were no statistically significant differences in the mean scores for Involvement, Consistency, Adaptability, and Mission traits. There was no statistically significant interaction between unionization and gender.

Although the extant literature supports the premise that women faculty have an overall lower job satisfaction than their male counterparts (August & Waltman, 2004; Clawson, 2009;
Kim, 2011; Maranto & Griffin, 2011; Sandler, 1986; Seifert & Umbach, 2008), this pattern was not observed in the present study with lower mean trait scores. Almost 58% of the participants in the current study were faculty in Social Sciences or Natural Sciences and Mathematics. According to Sabharwal and Corley (2009) and Okpara, Squillace, and Erondu (2005), women in these content areas report greater job satisfaction than their male peers, and thus be more aligned with the organizational culture. The large number of respondents in content areas that have been observed in the literature to report great job satisfaction may account for the lack of statistically significant differences in mean trait scores due to gender. With respect to the Mission trait, unionized faculty, regardless of gender, had higher mean scores than those teaching in non-unionized universities.

**Research Question #7.** What are the differences in perceived organizational culture among full-time arts and sciences faculty teaching at unionized and non-unionized public universities in Ohio with respect to their race/ethnicity?

In the administered survey there were six categories for race/ethnicity: American Indian/Alaskan Native, Asian American/Asian, Black/African American, Hispanic/Latino, Native Hawaiian/Other Pacific Islander, and White/Caucasian. Of the 350 respondents, 25 selected a race/ethnicity other than White/Caucasian and 44 declined to answer. In their 2007 study of race/ethnicity and institutional trust, Smith and Shoho (2007) found that a significant number of the respondents did not indicate their race/ethnicity even though participants were informed that race/ethnicity was a major component of the study. These researchers also observed that minority faculty members were more likely to participate in a face-to-face interview than respond to the online survey component of their research. This finding provides a rationale for the lack of respondents identifying as minorities in this study. The reports from the
institutional research offices of the five participating universities state that, overall, 15.1% of faculty in the population identify as a minority; however only 7.1% of the participants in the present study so identified themselves. As explained in chapter three, the race/ethnicity categories for the data collected for the present study were reduced to three groups: White/Caucasian, All Others, and declined. The response rate for the other two categories with respect to the population and sample were as follows: White/Caucasian 82.6% (population) and 81.1% (sample), All Others 2.3% (population) and 11.8% (sample). Analysis of the DOCS data for the race/ethnicity categories White/Caucasian, All Others, and declined revealed no statistically significant differences in the mean scores for Involvement, Consistency, Adaptability, and Mission traits. There was no statistically significant interaction between unionization and race/ethnicity. The extant literature does not consistently concur on the effects of race/ethnicity on organizational culture. Regardless of race/ethnicity, unionized faculty had a higher Mission score than faculty teaching at non-union universities.

**Implications for Policy and Practice**

A number of academics have opined that collective bargaining affects the organizational culture of a higher education institution (Cai, 2008; Devinatz, 2003; Kissler, 1997; Rhoades & Sporn, 2002; Wickens, 2008). Their research, however, differs with respect to whether the effects are positive or negative. Each year the number of public university faculty that engage in collective bargaining increases at the same time the number of contingent, or non-tenure track, positions at these institutions increases at the expense of tenure track positions (Baldwin & Wawrzynski, 2011; Morris, 2009, Nelson, 2010b; Umbach, 2007). The driving force behind both of these upturns has been a continuous reduction of financial resources at these state-supported institutions (Ehrenberg, 2012; Morris, 2009). The results of the present study revealed
that for the participating full-time arts and sciences faculty at five state-supported universities in Ohio, several demographic attributes, including unionization had an effect on perceived organizational culture as measured by the Denison Organizational Culture Survey (DOCS). The interaction between the attribute variables was not part of the research design of this study, with the exception of the Mission trait, which showed no statistically significant interaction with any of the other variables. The mean trait scores in the DOCS was the metric by which each attribute was assessed in the present study, the strength of the relationships between variables was not part of the research design. Faculty who reported a more positive perception of their organizational culture had one of the following attributes: they taught on unionized campuses, were non-tenure track and not tenured (but tenure track), had an academic rank of instructor/lecturers and assistant professors, and were in their first four year of teaching. Faculty reporting a lower perception of their organizational culture had one of the following attributes: taught on non-unionized campuses, had senior academic rank, and had more than 10 years of teaching experience.

Researchers have opined that a new paradigm for higher education, especially for public higher education, is imminent (Ehrenberg, 2012; Schejbal, 2012). The new order will expect public higher education to become increasing more efficient as it is forced to expand enrollment, increase graduation rates, and decrease costs (Ehrenberg). As this evolution progresses, contingent faculty will be hired preferentially over tenure track faculty, as they are more cost effective and short term contracts allow universities to be more responsive to changes in enrollments (Baldwin & Wawrzynski, 2011; Schuster & Finkelstein, 2006). Increasingly the faculty response to these changes has been to unionize and collective bargaining has become a
substantive factor in the landscape of public higher education (Goeddeke & Kammeyer-Mueller, 2010; Katchanovski et al., 2011).

The challenge for public higher education is to improve faculty organizational culture as the institution moves into the future. In the discussion that follows, four programs are proposed to facilitate an improvement of faculty organizational culture. Utilizing the results from this study, two of the proposed programs capitalize on the positive attitudes of the newer faculty, of faculty with lower rank, and those without tenure (tenure track and non-tenure track) to improve the faculty organizational culture on their campus, while the others focus on senior faculty and those who have been teaching longer at the university, who may not be well aligned with their campus organizational culture. The foundational rationale for these proposed programs will be presented before the programs are explained.

The finding from this study that non-tenure track faculty are more in tune with their organizational culture challenges the preconceived notion that these faculty are assumed to be less committed and engaged in the academy, that they are viewed as laborers rather than professionals (Kezar & Sam, 2010, 2011). A corollary of this concept is that because non-tenure track faculty have less security, they will not perform as well as tenured faculty and will also experience less satisfaction with their job (Umbach, 2007). This concept and others like it are based on a model where employees are motivated by money and external rewards and are not applicable to higher education non-tenure track faculty (Kezar & Sam, 2011). Perhaps this view of non-tenure track faculty being of less quality and a deficit to academia has its roots in the notion that some tenured faculty feel that presence of non-tenure track faculty threaten the continuation of tenure and the traditions of higher education as they know it.
Tenure is held as the quintessential symbol that a faculty member has been accepted by his or her peers as an academic professional. However, faculty who accept non-tenure track positions have most likely gone through the same training and socialization as their tenure-track and tenured co-workers and have the same aspirations (Baldwin & Chronister, 2001). The numbers of non-tenure track faculty have been increasing, since the 1990s the majority of all of new positions have been non-tenure track (Schuster & Finkelstein, 2006). In 1998, Rhoades proposed that these faculty were a hybrid between professionals and labor-managed professionals, called managed professionals. They have professional training, expertise, commitment, and socialization on campus, but with respect to contracts, professional autonomy, and job security they are considered laborers (Kezar & Sam, 2011; Rhoades, 2007). These authors also related that in their studies there were non-tenure track faculty who reported that they were satisfied with their overall work and were committed to the academy and the mission of their university.

The findings of the current study indicate that the non-tenure track faculty perceived a higher level of commitment, shared values, beliefs and norms than the tenured faculty; the non-tenured faculty also had a better understanding of the university’s purpose, direction and vision for the future than their tenured co-workers. Non-tenure track faculty are not a deficit to universities, but are the group that carry the flag, engage in collegiality, and teach a growing portion of the students.

As reported by tenured, senior faculty with more than 10 years of teaching experience, their perceptions with respect to the organizational culture at their university were significantly less positive than their lower ranked, less experienced, non-tenured peers according to the results of the current study. Some of this decline in affirmation of the organizational culture may be a
result of length of time in the job. Over the years these faculty have become more aware of inconsistencies and discrepancies that are integral to any organization. Another source for this disenchantment might well be the process that a faculty member has to undergo to achieve tenured status. With their bleak financial forecast, universities have been putting an increasing value on the potential or actual acquisition of outside funding by tenured faculty to bolster their fiscal situation (Nelson, 2010b; Siegel, 2011). In the pursuit of tenure, faculty may lose the connection to peers at their institution, resent the time spent teaching, and come to question the university’s commitment to them (Lawrence et al., 2012). It is ironic that by accentuating research and external funding to achieve tenure, universities unintentionally devalue an important resource, the commitment of faculty to the university and their dedication to its future.

**Proposed Programs to Enhance Faculty Organizational Culture**

**Non-tenure Track faculty Professional Development.** It is paradoxical that the faculty the university has committed to by awarding tenure reported the least alignment with their university faculty organizational culture, while faculty without the security of tenure report significantly higher alignment. Conserving and perhaps enhancing the positive perceptions of the not-tenured faculty, especially the ever growing ranks of non-tenure track faculty, should be a priority for public universities. Commitment is an important aspect of organizational culture (Cetin, 2006; Johnsrud & Rosser, 2002; Meyer, Stanley, Herscovitch, & Topolnytsky, 2002; Organ & Ryan, 1995; Rosser, 2004; Rosser, 2005, Rosser & Tabata, 2010) and commitment is reflexive (Meyer, Paunonen, Gellatly, & Jackson, 1989; Whitner, 2001). If a contingent faculty member believes the university demonstrates a commitment to them, they in turn are likely to feel an increase in their commitment to the university. One possible method to demonstrate commitment by the university would be to offer non-tenure track faculty opportunities for
professional development, especially as related to teaching, for these individuals commonly shoulder a larger teaching load, as compared to tenure track and tenured faculty. The offerings should be accessible, of high quality, improve their professional portfolio, and be available on campus. These professional development opportunities for non-tenure track faculty could be crafted to enhance organizational culture as well as increase skills (O’Meara, Terosky, & Neumann, 2008). The professional development offerings for non-tenure track faculty could be a mechanism for educating them on procedures, which would heighten their appreciation for integration and coordination across campus as well as aid them in developing stronger norms and support for commonly held beliefs on campus. As tenure track positions become scarce, universities would be well advised to invest in increasing the professional teaching skills of their non-tenure track faculty and enrich the faculty organizational culture on campus at the same time.

_**Kaizen.**_ Faculty in their first four years of teaching had more positive perceptions of their faculty organizational culture according to the findings of the present study. The intention of this plan is improve the older faculty’s perception of the university’s faculty organizational culture by involving them in groups with new, enthusiastic faculty. The proposed program calls for the formation of Kaizens composed of two or more experienced faculty with several faculty in their first four years of teaching (in their academic departments would be preferable, but not always possible). Kaizen is Japanese for continuous improvement, and has been applied in higher educational setting to improve organizational culture by encouraging participants to mobilized their resources and realize their potential so that all participants improve their perceptions of organizational culture and performance (Sommerville, 1996). The seasoned faculty have knowledge, practical experience, and skills that they could share. The recently
hired faculty would contribute vitality and optimism to the group as they most are likely to have the energy and the eagerness that comes with starting a new job. The DOCS scores indicate that the newer faculty are committed, empowered, and embrace the norms and commonly held beliefs of the faculty organizational culture more than the experienced faculty. The newer faculty also may be more aware of the purpose and direction of the university and their part in getting it there than the seasoned faculty. It is likely that the newer faculty may be closer in age to the current students and could help some of the older faculty bridge the gap between their student experiences of several decades ago and the expectations and nature of the students currently in their classes. The senior faculty could inform the newer faculty on policies and procedures in their academic department and college, and share institutional knowledge (Pierce, 1998). A group setting for this program is suggested as more issues, observations, ideas, and possible solutions are generated by a group. The senior and the junior faculty each have unique skills and knowledge that are readily transferable for the mutual benefit of both (Lumpkin, 2011). There would be several goals for this program: for the affirmative views of the faculty organizational culture held by the newer faculty to improve the perceptions of the faculty organizational culture for the senior faculty, for the senior faculty to gain a better understanding of current college students, for the newer faculty to gain social capital in their academic area, and to acquire practical knowledge on how things get done. Kezar (2013) observed that without social capital, non-tenure track faculty are often subjected unnecessarily to the harsh and negative aspect of their job. The Kaizens would have regular meetings, and follow a program that would be determined by the needs and skills of the group.

**Administrative Position-Senior Faculty Exchange.** One of the implications of the current study is that universities need to rekindle the commitment and involvement of their
senior faculty and those faculty who have been teaching for more than 10 years, to encourage these faculty to renew their sense of ownership in the educational endeavor, subscribe to the norms, values, beliefs of the organization and restore their confidence and improve their comprehension of the purpose and direction of the university, and to share a positive vision for the future. The university would benefit if these disillusioned faculty were to view their work environment with fresh eyes and recapture the positive mindset they likely had in their first few years at the university.

A program of structured exchange between administrative positions and teaching positions would provide a new perspective for both faculty and administrators. Faculty that have been at the university for more than 10 years and those of higher rank (they may be one in the same) have a wealth of personal and contextual knowledge about how the university operates. By assuming an administrative position a faculty member could bring this knowledge to a greater audience and also the faculty member would be made aware of the responsibilities of administrators that they may not have previously appreciated (Astin & Astin, 2000). The administrators in the role of teachers would gain a better appreciation of what it is like at their particular institution at the present time to teach students, do research, and serve on committees as well as experience how administrative fiats play out for faculty. This exchange would need to move in both directions and would be for a specified term or set number of semesters, with the requirement that the individuals return to their original position, for at least the same amount of time they were in their alternate position, before embarking on another exchange. O’Meara and Terosky (2010) reviewed a variety of programs at a number of universities that foster the development of university leadership from the faculty ranks and reported that they were well received.
Visiting Scholar. Not all senior faculty, as well as those who have been at the university for 10 or more years, have the facility or desire to take on the role of an administrator; to expect them to do so may further depress their already negative view of their faculty organizational culture. A program could be developed where faculty teach at other state-supported institutions in the local area, capitalizing on proximity (Botshon, 2006). As envisioned, the visiting scholar could teach a course (or courses) at a nearby universities or community colleges for a semester, possibly two (Murray, 1999). The emphasis would be on short-term, local exchange to make it easier for participating faculty and their academic departments. Through this program faculty would get the opportunity to experience another faculty organizational culture for a finite time period. The goal would be to have them become aware of the differences and similarities between the two organizational cultures. This experience may rejuvenate their appreciation for their “home” organizational culture, or alternatively they may discover ways to improve their “home” culture as a result of their exposure to the “other” organizational culture (Seldin, 2008).

Recommendations for Future Research

The present study examined the differences in trait scores for the Denison Organizational Culture Survey with respect to seven employment and individual attributes among arts and sciences full-time faculty at state-supported, four-year public institution of higher education in Ohio. The employment and individual attributes variables explored were unionization, tenure status, number of years teaching, content area expertise, academic rank, gender, and race/ethnicity. The analysis of the DOCS results indicated that this instrument has potential in higher educational settings, as there were consistent findings across universities for several of the faculty attributes: tenure status, number of years teaching, and academic rank. Future research studies could investigate the existence, nature, and strength of the relationships between the
faculty attributes used in the current study to DOCS scores using statistical methods such as
 correlation, multiple regression and factor analysis; different attributes could also be include in
 this type of investigation. A number of studies have used correlation to explore the relationships
 between attributes and DOC scores (Fey & Denison, 2003; Gillespie et al., 2008). A future
 research project could consider exploring the relationships between attributes such as tenure
 status and rank with respect to DOCS scores to examine more closely the differences between
 individual categories in these variables and trait means. Multiple regression has been utilized to
 examine the predictive aspects of DOCS scores and customer satisfaction (Kotrba et al., 2010;
 Gillespie et al.) and this technique could be used to study the possible relationships between
 student satisfaction data for students in popular majors and DOCS results for faculty teaching in
 those majors.

 DOCS has been used to assess the effectiveness of an organization (Casida, 2008;
 Denison, 1990; Denison et al., 2004; Denison et al., 2006; Denison & Mishra, 1995; Fey &
 Denison, 2003; Nazir & Lone, 2008; Yilmaz & Ergun, 2008); a possible avenue for future
 research in higher education might be to use this methodology to explore the effectiveness of
 higher education institutions, or portions thereof with respect to certain measures of
 organizational effectiveness, e.g., retention rates, graduation rates and time to graduation for
 undergraduate students. In November 2012, just months prior to the administration of this
 survey, the Ohio Higher Education Funding Commission, in an effort to incentivize universities
 to improve graduation rates and reduce the time to graduation, tied the institution’s state funding
 to these two metrics. A research project investigating possible relationships between DOCS
 scores and graduation rates, time to graduation, and retention of graduates in the state would be
 practical and timely as well.
Another avenue of future research could be administering DOCS to other higher education faculty, specifically private college and universities as well as community colleges. Faculty outside the content areas of arts and sciences could be surveyed as well, as this would increase the data base of respondents and may contribute to a better understanding of organizational culture among a broader spectrum higher education faculty.

The current study was restricted to full-time faculty; however, a study of part-time faculty teaching at the institutions in this study as well as other types of institutions could be investigated. Lawrence et al. (2012) observed that the number of part-time faculty is increasing each year and predicted that it will continue to grow. The organizational culture of part-time faculty, especially those who teach at several institutions simultaneously could prove a fruitful area research.

A number of articles in the extant literature that employed DOCS also had a qualitative component (Denison, 1990; Denison & Mishra, 1995; Fey & Denison, 2003; Yilmaz & Ergun, 2008). A research project that would combine DOCS along with a separately administered qualitative component to survey university faculty would not only add to the data base for faculty responses to DOCS, but give depth with description and attention to detail as well as the why and how that are the hallmarks of qualitative study. Such a study would be similar to the work of Yilmaz and Ergun in Turkey, administering DOCS and interviewing participants in several different types of Turkish industries, and the work of Fey and Denison, in Russia, administering DOCS and analyzing the results along with interviews of the participants. Factor analysis could be used, as it was by Fey and Denison to compare the qualitative results with the quantitative DOCS.
Conclusions

Analysis of the results of this study revealed that the non-tenured, lower status, and least experienced faculty reported more positive perceptions of the faculty organizational culture of their university than their co-workers, across all five state-supported universities, two of which were not unionized at the time of data collection. The fact that the faculty groups with the least status and experience, and most likely the lowest paid faction, consistently reported greater congruence with their faculty organizational culture indicates that these groups of faculty are well socialized to their respective campuses. Hopefully, the faculty in these groups can maintain their positive attitudes and beliefs as they gain experience, increase in rank, and in some cases achieve tenured status.

The tenured, more experienced, and senior faculty groups in this study reported statistically significantly less alignment with their organizational culture than the untenured (non-tenure track and tenure track), lower ranked, and less experienced co-workers. The cause of these differences is unknown at this juncture. However, there are some plausible explanations, these differences may be due to the tenure process causing an estrangement from the institution, as previously explained; or human nature, as the length of experience with an organization is inversely related to complete approval. These differences might also be generational and as the current new generation of faculty gains experience and acquires tenured (in some cases) they will continue to be more willing to engage in consensus and practice altruism throughout their careers.

The nature of public higher education is changing, as state budgets decrease expenditures for higher education. The attenuation of financial resources has precipitated a number of changes for public higher education; among them are faculty unionization and the preferential
hiring of contingent faculty. The results of this study indicate that faculty unionization does not detract from faculty organizational culture; it appears to improve it, at least with respect to perceptions of Mission. The growth of faculty unions, from the vantage point of this study, has the potential to improve the faculty organizational culture at public universities. Perhaps, faculty unions encourage faculty, especially junior, less experienced, and non-tenured faculty, to perceive that they work for the university, rather than through it. Rather than emphasize the individual, unionization may promote a more collective perception of their employment by the university. Based on the findings of this study the hiring of non-tenure track faculty and the presence of a faculty union may improve the faculty organizational culture, rather than detract from it.
REFERENCES


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National Labor Relations Board (NLRB) v. Yeshiva University, 444 U.S. 672 (1980).


APPENDIX A

INSTRUMENT

Responses:

Questions:
1. Every faculty member believes that s/he can have a positive impact on this campus.
2. Planning for the future is ongoing and involves everyone in the process to some degree
3. Cooperation across different parts of this campus is actively encouraged.
4. Faculty work like they are part of a team.
5. Teamwork is used to get work done, rather than hierarchy
6. Most faculty are highly involved in their work.
7. Decisions are usually made at the level where the best information is available
8. Information is widely shared so that everyone can get the information he or she needs when it's needed
9. Teams are our primary building blocks.
10. Work is organized so that each faculty member can see the relationship between his or her work and the goals of this campus.
11. Authority is delegated so that faculty can act on their own.
12. The academic capability of faculty is constantly improving.
13. There is continuous investment in skills of the faculty.

14. The capabilities of faculty are viewed as an important source of competitive advantage.

15. Problems often arise because we do not have the skills set to perform our work as faculty members. (reverse scale)

16. The President, Provost, Deans and other administrators “practice what they preach”.

17. Ignoring core values will get you in trouble.

18. There is an ethical code that guides our behavior and tells us right from wrong.

19. When disagreements occur, we work hard to achieve "win-win" solutions. T

20. There is a "strong" culture.

21. It is easy to reach consensus, even on difficult issues

22. We often have trouble on this campus reaching agreement on key issues. (reverse scale)

23. There is a clear agreement about the right way and the wrong way to do things on this campus.

24. Our approach to education is very consistent and predictable on this campus.

25. Faculty from different parts of the campus share a common perspective.

26. It is easy to coordinate projects across different parts of the campus.

27. Working with someone from another part of this university is like working with someone from a different university.
28. There is good alignment of goals across this campus.

29. The way things are done is very flexible and easy to change on this campus.

30. We respond well to competitors and other changes in the environment of higher education.

31. New and improved ways to teach and do research are continually adopted.

32. Attempts to create change usually meet with resistance. (reverse scale)

33. Different parts of the campus often cooperate to create change

34. Student comments and recommendations often lead to changes

35. Student input directly influences our decisions.

36. All faculty members have a deep understanding of student wants and needs.

37. The interests of the student get ignored in our decisions. (reverse scale)

38. We encourage faculty to have direct contact with the entire student body.

39. We view failure as an opportunity for learning and improvement

40. Innovation and risk taking are encouraged and rewarded.

41. Lots of things "fall between the cracks". (reverse scale)

42. Faculty learning is an important objective in our day-to-day work.

43. We make certain that the "right hand knows what the left hand is doing"

44. There is a long-term purpose and direction.
45. Our strategy leads other universities to change the way they compete in higher education.

46. There is a clear mission that gives meaning and direction to our work.

47. There is a clear strategy for the future.

48. Our strategic direction is unclear to me. (reverse scale)

49. There is widespread agreement about goals.

50. The President, Provost, Deans and other administrators set goals that are ambitious, but realistic.

51. The President, Provost, Deans and other administrators have "gone on record" about the objectives we are trying to meet.

52. We continuously track our progress against our stated goals.

53. Faculty members understand what needs to be done for us to succeed in the long run.

54. We have a shared vision of what the university will be like in the future.

55. The President, Provost, Deans and other administrators have a long-term viewpoint.

56. The President, Provost, Deans and other administrators have a characteristic management style and a distinct set of management practices.

57. There is a clear and consistent set of values that governs the way we do business on our campus.

58. Short-term thinking often compromises our long-term vision. (reverse scale)
59. Our vision creates excitement and motivation for our employees.

60. We are able to meet short-term demands without compromising our long-term vision.

Your answers to the following demographic questions will provide information that will aid in the analysis of the survey responses.

61. Is your current position considered full-time?
   
   Yes
   
   No

62. Please indicate your academic rank at your current university.
   
   Instructor
   
   Lecturer
   
   Senior lecturer
   
   Assistant professor
   
   Associate professor
   
   Full Professor
   
   Visiting Faculty
   
   Prefer not to answer

63. Please indicate the highest degree you have earned.
   
   Bachelor’s (B.A., B.S., etc.)
   
   Master’s (M.A., M.S., M.F.A., M.B.A., etc.)
   
   LL.B, J.D.
   
   M.D., D.D.S. (or equivalent)
   
   Other post-baccalaureate professional degree (e.g., D.D., D.V.M)
   
   Ed.D.
   
   Ph.D.
Other degree

None

64. Is your degree considered a terminal degree in the field?
   Yes
   No

65. Please indicate your citizenship status
   U.S. citizen
   Resident alien
   Non-resident alien
   Prefer not to answer

66. Which of the following best describes your situation?
   I am a member of the faculty union
   I am not a union member although I am eligible
   I am not eligible to join the faculty union
   There is no faculty union on my campus

67. How many academic years have you been teaching at your current institution? Please leave blank if you prefer not to answer.

68. Please indicate the general content area do you specialize in?
   Arts
   Humanities
   Natural Sciences and Mathematics
   Social Science

69. In your current academic appointment are you
   Tenured
   Tenure track (tenure eligible)
Not tenure eligible (not tenure eligible)

70. Please indicate your gender

Man

Woman

Transgender

Prefer not to answer

71. Please select one or more of the following ethnic/racial categories to describe yourself

American Indian/Alaskan Native

Asian American/Asian

Black/African American

Hispanic/Latino

Native Hawaiian/Other Pacific Islander

White/Caucasian

Prefer not to answer
Hello,

You are invited to participate in a research study comparing the organizational cultures of arts and sciences faculty at Ohio public universities. The survey, to be administered via the World Wide Web, was developed by Denison Consulting. As part of my dissertation research in Higher Education Administration at Bowling Green State University, I am conducting this survey to better understand the nature of the organizational cultures of arts and sciences faculty and how they might differ among public institutions through an empirical study. Following is the link to the consent information as well as my survey, which will take you about 20 minutes to complete.

Thank you in advance for your assistance in completing this survey. Please contact me with any questions or comments about this study at econasc@bgsu.edu or 419.352.4051, or Dr. Patrick Pauken (Research Advisor) at paukenp@bgsu.edu 419.372.9234. You can also contact the chair of the Human Subjects Review Board at hsrb@bgsu.edu or 419.372.7716, with any questions about your rights as a participant in this study.

http://survey

Sincerely,

Christine Onasch

Doctoral Candidate

Bowling Green State University
Hello,

You are invited to participate in a research study comparing the organizational cultures of arts and sciences faculty at public universities in Ohio by completing a survey. As part of my dissertation research in Higher Education Administration at Bowling Green State University, I am conducting this study to better understand the nature of organizational cultures of arts and sciences faculty and how they might differ among public institutions in Ohio through an empirical study.

The survey will take you about 20 minutes to complete. This study requires you to complete the survey including a demographic section. Though there are no direct incentives to you for completing this survey, your contributions will contribute greatly to the body of knowledge within higher education regarding perceptions of organizational cultures among arts and sciences faculty. The anticipated risks to you are no greater than those normally encountered in daily life.

If you agree to participate, the information you provide will remain confidential. No individual information will be shared and only aggregate results will be reported. Your participation in this study is completely voluntary and you are free to withdraw consent and discontinue participation at any time. Your decision to participate or not to participate has no impact on your relationship to Bowling Green State University.

Completion of this survey would indicate your consent to participate. Once you have completed the survey, please clear your browser cache and page history. If you are completing this survey at work, be aware some employers use tracking software to monitor and record keystrokes, mouse clicks, and websites visited. This could impact the confidentiality of your responses. Therefore, you may wish to complete the survey on
your home computer or a public computer. The collected data will be stored in a secure password protected account. Only aggregate data will be included in the results of the analysis, no individual’s responses will be reported or revealed.

Finally, reminder email messages will be sent to those who have not responded to the survey. The survey software in Survey Monkey assigns temporary identification numbers and protects the confidentiality of respondents with SSL (secure sockets encryption) encryption which commonly used for online banking sites and other sites that transmit secured information. The survey will be available for a period of time, after that time, the collected data will reside in a secure password protected BGSU MyFiles account.

Please contact me with any questions or comments about this study at cconasc@bgsu.edu or 419.352.4051, or Dr. Patrick Pauken (Research Advisor) at paukenp@bgsu.edu or 419.372.9234. You can also contact the chair of the Human Subjects Review Board at hsrb@bgsu.edu or 419.372.7716, with any questions about your rights as a participant in this study.

Sincerely,

Christine Onasch

Doctoral Candidate

Bowling Green State University
Hello,
Recently you received an invitation to participate in a research study comparing the organizational cultures of arts and sciences faculty at selected Ohio public universities. Your input would be greatly appreciated. As part of my dissertation research in Higher Education Administration at Bowling Green State University, I am conducting a survey to better understand the nature of the organizational cultures of arts and sciences faculty and how they might differ among public institutions through an empirical study. This study has been approved by the Human Subjects Review Board at Bowling Green State University (project # 295307-3 Comparison of organizational cultures of arts and sciences faculty at Ohio public universities). Following is the link to the consent information as well as my survey, which will take you about 20 minutes to complete.
Your participation would contribute to a better understanding of faculty organizational culture.
Sincerely,

Christine Onasch
Doctoral Candidate
Bowling Green State University
Hello,

Recently, you were invited to participate in a research study comparing the organizational cultures of full-time Arts & Sciences faculty at selected Ohio public universities. At this point in time, a number of faculty at your university have completed the survey, developed by Denison Consulting, located in Ann Arbor, MI. The window of opportunity for you to participate in this research is closing as the link to the survey will be disabled on February 17, 2013. As part of my dissertation research in Higher Education Administration at Bowling Green State University, I am conducting this survey to better understand the nature of organizational cultures of Arts & Sciences faculty; by completing this survey you would contribute to a better measure of the perceived culture of university faculty. This study has been approved by the Human Subjects Review Board at Bowling Green State University (project # 295307-3 Comparison of organizational cultures of Arts & Sciences faculty at Ohio public universities). The following is the link to the consent information as well as my survey, which will take you about 20 minutes to complete. Your participation would be greatly appreciated.

Sincerely,

Christine Onasch  
Doctoral Candidate  
Bowling Green State University
APPENDIX F

APPROVAL MEMOS FROM BGSU HSRB

DATE: November 28, 2012
TO: Christine Onasch, B.S., M.S., M. Ed.
FROM: Bowling Green State University Human Subjects Review Board
PROJECT TITLE: [295307-3] Comparison of organization cultures of arts and sciences faculty at Ohio public universities
SUBMISSION TYPE: Amendment/Modification
ACTION: APPROVED
APPROVAL DATE: November 28, 2012
EXPIRATION DATE: February 19, 2013
REVIEW TYPE: Expedited Review
REVIEW CATEGORY: Expedited review category # 7

Thank you for your submission of Amendment/Modification materials for this project. The Bowling Green State University Human Subjects Review Board has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

Modifications Approved:

1. Questions 1 through 60 are Denison Organizational Survey items and there have been changes made to wording in two of the questions in this commercial survey.

2. The demographic survey, which follows the DOCS items, has 12 items and referred to as #1 to # 12 in this document. There have been additions and a subtraction of items in the demographic portion of the survey as well as some rephrasing and changing of responses.

Please note that you are responsible to conduct the study as approved by the HSRB. If you seek to make any changes in your project activities or procedures, those modifications must be approved by this committee prior to initiation. Please use the modification request form for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. All NON-COMPLIANCE issues or COMPLAINTS regarding this project must also be reported promptly to this office.

This approval expires on February 19, 2013. You will receive a continuing review notice before your project expires. If you wish to continue your work after the expiration date, your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date.

Good luck with your work. If you have any questions, please contact the Office of Research Compliance at 419-372-7716 or hsr@bgsu.edu. Please include your project title and reference number in all correspondence regarding this project.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Bowling Green State University Human Subjects Review Board’s records.
January 22, 2013

TO: Christine Onasch, B.S., M.S., M. Ed.
FROM: Bowling Green State University Human Subjects Review Board

PROJECT TITLE: [295307-4] Comparison of organization cultures of arts and sciences faculty at Ohio public universities
SUBMISSION TYPE: Continuing Review/Progress Report

ACTION: APPROVED
APPROVAL DATE: February 20, 2013
EXPIRATION DATE: February 19, 2014
REVIEW TYPE: Expedited Review
REVIEW CATEGORY: Expedited review category # 7

Thank you for your submission of Continuing Review/Progress Report materials for this project. The Bowling Green State University Human Subjects Review Board has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

The final approved version of the consent document(s) is available as a published Board Document in the Review Details page. You must use the approved version of the consent document when obtaining consent from participants. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require that each participant receives a copy of the consent document.

Please add the text equivalent of the HSRB IRBNet approval/expiration date stamp to the “footer” area of the electronic consent document.

Please note that you are responsible to conduct the study as approved by the HSRB. If you seek to make any changes in your project activities or procedures, those modifications must be approved by this committee prior to initiation. Please use the modification request form for this procedure.

You have been approved to enroll 800 participants. If you wish to enroll additional participants you must seek approval from the HSRB.

All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. All NON-COMPLIANCE issues or COMPLAINTS regarding this project must also be reported promptly to this office.

This approval expires on February 19, 2014. You will receive a continuing review notice before your project expires. If you wish to continue your work after the expiration date, your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date.

Good luck with your work. If you have any questions, please contact the Office of Research Compliance at 419-372-7716 or hsrb@bgsu.edu. Please include your project title and reference number in all correspondence regarding this project.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Bowling Green State University Human Subjects Review Board's records.
APPENDIX G

IRB APPROVALS AND PERMISSIONS FROM PARTICIPATING INSTITUTIONS

Kent State University

Hello Christine,
Thank you for contacting us regarding your study. The Kent State University IRB does not have regulatory oversight for studies being conducted by personnel not affiliated with KSU. As such, we do not require the KSU IRB to approve/review your study. Should you have additional questions, please let me know.

Thank you

Kevin McCreary
Research Compliance Coordinator
222 Cartwright Hall
330-672-8058

Miami University

Hi Christine,
I have reviewed the materials you sent and we are willing to accept the BGSU approval as meeting our requirements. Please note however, although we deem the protocol to meet our requirements, it is not our offices purview to grant permission for the use of university property or provide contact information for our community members. There are appropriate channels for gaining such permission (e.g. Academic Personnel Office, Institutional Research Office, College of Arts and Sciences).
In your recruitment materials you should not imply that the Miami IRB has approved your protocol, however you can state that the BGSU IRB has approved and that the Miami Research Compliance Office is aware of the research project.
Good luck with your project.
Neal
Neal Sullivan, PhD.
Director of Research Compliance
Miami University
102e Roudebush Hall
Oxford, OH 45056
sullivnh@MiamiOH.edu (513) 529-2488 Fax: (513) 529-3762
Ohio University

Research compliance [compliance@ohio.edu]

When researchers outside of Ohio University wish to solicit human subjects on the Ohio University campus, review by Ohio University IRB is not required, unless Ohio University faculty, staff, or students are involved in the conduct of the study/collection of the data.

University of Akron

From: McWhorter,Sharon [sm48@uakron.edu]
Sent: Thursday, December 06, 2012 1:41 PM
To: Christine Condon Onasch
Cc: sm42@uakron.edu
Subject: RE: Approval Needed?

Christine:
I am the IRB Administrator here at UA. Since no one here is involved in the research other than as participants, our IRB would not need to review it as long as you have approval from your IRB. I would like a copy of your consent form for the IRB so that we are aware of studies going on.
Thank you.

Sharon
Sharon McWhorter
Associate Director
Office of Research Services
The University of Akron
330-972-8311
sm48@uakron.edu

Thank you. This is what I need. You may proceed to contact someone at UA about participation. If anyone asks about IRB approval you can refer them to me.

Sharon
Sharon McWhorter
Associate Director
Office of Research Services
The University of Akron
330-972-8311
sm48@uakron.edu
Date: January 10, 2013

To: Christine Onasch

From: B. Laurel Ekler, Ph.D. /\n    WSU Institutional Review Board

Subject: Request for Participation of WSU Staff, Students or Faculty in
Research Approved by Other Institutions

“Comparison of Organization Cultures Among Arts and Sciences Faculty at
Ohio Public Universities”

This is to inform you that your above application request was reviewed and
approved. You are free to begin the research as described in this
application.