

THE RELATIONSHIP OF ORGANIZATIONAL CULTURE AND MANAGERIAL
LEADERSHIP

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ABSTRACT

The purpose of this research is to examine the relationship of managerial leadership and organizational culture based on the integration of the two culture theories of Grid and Group Competing Values Framework (Hierarchy, Market, Adhocracy and Clan Culture types), and the managerial leadership theory Full Range Leadership model (Transformational and Transactional Leadership behaviors). The study methods were comprised of a quantitative web based survey research with a convenience sample of an organization. The data was analyzed with Canonical Correlation as well as exploratory data analysis. The findings supported the relationship of Group and Clan cultures and Transformational leadership behaviors. More specifically, there was a relationship of Clan culture and Transformational leadership behaviors of Intellectual Stimulation, Idealized Influence, and Individualized Consideration. There was also support for Grid and Market culture and Transactional leadership behaviors. Market culture was specifically associated with Transformational Leadership behavior of Management by Exception. The unexpected findings were the relationship of Contingent Reward Transactional behavior and Market culture and the relationship of Group culture to Adhocracy culture. Overall, the finding of the research supported the relationship and integration of the culture theories of Grid and Group and Competing Values Framework and Transactional and Transformational Managerial Leadership behaviors of the Full Range Leadership Model.

DEDICATION

This dissertation is dedicated to my family; husband-Corey, children-Megan, Jarron and Ryan who grew tired of me always working on my school work, and much appreciation to my parents- Irene and Maurus, sister-Amie, who were always willing to help with the kids at a moment's notice, brothers- Doug and Jeff that entertained the kids at the farm, and my in-laws-Diana, Don, and uncle Kevin that helped care for the kids in the summer at the lake while I was writing.

I also dedicate this to my Advisor, Dr. Brent Hill (methodological expert), wife, Kim and newest member of their family that joined them the day following the defense. Thank you to my committee Dr. Tim O. Peterson (managerial leadership expert), Dr. Claudette Peterson (adult learning expert), and Dr. Tom E. Hall (educational leadership expert).

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CHAPTER I: INTRODUCTION

Historically, the importance of culture and leadership can be traced throughout human history. There are a number of different definitions offered for leadership and culture, and this gives a sense that there is not clear articulated agreement on the meaning or the relationship. The terms culture and civilization were often used interchangeably in early accounts in the social science fields (Cahnman, 1962; Kroeber & Kluchhohn, 1952). The initial interest and the description of culture and leadership was referred to as the *life-ways* (Kroeber & Kluchhohn, 1952) or *folk-ways* (Sumner, 2007/1906) of people. The managerial leadership or culture of an organization is often credited with the success or failure of the organization. The interest in leadership, management, and culture became particularly evident in the 1980's with a focus on organizational or corporate culture (Alvesson, 1990; Cameron & Quinn, 2011). Today, the attention to culture and leadership in organizations has continued to flourish. In order to remain competitive, businesses in the United States annually invest billions on leadership training (Meinert, 2014). The emphasis on these topics will likely not dissipate anytime soon since there appears to be a lack of leadership skills in organizations (Stallard, 2014). Furthermore, the significant financial investment by organizations in leadership training is expected to continually increase in the coming years (Meinert, 2014).

The relationship between culture and leadership is supported by organizational theories (Bass & Avolio, 1993; Schein, 1985). Culture theories are based upon values, symbolism, and norms of an organization (Alvesson, 1990), and culture is referred to as the “glue” of the organization (Alvesson, 1990; Cameron & Quinn, 2011; Smircich, 1983). Leadership theories are based on traits, behaviors, contingencies, and attributions (Northouse, 2007; Trice & Beyer, 1993). In the literature, leadership and culture are often viewed independently. Nevertheless, in

the research that examines each of them autonomously there is still a sense that they do not occur in a vacuum (Hunt & Dodge, 2000; Porter & McLaughlin, 2006).

The theories of organizational culture and managerial leadership are analyzed through different models. Structural-functionalism is an anthropological foundational theory developed from the work of Durkheim (Salzman, 2001). Individualism is based on the concept of looking for oneself and Collectivism is where individuals are very dependent upon one another (Hofstede, Hofstede, & Minkov, 2010). Douglas (2007/1970) developed a social framework (Grid and Group) to view culture constructed on these concepts. This framework is centered on the tension between the values and social structures in society. Another analysis of culture was developed by Cameron and Quinn (2011) to view culture through the lens of competing values of effectiveness in an organization. This interpretation is based on the contrast of four different theories (open systems, human relations, internal process, and rational goal theories). This model views culture as a tension between what is held as important in the organization. By learning about what is valued in the organization, the managerial leadership behaviors could be matched to the dimensions.

Over the last hundred years, leadership theories have moved from trait theories to behavioral theories. There has been an abundant interest in transformational leadership (Dinh, et al., 2014; Hartnell & Walumbwa, 2011). Not all models explained leadership well, so a model based on transformational leadership was developed to explain the way a leader transforms followers (Chemers, 1997). Transformational leadership is a dimension Full Range Leadership Model along with transactional leadership and laissez-faire leadership (Antonakis, Avolio, & Sivasubramaniam, 2003; Avolio & Bass, 2004). Transformational and transactional leadership are strongly related to performance in organizations (Avolio & Bass, 2004; McCleskey, 2014).

There are specific behaviors that describe Transactional and Transformational leadership (Avolio & Bass, 2004).

Statement of the Problem

Improvements in the organization of labor can increase productivity in a business (Hubbard & O'Brien, 2015). As businesses work to become more competitive and improve technology to become more productive, effective management, leadership, and organizational culture are often viewed as avenues for success in these organizations. This interest is evident by the thousands of books available on the topics of management, leadership and corporate culture found on bookshelves, the number of research articles on the topics, and the investments by industry to improve culture and leadership in organizations. Despite the vast amounts of information and resources focused on leadership and culture and their connection, the relationship is not succinctly defined. In addition, there is no established single instrument to measure leadership and culture collectively (Northouse, 2007).

Purpose of the Study

The purpose of the proposed study is to empirically examine the relationship of culture and managerial leadership behaviors based on the Competing Values Model, Grid and Group, and the Full Range Leadership Model in an organization located in the Midwest of the United States. This study will view the dimensions of culture through values and social structure in order to determine if there is a relationship to leadership style or behaviors (specifically Transformational and Transactional Leadership). The result of the integration of these models could create insight into the relationship of culture and managerial leadership in organizations.

Research Questions

The three research questions are designed to investigate the relationship of the Grid and Group Model, the Competing Values Model, and the Full Range Leadership Model. The study is a quantitative web based survey distributed via email. The results will be collected with the survey in Qualtrics and analyzed for the relationships identified in the following research questions:

- 1a. What are the quantitative relationships among the dimensions identified by the Grid and Group Theory and the Competing Values Framework (Preferred) as measured by the Social Game Assessment Tool and Organizational Culture Assessment Instrument respectively?
- 1b. What are the quantitative relationships among the dimensions identified by the Grid and Group Theory and the Competing Values Framework (Now) as measured by the Social Game Assessment Tool and Organizational Culture Assessment Instrument respectively?
2. What is the relationship among the dimensions identified by the Full Range Leadership Model and the Grid and Group Theory as measured by the Multifactor Leadership Questionnaire 5X Rater Instrument and the Social Game Assessment Tool respectively?
- 3a. What is the relationship among the dimensions identified by the Full Range Leadership Model and the Competing Values Framework (Preferred) as measured by the Multifactor Leadership Questionnaire 5X Rater Instrument and the Organizational Culture Assessment Instrument respectively?

- 3b. What is the relationship among the dimensions identified by the Full Range Leadership Model and the Competing Values Framework (Now) as measured by the Multifactor Leadership Questionnaire 5X Rater Instrument and the Organizational Culture Assessment Instrument respectively?

Assumptions, Limitations, and Delimitations

The following are assumptions, limitations, delimitations, and scope that were accepted for this study.

Assumptions

1. It was assumed that the respondents were at the middle management level of the organization and not the entire organization.
2. It was assumed the organization is successful based on growth in the areas of expansion, production, and sales.
3. It was assumed that the participants understood the questions and answered them honestly.

Limitations

1. The results of the study are only for this individual organization and may not necessarily be transferred to other organizations limiting external validity.
2. The organization was in a rapid growth cycle at the time of the data collection which could have an impact on the responses.
3. The sample size is relatively small and limited to the organization.

Delimitations

1. The participants were from one geographical location.

2. The responses gathered were limited to the questions relating to the Grid and Group, Competing Values Framework, and Full Range Leadership model.

Operational Definitions

Culture: Determined by what organization values and is expressed by the symbols, rites, and rituals of an organization (Trice & Beyer, 1993).

Organization: “any stable pattern of transaction between individuals or aggregations of individuals” (Ouchi, 1980, p. 140)

Organizational Culture: organizational culture is often referred to as “the way we do things around here” (Deal & Kennedy, 1982, p. 4). This is the *look and feel* of an organization.

Management: processes of planning, organizing and controlling in an organization in order to produce “a degree of consistency in an organization” (Kotter, 1990, p. 4).

Leadership: “process that helps direct and mobilize people and/or their ideas” (Kotter, 1990, p. 3).

Significance of the Study

There is practical application for the findings of this research. Leadership training by businesses is expected to continue increase and the result of this study will be particularly beneficial to curriculum development for organizational leadership training. A better understanding of the relationship of leadership and organizational culture could provide information for the development and improvement of leadership training tools for organizations. The knowledge gained from this study could also have an impact on increasing effectiveness and performance of an organization.

Organization of the Remainder of the Study

Chapter II of the study provides the framework for the theoretical integration of the models. Chapter III describes the planned study design, instrumentation, and data analysis techniques. Once the data is analyzed, Chapter IV will provide the findings of the study and Chapter V will describe the results, outcomes, applications, and an outline of recommendations for further research.

CHAPTER II: LITERATURE REVIEW

In the literature, the relationship of the topics of organizational culture and leadership are discussed (Bass & Avolio, 1993; Jones, 2005; Kotter, 1990; Sarros, Gray, & Denston, 2002; Schein, 1985). Ironically, this relationship becomes particularly salient when considering the research that attempts to examine each autonomously: There is a sense that they cannot be meaningfully studied in isolation (Hunt & Dodge, 2000; Porter & McLaughlin, 2006). However, there are several somewhat distinct viewpoints on this relationship of organizational culture and leadership. For example, Schein (1985) stated that culture and leadership are “intertwined” (p. 316). Similarly, Bass and Avolio (1993) hold that the two exist in a state of dynamic interaction, each continuously influencing and shaping the other. Other views on the relationship of culture and leadership are more unidirectional in that either the leaders adapt to fit into the local culture (Tsai, Wu, & Chung, 2009) or that leadership changes the culture to fit the leader’s vision (Trice & Beyer, 1993). Leaders create a culture in an organization that fits the leader, and the culture sets the boundaries for the change to occur.

To better understand these differing viewpoints on the relationship between leadership and organizational culture, this paper will discuss, compare, and integrate relevant theoretical perspectives. This will begin with the structural-functionalist paradigm as a general framework for social organizations and culture. More specifically, special attention is given to Douglas’ Grid and Group model (a general theory from the fields of anthropology and sociology that deals with organizational culture). In addition, the Competing Values Framework (also a theory of organizational culture) and the managerial leadership (transformational and transactional leadership behaviors) will be reviewed.

Theoretical Framework

The following section will expound upon the key concepts of culture (and organizational culture in particular), and managerial leadership. These foundational concepts will facilitate later discussions regarding Grid and Group, Competing Values Framework, transformational/transactional leadership, and their integration.

Organizational Culture

Over the last century and a half, definitions of culture (and subsequently, organizational culture) have emerged in the disciplines of social sciences, business, and education. Tylor is credited as the first person to offer a systematic and concise definition of culture (in English) in 1871 (Cahnman, 1962; Kroeber & Kluchhohn, 1952; Morrill, 2008; Peterson, 1979). Tylor (1871) began the first chapter of his book *Primitive Culture* by defining culture as “that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society” (p. 1). Anthropologists Kroeber and Kluchhohn (1952) noted that after 1871 there was a lag in interest in the topic of culture; in fact, they identified only six other definitions of culture in the literature from 1871 until the 1920’s. After the 1920’s, interest grew and the number of definitions cited for culture expanded to over 160 definitions by 1952 (Kroeber & Kluchhohn, 1952). These definitions varied in context to included groups, expectations, behaviors, subcultures, historical concepts, symbols, norms and values to name a few dimensions. After reviewing all 164 definitions of culture found in the literature, Kroeber and Kluckhohn (1952) developed an integrated definition: “Culture is a product; is historical; includes ideas, pattern, and values; is selective; is learned; is based upon symbols; and is an abstraction from behavior and the product of behavior” (p.157). In particular,

many authors emphasize that culture is learned (Hofstede, Hofstede, & Minkov, 2010; Schein, 1985).

It was not until the 1980's that interest in the study of culture in corporate organizations became prevalent (Alvesson, 1990; Cameron & Quinn 2011). Ouchi (1980) defined an organization as “any stable pattern of transaction between individuals or aggregations of individuals” (p. 140). Robbins and Coulter (2014) further pointed out that rituals and symbols are an important part of the mechanism by which employees learn culture in an organization. In general, symbols are the things (both physical and non-physical) that have a shared meaning within a cultural group (Ritzer, 2011). Schein (1985) distinguished the elements of culture into three levels: artifacts, espoused beliefs and values, and basic underlying assumptions. In particular, the artifacts in a culture are the visible symbols that can be experienced, such as architecture, behaviors, and rituals. Douglas (1986) described Durkheim's view of the symbols in society as the “sacred” ideas and objects—words, names, places, music, food, ideologies, and icons (e.g., flags). Although such artifacts and symbols are visible, their meaning is not as visible (Schein, 2010). Another related view describes the symbolic aspect of culture as that which connects the conscious to the unconscious (Jenner, 2000). Furthermore, Batteau (2000) asserted that that an organization does not develop until shared values, beliefs, and symbols are levied by a group. Social organizations are developed in this process, and the conscious and unconscious symbols are a measure of the values held by those in the organization.

In addition to symbols, theories of culture are also grounded in shared values and norms (Alvesson, 1990). In terms of the culture of an organization, Deal and Kennedy (1999) hold that values and beliefs are the cultural foundation and what is shared and accepted. They stated that values and belief are “what we are all about, what we rally around even when things get tough”

(p. 4). Values and beliefs are viewed from an individual standpoint and a perspective that views the organization as a whole. From an individual perspective, the values are what the individual feels is right. Values are also viewed as an action or expression (Balken, 1998) and are related to performance in an organization (Cameron & Quinn, 2011; Deal & Kennedy, 1999). Deal and Kennedy (1982) found that companies that had a strong culture also had a well-developed and deeply meaningful system of values. Values are celebrated in the symbolic rites and rituals of a company and are reinforced by the leader.

Although the transition to a culture definition aimed at formal corporate organizations was not until the 1980's, the broad underlying elements of the earlier general definitions did not dramatically change. Corporate organizational culture is often referred to as "the way we do things around here" (Deal & Kennedy, 1982, p. 4). Schein (1985), a trailblazer in the work of organizational culture and leadership, posed a much more rigorous definition of culture that nevertheless embodied the earlier ideas of culture as patterned and is what is perpetuated by members as to how to properly deal with problems as well as how to feel about the problems.

Structural Functionalism

Numerous useful theories and models dealing with organizations and culture are viewed through the paradigm of structural functionalism. The theories based on structural functionalism explain how social systems work and attempt to reach stability. In general, structural functionalism focuses on the relationships among the various components of a society (or any cohesive social organization) as well as the particular roles and purposes of those components (Ritzer, 2010). The stability of the organization is dependent on such demands as protection, constancy in messages, authority, policy, and overall goals within the organization (Selznick, 1948). Durkheim viewed social systems as units, how the units function as a whole, and how

they specialized (Kuper, 1985). Organizational growth and specialization causes a division of labor (Ritzer, 2010). The division of labor is a result of a need for organization (Turner, 2013). Durkheim conceived the concepts of collective conscious and the division of labor (Ritzer & Stepnisky, 2013). Turner, Beeghley, and Powers (2012) agreed with Durkheim that people are born in to the culture and it is what controls their perceptions, behaviors and actions based on the cultural norms of the social system. From a structural functional viewpoint, each system performs a function in society that creates balance in the system, such that the system becomes more specialized. The growth and change of specialization can create an imbalance, and the system work towards normalization and homeostasis.

Durkheim's structural-functionalist framework is based upon a continuum that defines the mode of social cohesion or solidarity (Ritzer, 2011). The two opposing positions of this continuum are mechanical solidarity and organic solidarity. Turner, Beeghley, and Powers (2012) described Durkheim's typology of mechanical solidarity as a high Collective Conscience (culture) for the descriptive variables of volume, intensity and determinateness and a low collective conscience (culture) relationship for these variables in organic solidarity. The organic culture exhibits decentralized decision making and participation in the decision process is encouraged which can result in blurring the levels of analysis. A mechanistic culture is bureaucratic in orientation featuring hierarchies and controls that function better in a stable environment (Bass, 1996). The view of Durkheim was that the collective conscious is more valued in a mechanical society and has less of an effect on an organic society where there is a division of labor (Ritzer & Stepnisky, 2013). Organic cultures are less rigid and open to new experiences, which are a better fit for transformational leadership and are more effective in an unstable environment. Similarly, a transformational culture is characterized by a flexible,

organic, and open culture focused on the vision of the organization. Teamwork and creativity are promoted in the culture (Bass, 1996).

Individualism-Collectivism is a continuum based on adaptation, growth, geography and economics (Allik & Realo, 2004; Hofstede et al., 2010). This is a dimensional view of culture wherein individualistic societies place the needs of the individual before the needs of the group. The individualistic society is loosely connected and the expectation is that everyone looks out for oneself. On the other dimensional plane, collectivist societies are integrated and dependent on each other and make decisions for the good of the group (Hofstede et al., 2010). These dimensions also explain conflict based on beliefs (Form, 1975). Durkheim (1933/1947), in the *Division of Labor* described organic and mechanical solidarity in individualistic and collectivistic societies. A society or social organization characterized by individualistic organic solidarity has a clear division of labor where individuals and subgroups have differentiated roles and responsibilities (i.e., people tend to have specializations). In contrast, a collectivistic mechanistic society or organization is characterized by the homogeneity of the roles and responsibilities of each individual (Durkheim, 1933/1947). The division of labor keeps the individualistic societies in order (Allik & Realo, 2004).

There are conflicting points of view for Durkheim's notion of growth as a movement towards individualism. The counterpoint is that social capital growth is building a consensus of working for a common goal and giving up individualism and there is a distinct movement towards collectivism (Allik & Realo, 2004). In this case individuals with similar norms will group together, and over time the individual norm will become the norm for the group (Avolio & Bass, 1995; Katzenbach & Smith, 1993). Lewellen (1993) postulated that sometimes the culture of individualism may not match the economic system which can stagnate the function of society.

Earley and Gibson (1998) proposed that the paradigm is situation specific and an individual can display individualistic or collectivistic behaviors depending on the situation. The individualism-collectivism distinction can also be incorporated into the context of culture and leadership.

Killick (2009) made an observation of Amazonian tribes. Although autonomous, they follow a leader that offers an exchange of government school as well as follow a leader in a crisis. The important point is that in an individualistic culture, there is a willingness to move towards a collectivistic activity as long as the activity, such as education in this case, is valued.

Dimensions of culture: Douglas' Grid and Group. Culture is an integral aspect of the entire social system of an organization. Mary Douglas (2011/1982) developed a typology to view culture that was essentially an operationalization of Durkheim's structural-functionalist concepts of social systems. The view of Douglas (2007/1970) was that a classification system develops from social relations. When the social forces are strong, there is stability in the organization. She viewed this classification framework as stable as long as there are not external forces that could cause change to the system. The other aspect she described reflected the demands on the individual. This view developed a concept of the Grid and Group structured typology that exemplified the state of the individual and of the classification or structure of the system. The typology demonstrated the impact of the group and individual interactions as well as the social preferences. By implementing this typology, there are patterns and trends of social interactions and behaviors that emerge in the systems that are mapped that denote (social) organization (Douglas, 2011/1982). Lockhart (2001) postulated that in the Grid and Group model, all four cultures are present in society in varying degrees.

Group dimension (high, low). The group dimension denotes the forces on individuality or the level the individual belongs to a group (Harris, 2005). This dimension is supported by the

social science dimensions of individualism (low group) and contrasting collectivism (Mamadouh, 1999). A high group society is not concerned about the individual and is exemplified by membership criteria for the group. The goal of a high group organization is concerned with the continuation of the organization and the survival of the group overshadows the survival of the individuals (Harris, 2005). In a strong group organization there is no distinct separation from work and social (Douglas, 2011/1982). In a weak group organization, there is little concern with group activities and the individuals are only concerned for themselves (Harris, 2005).

Grid dimension (high, low). The grid is the dimension of the structure or rules that controls the individual. It is the prescription for what is socially acceptable (Mamadouh, 1997). In a high grid, the strong classification system keeps individuals apart and controls their relations (Douglas, 2011/1982). The individual is under the control of others and dominated by rules and restrictions and roles are distinct. Leadership power is centralized and exemplified by position (Harris, 2005). At the extreme low grid these rules are no longer present and the individual is more prone to external influences (Douglas, 2011/1982). A low grid exemplifies individual independence with relaxed rules and minimal role distinctions. The decentralized leadership power in a weak grid is found to be personal, granted by the individuals, and earned over time (Harris, 2005). According to Douglas (2011/1982) society will move from a high grid towards the low grid dimension as there is increased value placed on the individual.

The four cultural types. The Grid and Group dimension outline 4 culture types in each of the quadrants based on Douglas' model. A culture that is defined as a weak grid and a weak group is defined as an Individualist culture. This culture is characterized by few rules that govern, and there is independence. The Individualist culture is not restricted by rules and

competitiveness exists. In this culture, the individual is willing to take risks for gain and there is no value placed on the continuation of the organization. The social game of the culture type is “Individualism” (Harris, 2005, p. 41). Innovation is rewarded in this culture type (Douglas, 2011/1982). In addition, the individuals can make their own decisions and failure is blamed on the individual (Mamadouh, 1999). This culture type is also accepting of individual differences (Wildavsky, 1987).

A culture that is a strong grid and weak group is defined as a *Bureaucratic* culture. Harris (2005) described this culture type as a hierarchal system where there is limited socialization in the institution. In this culture, there is little autonomy or potential advancement. The social game is “authoritarianism” (p. 41). There is compliance to rules and individuals have little input in the formation of goals for the organization. Mamadouh (1999) points out that in this culture type the structure is what controls the individual and “fairness” for the individual is not considered (p. 400). This is supported by the idea that decisions are imposed from the external environment (Wildavsky, 1987).

A culture that is a strong grid and strong group is defined as a *Corporate* culture. Harris (2005) described the social game in this culture type as “hierarchy.” In this culture, the focus is on the collective group, leadership power is centralized, and there is a strong sense of rules and controls. The group maintains the culture in a way that is in the best interest for the group and traditions are important. Douglas (2007/1970) described the role of rituals as a priority in celebrating the whole rather than the parts. This culture generates mistrust in the organization the culture supports pressure to validate the rules (Mamadouh, 1999). This is supported by the idea that the individual must sacrifice for the good of the whole (Wildavsky, 1987).

Harris (2005) described the weak grid strong group culture as a *Collectivist* culture and the social game as “egalitarianism” (p. 41). The strong group places value on the norms and the continuation of the group and there is a strong commitment to the group. The weak grid influence does not value authority in this culture type and decision making is decentralized. Douglas (2011/1982) viewed this weak grid/strong group culture as the group having a barrier against external forces as a result of the collectiveness. Relationships between members are a key factor in this culture type and roles are not defined (Mamadouh, 1999). The culture type strives for greater equality in society (Wildavsky, 1987).

Harris (2005) provided a more recent interpretation and application of the Grid and Group typology within the context of the modern American school. Although this particular treatment of the framework pertains to schools, these concepts can easily be generalized to most any modern hierarchical organization (Spady & Marx, 1984, as cited in Deal & Peterson, 1990). Harris felt that Douglas’ Grid and Group is a matrix that could be applied to schools to identify the culture of the schools based on what is valued in the school setting. Figure 1 below depicts the typology and the four culture prototypes based on the work of Douglas. The Grid and Group are the forces and the culture type is represented within each quadrant. This typology views the grid as the rules that individuals live by and the group depicts the value placed on collectivism. The strong grid is where the rules and hierarchy are set in place, decisions come from the top, and there are distinct roles. In a weak grid the roles are not defined. Characteristics of a strong group are a strong connection in the group and to the institution. A weak group is defined by individualism and little loyalty to the institution (Harris, 2005).

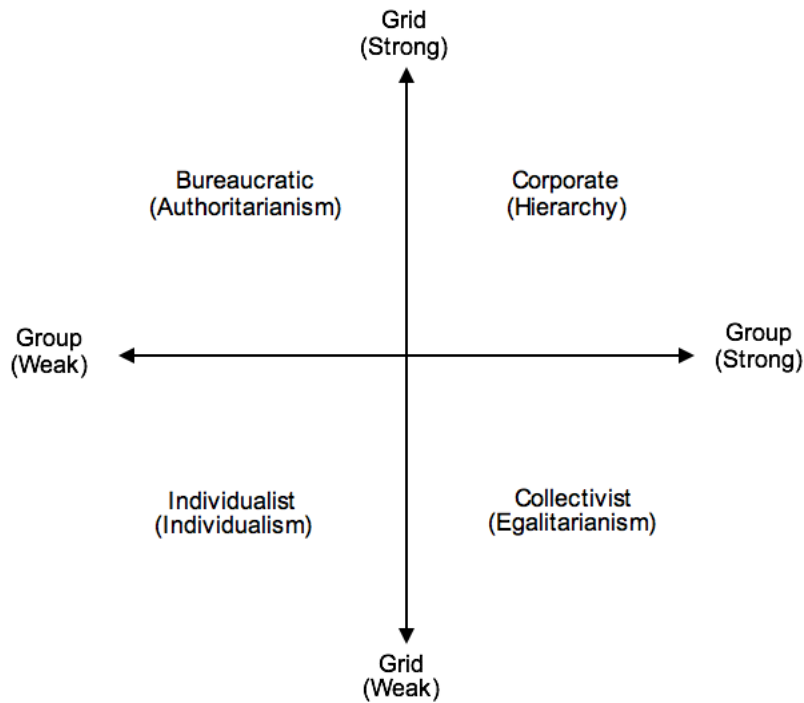


Figure 1. Grid and Group model of culture (Harris, 2005).

Competing Values Framework

The perception of effectiveness in an organization is based upon congruent values held by those in the organization (Quinn & Cameron, 1983). Based on this premise, the Competing Values typology was first developed by Quinn and Rohrbaugh (1983, 1981). The values of organizational effectiveness were identified by a panel who reviewed a list of items that were first recognized for organizational effectiveness in a study conducted by John Campbell. In the context of competing values of organizational effectiveness, Quinn and Rohrbaugh (1983) developed a framework for organizational analysis based on effectiveness and attributed to the domain of organizational theories of open systems, human relations, internal process, and rational goal models. The model was based on the scope of well-being and development, organizational structure from stability to flexibility, and the set of values related to processes and outcomes. The emerged four dimensional model encompassed the internal focused human

relations model (flexibility and people) in contrast to the externally focused rational goal model (organizational control and effectiveness). The second opposing quadrants were the external focused open systems model (flexibility and effectiveness) and internal process model (people and control). The internal nature of the human relations model and internal process model is focused on the people within the organization, which is in contrast to open systems and rational goal model where the focus is on the organization and not the people (Quinn, 1991; Quinn & Rohrbaugh, 1983, 1981). It is important to also note the open systems and rational goal share an external focus, the human relations and internal process model share an internal focus, the human relations and open systems share a prominence of flexibility, and the internal process and rational goal model rely on controls (Quinn, 1991). The model was applied by Quinn to organizational performance and managerial roles.

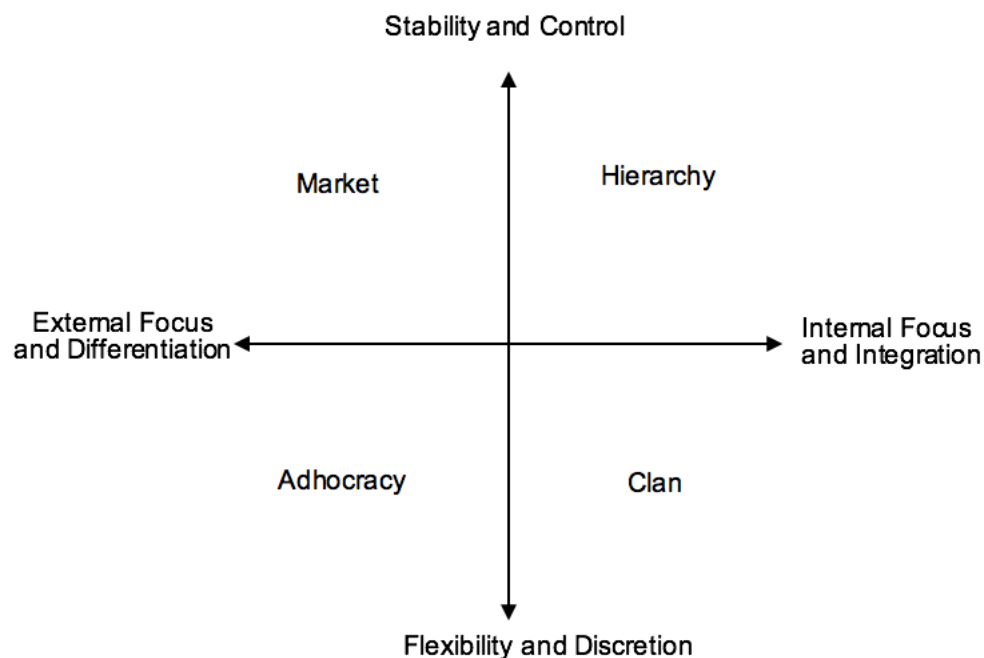


Figure 2. Competing Values Framework (adapted from Cameron & Quinn, 2011).

Culture types of the Competing Values Framework. Figure 2 depicts the Competing Values model that was further developed and refined by Cameron and Quinn (2011) in a

framework based on four Culture types that are categorized by the values held in an organization. The typology is based on 2 dimensions and four culture types. The internal attributes are associated with Hierarchy and Clan culture types, and the external attributes are associated with Market and Adhocracy culture types. Based on these culture types, the Organizational Culture Assessment Instrument (OCIA) was developed by Cameron and Quinn (2011) as a tool for evaluating organizational Culture. There is agreement by some that an organization is not inclusively one culture type (Cameron & Quinn 1999; Wilkins & Ouchi, 1983), rather it is a dimension of opposing value systems of effectiveness. Cameron and Quinn (2011) described four culture types in the Competing Values Framework.

The *Hierarchy* culture archetype is portrayed as internally focused and described as “procedures govern what people do” (Cameron & Quinn, 2011, p. 42; 1999, p. 58). The theories of controls and efficiency are valued as effective and centralized power is dominant in a Hierarchy culture. This culture type is often found in large stable bureaucratic organizations that are well developed and specialized (Cameron & Quinn, 2011). Wilkins and Ouchi (1983) postulated that bureaucracy culture will not be efficient if the control mechanisms are not in place and employees do not feel they are being treated equitably or in an equitable manner.

The *Market* culture archetype is based on external transactions in organizations and transactional costs are viewed as important. This culture is competitive and fixated on productivity and reaching benchmarks. Similarly, Ouchi (1980) also described market cultures as focused on transactions.

The externally focused *Adhocracy* culture dimension is described as creative and adaptable (Cameron & Quinn, 2011; 1999). This culture type fosters innovation, entrepreneurship, and vision in the organization. Power is decentralized and transferred

throughout a project promoting individuality. The flexibility of this archetype supports “transformation” (Cameron & Quinn, 2011, p. 53).

The Clan culture is characterized as a tight knit group compared to a family where there is a shared belief within the group (Cameron & Quinn, 2011; 1999). Teamwork is valued and rewarded. The people that work in this type of an organization are very committed to the organization and its traditions. Likewise, Wilkins and Ouchi (1983) characterized clan culture as one that takes longer to cultivate and the goals are for the best interest of the group. Ouchi (1980) compared Durkheim’s notion of organic solidarity of an occupational group to what he determined to be a “clan” in that there is dependence on one another (p.136).

Managerial Leadership

Definitions. Similar to the previously discussed culture definitions, leadership also has numerous and diverse definitions. When leadership is mentioned people intuitively have different perceptions of a leader (Northouse, 2007, p. 2). Many view leaders as “heroic” (Deal & Kennedy, 1982; Vecchio, 2007). A leader is associated with a vision (Avolio & Bass, 2004; Kotter, 1988; Kouzes & Posner, 2007). In some instances, leadership was described as a function of management (Robbins & Coulter, 2014), and others pointed out a significant difference between leadership and management (Kotter, 1990, 1999; Yukl, 2013). Kotter (1990) defined the differences between leadership and management and described management as the processes of planning, organizing and controlling in an organization in order to produce “a degree of consistency in an organization” (Kotter, 1990, p. 4). Whereas, leadership is defined as “the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitation individual and collective efforts to accomplish shared objectives” (Yukl, 2013, p. 7). Or simply, “leadership is ultimately about creating a way for

people to contribute to making something extraordinary happen.” (Alan Keith, as cited in Kouzes & Posner, 2007, p. 2).

Theories. Organizational theories incorporate the relationships of management, leadership, and culture (Osborn, Hunt, & Jauch, 2002). Some view that Leadership theory was initially founded on “The Great Men” (Carlyle, 1840) theory which attributed leadership to a particular personality trait of the leader. There was support for the Trait Theory when it was first developed (Colbert, Judge, Choi, & Wang, 2012). However, a limitation of this theory is that it is very narrowly focused on attempting to identify an effective leader by attributes alone and does not take the culture or environment of the organization into consideration. When it became clear that the trait theory could not explain all the variances, leadership theories moved from trait theories to behavioral theories (Hernandez, Eberly, Avolio, & Johnson, 2011; Northouse, 2007). The key leadership research studies that created the shift to behavioral theories were the Ohio and Michigan State studies. These approaches viewed the leadership behaviors as “task and relational” (Northouse, 2007, p. 78). Kouzes and Posner (2007) stated that “Leadership is not about personality; it’s about behavior” (p. 15). In their research, they identified five exemplary practices (behaviors) of leaders as: model the way, inspire a shared vision, challenge the process, enable others to act, and encourage the heart (p. 14). Leadership relies on emotional intelligence skills and the leaders that are effective are more emotionally intelligent and can portray an array of leadership behaviors that fits each situation (Goleman, 2000). In other words, effective leaders practice a variety of behaviors and utilize the behavior that is needed for the current situation (Yukl, 2013).

As a consequence of industrialization, management theory was brought to light as a scholarly work and practice by Peter Drucker in the 1950’s (Zahra, 2003). Management theory

has moved from the conventional McGregor's Theory X to the new theory of management-theory Y. Theory X is based on the belief that workers are generally lazy and have to be motivated and monitored by management in order for production to occur. Theory X focuses on the management functions of control and does not take into account the social needs of the workers. Conversely, Theory Y takes into account the physiological needs of workers and holds the belief that they are self-motivated and interested in new opportunities (McGregor, 1957). Theory X perspectives are compared to the managerial leadership behaviors associated with the rational goal model and internal process model, and theory Y is associated with open systems model and human relations model (Quinn, 1991).

The functions of leadership and management has also been viewed from an organizational growth perspective. In order to remain competitive, the leadership and management in the organization must be responsible for the strategic decisions regarding the structural and functional organizational change. As industries change and strategically grow as a means to remain competitive in the market, reorganization into a more centralized structure is required to function optimally by efficiently utilizing resources. In order for the organization to continue to grow to meet the market demands, the organization will create more independent divisions with new product lines in expanded locations which requires further structural reorganization to meet the existing functional needs (Chandler, 2000/1962). Cameron and Quinn (2006) identified changes in organizational culture and leadership styles throughout the organizational development and growth cycle. There are management and leadership style (behaviors) are more effective at different stages of the company life cycle and associated culture type. Some behaviors that are effective in some stages of the life cycle can be ineffective as the life cycle of the organization progresses.

Management and leadership behaviors. Although the definitions of management and leadership do not always align, there is agreement that managers can be leaders and leaders can be managers (Kotter, 1990, 1999). Kotter (1999) had an important point that leadership should not be confused with management: “Leadership compliments management; it doesn’t replace it” (p. 52). A manager is someone who makes plans without vision. He further pointed out that there is a balance between the bureaucratic management behaviors and the leadership behaviors with no controls and posited that a balance of both are needed. In a situation of high volatility more leadership is required and in stable times more management is needed (Kotter, 1988). This concept was confirmed in a study by Peterson and Van Fleet (2008) which identified that different managerial leadership behaviors were critical depending on the volatility of the situation. In their study, problem solving and obstacle elimination were important behaviors of managerial leader during a crisis and consideration and praise-recognition were important behaviors during a stable situation. In this same study, credible, information dissemination, inspiration, compelling direction, and role clarification were nearly equally important behaviors in both a crisis and a stable situation. Peterson, Beard, and Van Fleet (2012) found similar findings in another study where consideration was a critical behavior in a time of stability and problem solving behavior was critical in a time of crisis. This study also found inspiration to be an important managerial leadership behavior in both stability and crisis situations. Comparable leadership behaviors in a college student population were also established by Peterson and Peterson (2015, 2012).

Transactional/transformational behaviors. The groundwork for the Transformational and Transactional leadership theory (Full Range Leadership Model) was first developed by James MacGregor Burns and adopted by Bernard Bass (Bass, 1985). Burns (2010/1978) was the

first to describe leadership as “Transactional” or “Transformational”. The Transactional leadership is a relationship between a leader and follower which is limited to the exchange of something of value. On the other hand, the Transformational leader is a leader that brings about engagement of the followers and raises the follower (and the leader) to a new moral level. Interest in Transformational leadership stemmed from the noticeable influence a leader has on an organization that was not explained well with the current models compounded by the drive for increasing organizational performance (Chemers, 1997). The Full-Range Leadership model (developed by Avolio and Bass) is a leadership theory composed of three types of leadership which are Transformational Leadership, Transactional Leadership, and Laissez-faire Leadership. In this model, these three types of leadership are determined by nine different factors: five Transformational factors, three Transactional factors, and one Laissez-faire/passive-avoidance factor (Antonakis et al., 2003; Avolio & Bass, 2004).

The typology of Transformational Leadership is composed of dimensions that are associated with both leadership behaviors and leadership attributes. The factors that identify transformational leadership reflect a higher order construct and include: *Idealized Influence (attribute and behavior)*, *Inspirational Motivation*, *Intellectual Simulation*, *Individualized Consideration* (Avolio & Bass, 2004; Bass, 1996; Bass, Avolio, Jung, & Berson, 2003). *Idealized Influence* is separated into both attributes of Idealized Influence and behaviors of Idealized Influence (Avolio & Bass, 2004). Chemer (1997) identified the Idealized Influence factor as having “charisma” (p. 86). This type of leader demonstrates a behavior of offering support and encouragement to followers (Tejada, Scandura, and Pillia, 2001). Chemers (1997) identified the *Inspirational Motivation* factor also as having properties of charisma and a mechanism by which the follower is moved emotionally by the leader. This attribute challenges

and inspires followers fostering esprit de corps. The leader expresses shared goals and understanding (Avolio & Bass, 2004). The *Intellectual Stimulation* leadership factor is described as a creative and entrepreneurial motivation of the followers. This leadership attribute challenges followers to find better processes (Bass, 1996) by encouraging them to think in a different way to determine the best approach to a dilemma (Avolio & Bass, 2004). The *Individualized Consideration* leadership factor relates to the attention to individual needs and the behavior is described as a “coach” (Bass, 1996, p. 6). In addition, the Individualized Consideration factor is related to the development of culture by supporting growth of all individuals which fosters a collectivistic culture (Avolio & Bass, 2004).

The Transactional leadership typology is described as an exchange theory that is centered on transactions (Bass, 1985; Lowe, Kroeck, & Sivasubramaniam, 1996). This type of leadership is theorized to be a combination of the factors of *Contingent Reward* and *Management by Exception* (Avolio & Bass, 2004; Chemers, 1997). The *Management by Exception* is considered to be the form of leadership where there is constant monitoring and action is taken to either correct or reward performance. The active Management by Exception leader is more actively involved and the passive Management by Exception leader only intervenes to make corrections (Antonakis et al., 2003). Bass (1996) described this factor as a manager that monitors actions that are outside of the standards. The *Contingent Reward factor* is identified by an exchange of rewards for reaching goals (Antonakis et al., 2003). Rites (Trice and Beyer, 1993) and symbols (Bass & Avolio, 1993) are viewed as a reward or reinforcement in exchange for behaviors and performance in an organization.

The *passive-avoidance or laissez-faire* form of leadership is passive and provides no direction (Bass et. al, 2003). This leader is one that takes no action and this leadership style is

considered to be not effective (Antonakis et al., 2003). Laissez-faire leadership style is considered “nontransaction” (Bass, 1996). Since this leadership style takes no action, there is no interaction or relationship with the leader. Kouzes and Posner (2007) stated that “leadership is a relationship” (p. 23).

One facet of Transformational/Transactional Leadership behavior is that a Transactional Leader works with the existing organizational culture, whereas a Transformational Leader transforms and changes the culture (Avolio & Bass, 2004). The difference between transactional and transformational leadership is that the latter moves followers up Maslow’s Hierarchy from the level of needs and safety to the level of self-actualization. This movement is a raise in consciousness (Bass et al., 2003; Avolio & Bass, 2004). The Transformational Leader is visionary (Avolio & Bass, 2004; Lowe et al., 1996), and uses vision as a mechanism for change. Trice and Beyer (1993) also credited a visionary leader for creating a new organizational culture in that the leader creates the culture based on their vision of what the leader wants for the new organization. In their view, a visionary leader can create a new culture over a period of time. Yukl (1999) described the transformational leadership theory as different than other leadership theories since it has a particular focus on emotions and value. However, Yukl also noted that this theory is somewhat vague and broad.

Comparison and Integration of Theoretical Models

The Grid and Group typology explored in an earlier section of this paper, was first developed by anthropologist Mary Douglas (2007/1970) and was based on the work of Durkheim. Later, this model was applied in a school setting by Harris (2005). The previously described Competing Values model refined by Cameron and Quinn (2011) was founded upon a list of criteria of values for organizational effectiveness. Although these two typologies have

very different and unique originations, the comparison of the theories yield similar orientations in the typology of culture and the models demonstrate similar forces or tensions (in the social system) of an organization.

Transformational and Transactional behaviors (Full Range Leadership Model) are compared to the leadership characteristics of the Competing Values Framework and Grid and Group model. The similarities are centered on what is valued. Yukl (1999) pointed out that the transformational leadership theory is based on values, and the Competing Values Framework by Cameron and Quinn (2011) is also based on values of effectiveness. The similarities in the leader characteristics of the Competing Values Framework and the descriptions of the Transformational leadership behaviors provide some support for the leadership factors of the Full Range Leadership Model and the relationship to organizational culture.

In the integration of the theories of Grid and Group, Competing Values Framework, and Transformational and Transactional behaviors, parallels to the culture types, leadership styles, and mechanisms for change emerge (Figure 3). In this next section, the similarities of the opposing forces on the individual and the social structure of the organization for both the culture type and leader type will be described by first creating a framework for these models. Then the integrated relationship of culture types (including leader type) and factors of the Full Range Leadership model will then be described. In the final section the implications of organizational culture and managerial leadership based on these models will be discussed.

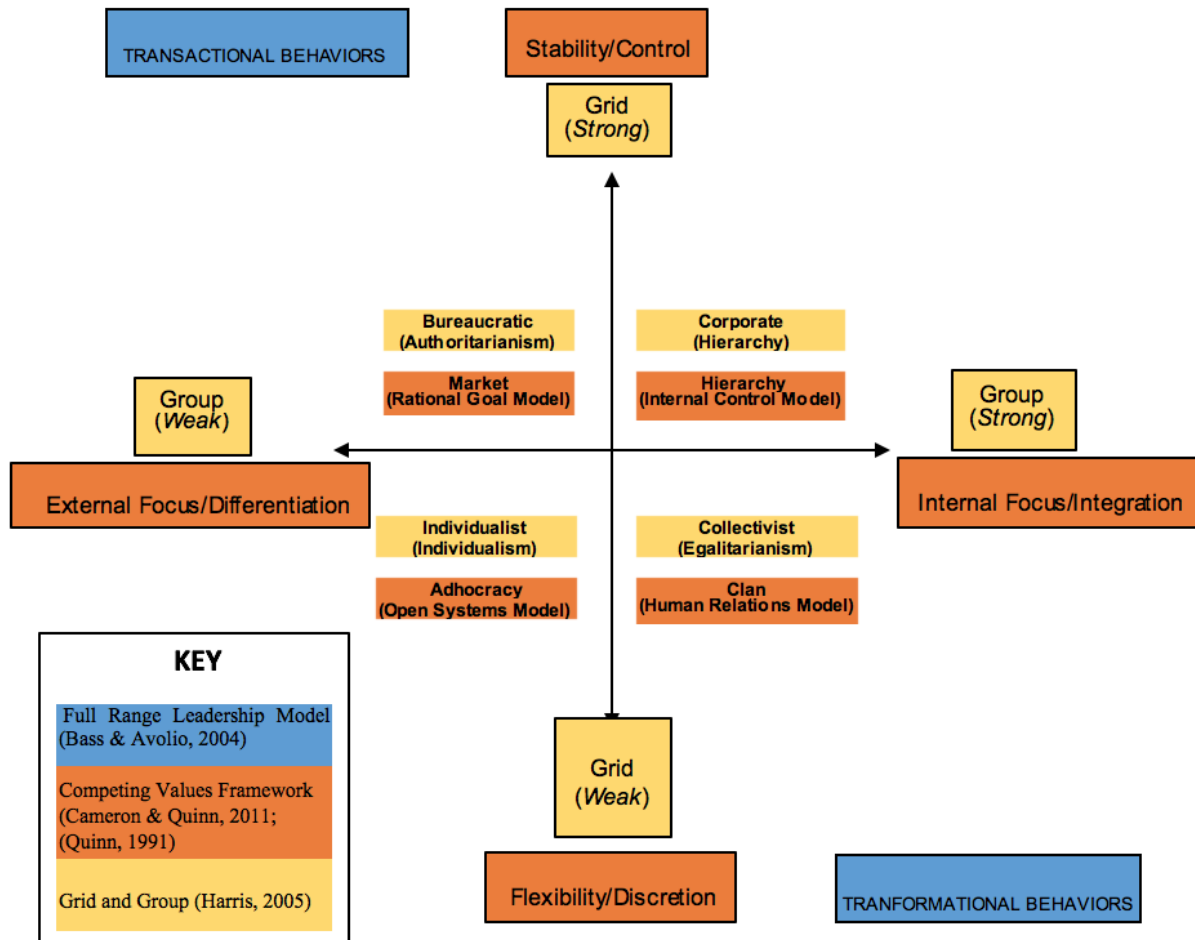


Figure 3. Integration of models (Grid and Group, Competing Values, Full Range Leadership).

Comparison of Model Dimensions

Both culture typologies view the individual on one continuum and the organizational or social classification on the other. In the Grid and Group model, the grid refers to the organizational or social forces and the group refers to the forces on the individual (Harris, 2005). For the Competing Values model, the stability and control and flexibility and discretion are the organizational and social forces. The internal focus and integration is the cohesion, and external focus and differentiation describe the independence (Cameron & Quinn, 2011).

The grid is the forces of the organization and is defined as “the degree to which an individual’s choices are constrained within a social system imposed by prescriptions such as role

expectations, rules, and procedures” (Harris, 2005, p. 34). Maximum autonomy is found in a weak grid and minimal autonomy is found in a strong grid (Harris, 2005). The strong grid forces of the Grid and Group model are aligned with the stability and control forces of the Competing Values Model which is a mechanistic organization governed by rules and the weak grid is aligned with the flexibility and discretion forces which describe a more flexible organic organization (Cameron & Quinn, 2011).

The group determines the forces on the individual and is defined as “the degree to which people value collective relationships and the extent to which they are committed to the larger social unit” (Harris, 2005, p. 36). A strong group is characterized as strong social incorporations and the interest of the group is prioritized over individuals (Harris, 2005). The comparable individual force of internal focus dimension of the competing values model is based on the human relations model and the internal process model which is characterized by human commitment, consolidation, and continuity (Quinn, 1991). The contrasting weak group is characterized by minimal social incorporation (Harris, 2005) and is compared to the external focus dimension where externally focused values are accentuated (Cameron & Quinn, 2011).

In viewing the leadership types identified in the competing values and Grid and Group models, similarities can be recognized within in the contrasting dimensions. This is also supported by other models. Harris (2005) applied a situational leadership model (Hersey & Blanchard, 1982, as cited by Harris, 2005) to support the Grid and Group leadership behaviors. The weak group leadership behavior is described as “low-supportive” behavior, whereas the strong group leadership behavior is designated as “high supportive” (p. 56-57). On the other dimension, the strong grid leadership demonstrated “high-directive” behavior and weak grid culture types were listed as a “low directive” behavior wherein the leader does not make the final

decision (p. 56-57). In the weak grid the leader has minimal oversight and in the strong grid the leader takes more of an active role. The strong group/strong grid culture type was designated as described as a “coaching” behavior (p.57). The strong grid/weak group leadership is described as “directive” (p. 57). The leadership in the weak grid/strong group culture type was viewed as a “supporting” behavior (p.57). The weak grid/weak group behavior was described as “delegating” (p. 57). These described leadership behaviors are similar to the Competing Values leadership roles described by Quinn (1991) and leadership types by Cameron and Quinn (2011) discussed in the next section within each identified culture archetype.

Comparison of Cultural Typologies and Integration of Managerial Leadership

Individualist and Adhocracy culture. The weak grid/weak group Individualist culture described by Harris (2005) is similar to the Adhocracy culture dimension identified by Cameron and Quinn (2011). Both the Individualist and Adhocracy culture are defined by decentralized power and individuality/independence and risk taking (Cameron & Quinn, 2011; Harris, 2005). Flexibility, creativity, accountability, and productivity are valued in this weak grid and weak group dimension (Harris, 2005). Similarly, the Adhocracy culture dimension fosters creativity and flexibility in the organization (Cameron & Quinn, 2011). The organization in this dominant culture type is organic and flexible.

Effective *Individualist* culture leadership styles exhibit encouragement and support as well as a competitive work environment. In a school setting, a successful principal (leader) is charismatic, trust-building, and appreciative of individual strengths (Harris, 2005). The Competing Values successful leadership types for the *Adhocracy* culture are identified as an innovator, visionary, and an entrepreneur (Cameron & Quinn, 2011). The individual strengths and innovation illuminate the weak grid of this culture as well as the organic structure that would

be found in this culture type and leadership style. The Full Range Leadership model defines *Intellectual Stimulation* as creative and entrepreneurial stimulation of the followers. This attribute fosters innovative processes (Bass, 1996). This leadership attribute aligns with the innovative and entrepreneur leader type described for the Adhocracy culture of the Competing Values Framework (Cameron & Quinn, 2011).

Collectivist and Clan culture. The strong group/weak grid *Collectivist culture* and *Clan culture* are analogous in that commitment is high and is tied to group goals (Cameron & Quinn, 2011; Harris, 2005). Harris (2005) describes Collectivist cultures as Egalitarian and defined Egalitarian as “the equality of humankind and the desirability of political, economic, and social equality for all” (p. 146). Harris also described this strong group culture dimension in a school setting where cooperation, group harmony, and academic achievement tied to group goals is what is valued (Harris, 2005). Cameron and Quinn (2011) described the comparable Clan cultures as a tight knit group and comparable to a family where there is shared values within the group.

The leadership styles of the Collectivist and Clan culture type are also connected. The successful school leadership style in a collectivist school culture is where the teacher and principal share roles. In this culture, power and decision making are decentralized and the decisions are made by the consensus of the group (Harris, 2005). Leadership success has been identified as support of teamwork, promotion of school goals, and shared decision making (Harris, 2005). This is consistent with the described leader type of facilitator, mentor, team builder associated with the Clan culture described in the Competing Values Framework (Cameron & Quinn, 2011). This is also consistent with the interrelated human relations model where the leadership type is caring and the power is derived from personal connections (Quinn,

1991). This leadership description bears similarities to Transformational leadership factors of the Full Range Leadership Model. Bass (1996) described the attribute of *Inspirational Motivation* as focused on goals and vision. This leadership attribute is consistent with promoting the Clan/Collectivist culture associated with common goals, decisions, and teamwork. Bass (1996) reported that a collectivist culture is willing to follow an inspirational leader. *The Individualized Consideration* factor of the Transformational leader is also characterized as a “coach or mentor” (Bass, 1996, p. 6) which is the same leader type description found in the Clan culture of the Competing Values Framework.

Market and Bureaucratic culture. In the Competing Values Framework, the *Market culture* dimension values competitiveness and productivity and is results-oriented (Cameron & Quinn, 2011). The competitive advantage is important to the individuals. This is compared to the strong grid/weak group *Bureaucratic culture* analogy of baseball described by Harris (2005) wherein individual goals, performance and statistics are measured and valued. In a strong grid/weak group Bureaucratic culture, the separation of work and personal (and social) is valued and there is not a strong connection to the institution (Harris, 2005). According to Bass (1996), in a transactional culture the individuals do not feel they are a part of the organization or represent what the organization stands for which aligns with weak group of the Bureaucratic culture and the external focus of the individuals.

In a *Bureaucratic* culture, a successful administrator (leader) has been identified as one who would embrace and utilize structure, supervise closely, and one that would motivate by role and reward (Harris, 2005). Harris (2005) stated that the work is a result of individualized goals rather than the overall communal goals. Cameron and Quinn (2011) identified the leader type of the comparable *Market* culture as hard driver, competitor, and producer and reaching goals is

valued. Based on the Rational Goal Model, the leadership type is described as directive, decisive, and highly goal oriented (Quinn, 1991). The goal achievement of the Competing Values model is aligned with motivation of goal achievement in the Grid and Group model. In a Transactional culture of the Full Range Leadership Model, the *Contingent Reward* factor of the Transactional Leadership type is based on rewards in exchange for success which aligns with the leadership style associated with this archetype. The *Management by Exception* factor of the Transactional Leadership closely monitors actions (Bass, 1996) which align with the Bureaucratic Culture leadership characteristics of the Grid and Group (Harris, 2005).

Hierarchy and Corporate culture. The direct correlations of the strong grid/strong group *Hierarchy culture* type and the *Corporate culture* are that that rules, procedures, and centralized power dominate this culture (Cameron & Quinn, 2011; Harris, 2005). The Hierarchy culture values control (Cameron & Quinn, 2011). Harris (2005) describes the social game of the Corporate culture as “hierarchy” (p. 129).

Harris (2005) identified the leadership in a *Corporate* school culture as a coaching leadership and where there is centralized decision making. Harris (2005) also credited a successful leader in a *Corporate* school is one that nurtures similar views and actions and develops a clear classified organization. The linked *Hierarchy* culture archetype of the Competing Values Model identified the leader type in this culture as a planner, structured, and one that oversees progress (Cameron & Quinn, 2011). These culture types are more loosely connected and the similarity lies in that the leader promoting a clear hierarchal structure (Grid and Group) is similar to the organizing characteristic of the leader type found in the Competing Values framework. Quinn (1991) recognized that an effective manager in this culture maintains a familiar order and structure as well as provides clear lines of communication. This description

also aligns with the close observation (strong group) leader characteristics of the Grid and Group archetype. In comparison, the *Management by Exception* factor of the Transactional Leader also is described as a monitor (Bass, 1996) which is congruent with the monitor leader characteristic of the Hierarchy culture (Cameron & Quinn, 2011), and close supervision characteristic of the Grid and Group (Harris, 2005).

Conclusion from the Literature

In integration of the Grid and Group, Competing Values, and Transactional/Transformation Leadership behavior (Full Range Leadership) theories, they are all found to be interrelated and there are potential implications for organizations that can be recognized. In viewing these models, there is not necessarily one best managerial leader type or one best culture archetype for an organization and an organization is not just one culture type. Rather, the best managerial leader and the best culture is one where there is culture congruence and a managerial leadership behavior that fits the culture. For example, an existing or new leader that attempts to change the existing culture of an organization could be met with resistance by the organization. According to Robbins and Coulter (2014), individuals in an organization hold on to the values that they are comfortable with and which have a history of working in the organization. Organizational continuity is maintained as long as it is valued as in the best interest, and only changes if the change is viewed to be the best interest (Salzman, 2001). Managerial Leadership strategy creates change that affects the function and structure of an organization (Chandler, 2000/1962). As part of group function, some values can be adapted and undergo transformation as a process of change (Schein, 1985). Culture can derail leadership's strategy, according to Peter Drucker, who is credited with the famous (undocumented) quote, "*Culture eats strategy for breakfast.*" Therefore, cultural congruence and managerial leadership style are crucial for

organizational success (Cameron & Quinn, 2011). The transactional leadership behaviors align more with the stability and control dimension of the models and the transformational leadership behaviors align with the flexibility and more organic culture types. As previously discussed, Kotter (1988) described a manager as someone who makes plans without vision. The Transformational leader is visionary and a Transactional Leadership mechanism is by contingent rewards. The manager qualities align more closely with the Transactional Leadership behaviors and the visionary leadership qualities align with the Transformational Leadership behaviors. A change in leadership in an organization from Transactional Leadership to a Transformational Leadership style or vice versa could have implications depending on the culture type of the organization. If the culture type and managerial leadership behavior are not congruent, it could create uncertainty and unsettling in an organization.

In this paper, comparisons have been drawn between the Grid and Group Model and the Competing Values Model culture types and leadership behaviors. Leadership behaviors of the Full Range Leadership Model reinforce the managerial leadership types and roles identified in the associated Grid and Group and the Competing Values Models. The constructs of managerial leadership and culture types appear to be interconnected. Understanding the culture types and managerial leadership behaviors that exist in an organization could be instrumental in understanding the dynamics of an organization.

CHAPTER III: METHODS

Chapter 3 discusses the research questions, the procedures and the design of the study, and the methods used for the data analysis.

Research Questions

The three research questions were designed to investigate the relationship of the Grid and Group Model, the Competing Values Model, and the Full Range Leadership Model. The study was a quantitative web based survey distributed via email. The results were collected with the survey and analyzed for correlation of the variables listed in the following research questions:

- 1a. What are the quantitative relationships among the dimensions identified by the Grid and Group Theory and the Competing Values Framework (Preferred) as measured by the Social Game Assessment Tool and Organizational Culture Assessment Instrument respectively?
- 1b. What are the quantitative relationships among the dimensions identified by the Grid and Group Theory and the Competing Values Framework (Now) as measured by the Social Game Assessment Tool and Organizational Culture Assessment Instrument respectively?
2. What is the relationship among the dimensions identified by the Full Range Leadership Model and the Grid and Group Theory as measured by the Multifactor Leadership Questionnaire 5X Rater Instrument and the Social Game Assessment Tool respectively?
- 3a. What is the relationship among the dimensions identified by the Full Range Leadership Model and the Competing Values Framework (Preferred) as measured by

the Multifactor Leadership Questionnaire 5X Rater Instrument and the Organizational Culture Assessment Instrument respectively?

3b. What is the relationship among the dimensions identified by the Full Range Leadership Model and the Competing Values Framework (Now) as measured by the Multifactor Leadership Questionnaire 5X Rater Instrument and the Organizational Culture Assessment Instrument respectively?

Sample

The volunteer subjects were sampled from a pool of ($n = 33$) full time employees of an agricultural cooperative organization in the Midwestern part of the United States (convenience sample). Creswell (2015) explained that with a convenience sample, the data can still provide useful information to examine a hypothesis. The organization was in a period of high growth and expansion with locations in seven communities within a regional area of a state. This organization had merged with a larger organization within the last year. Only the approximately 46 managers have direct access to the work computers in the organization and will be the convenience sample for this study. This was information provided by the General Manager that indicated that his managers confirmed that they completed the survey.

Procedures and Data Collection

The Organizational Culture Assessment Instrument, Social Game Assessment Tool (modified), and the Multifactor Leadership Questionnaire 5X Rater form instruments as described above were placed in web-based survey format using Qualtrics (provided by North Dakota State University). The survey was distributed to participants via a link in an email from the General Manager (GM) of the organization. The initial email was followed by five email reminders over the course of five months. The visual appearance of the survey aligned with

recommendations of Dillman, Smyth, and Christian (2008) which include proper spacing, easy to read font type and size, the questions are organized in a such a way that participants will not have to re-read parts of the questions, the scrolling necessary was very minimal and section of questions were identified.

Prior to beginning the study, the proper IRB documents were filed and approved by the NDSU Institutional Review Board (IRB approval documentation can be found in Appendix B). The invitation to participate in the survey included information that participants were required to be over 18 to participate, participants could discontinue at any time, the survey responses were anonymous, results will only be reported in aggregate form, the participants would not benefit from taking the survey, and the survey questions could potentially cause some minor discomfort. The General Manager was asked to send out five reminders in the following five-month period. In accordance with policy, the General Manager was ultimately in charge of the distribution of the emails related to the survey. The data was collected via Qualtrics and all analyses conducted in Stata (version 14).

Data Cleaning and Correction

A codebook was created for the data, and the data was evaluated for errors. Data were subsequent cleaned and prepared in an acceptable method prior to the analysis. The data was cleaned and examined for missing data. There were three participants' answers that did not add up to 100 as per the directions for the Organizational Culture Assessment Instrument (OCAI). These were given a new value based on the proportion of their response. For example, one of these participants answered with 10%, 10%, 50%, and 20%. These were adjusted proportionally so that the new values were 11%, 11%, 56%, and 22%.

Instruments

The study design was a quantitative (web based) survey research study. The instruments used to investigate the relationship of the culture and leadership models were the Organizational Culture Assessment Instrument (OCAI), Social Game Assessment Tool (modified), and the Multifactor Leadership Questionnaire 5X (Rater form) as described in this section. According to Creswell (2015), survey research is useful in describing trends.

Social Game Assessment Tool (Modified)

Harris (2005) developed the Social Game Assessment Tool to view the Grid and Group Culture type of an organization. This instrument has 12 questions on an 8 point Likert scale to assess Grid and 12 questions on an 8 point Likert Scale to assess Group. Since the survey was originally developed for schools, it will be modified by changing education references in the questions to a reference to business. The justification for this modification is to allow the respondents to more closely match the questions to their organization which is not an educational setting. For the purposes of this research, there is an assumption that the instrument can be modified in this way to apply to business with similar implications of the findings. The original tool had the questions placed on an 8 point Likert scale. The modified survey used had an 8 point Likert Scale with wording on the scale with 8 different points ranging from Very Strongly Disagree to Very Strongly Agree. The following is an example of the modification. The original tool described one of the questions as: I prefer a work atmosphere where *educators and students* have: no allegiance/loyalty to the school (on the end of the Likert scale by the number 1) - much allegiance/loyalty to the school (on the other end of the Likert scale by the number 8). The modified question in the survey stated that: I prefer a work atmosphere where *workers* have no allegiance/loyalty to the organization rather than full allegiance/loyalty to the organization (on a

Likert scale with 8 selections ranging from *Very Strongly Disagree* to *Very Strongly Agree*). There were 2 questions for each of the Grid and Group that were eliminated since they were school specific questions that could not be easily modified. The modified instrument that will be used is located in Appendix A.

The reliabilities for the two subscale of Harris' (2005) Grid and Group Assessment Tool are very good, with a Cronbach alpha of 0.705 and 0.855 for the grid subscale and group subscale, respectively (Hill, unpublished analysis of Grid and Group, 2016).

Organizational Culture Assessment Instrument

In their research, Cameron and Quinn (2011) have found that an organization holds a dominant culture type. The Organizational Culture Assessment Instrument (OCAI) developed by Cameron and Quinn was used for this study as a means to determine the congruent culture type of the organization based on the Competing Values Framework. This instrument has six groups of four statements (one for each culture type). Each statement in the group has to be weighted for relevance in the organization with the total equaling 100. This instrument appeared twice in the survey and for the first round, the participants were asked to score the organization for each of the questions based on how they find the organization now. For the second round of the same instrument, the instructions directed the participants to score the organization as how they would prefer the organization to be in five years. The six groups of questions measured the domains of Dominant Characteristics, Organizational Leadership, Management of Employees, Organizational Glue, Strategic Emphasis, and Criteria for Success. The four culture types identified by the instrument are Market, Clan, Adhocracy, and Hierarchy. This instrument has been tested for validity and is a reliable instrument to assess organizational culture (Heritage, Pollock, & Roberts, 2014). The instrument has also demonstrated validity in measuring the

culture types (Cameron & Freeman, 1991). The instrument was placed in Appendix A. Cameron and Quinn (2011) reported reliability analysis with Cronbach’s alpha coefficients from several sources listed in Table 1.

Table 1

Reported Cronbach Alpha Reliabilities for the OCAI

Culture type	Quinn & Spreitzer (1991)	Yeung, Brockbank, & Ulrich (1991)	Zammuto & Krakower (1991)
Clan	.74	.79	.82
Adhocracy	.79	.80	.83
Hierarchy	.73	.76	.67
Market	.71	.77	.78

Multifactor Leadership Questionnaire 5x Rater Form

The Multifactor Leadership Questionnaire (MLQ) is an instrument that was developed by Avolio and Bass (2004) to examine transactional, transformational, and non-leadership. It is available in the 5X format that examines five transformational leadership factors, three transactional factors, and one laissez-faire non-leadership factor (Antonakis et al., 2003). It is considered to be the best method for assessing the full range leadership model (Antonakis et al., 2003; Avolio & Bass, 1995). Only the rater form of the MLQ 5X instrument was used for data collection in this study in order to assess the overall leadership of the organization. The original paper version of the MLQ 5X rater form instrument has 45 statements followed by a five-point Likert scale (0-4) following each statement. The paper form has a key at the top that equates 0 with *Not at all* to 4 with *Frequently, if not always*. The online survey format for this study had the exact wording for each of the five points of the paper Likert scale. However, the statements for each value were placed at the top of each block of questions rather than the numbers beside each statement due to lack of space in the questions blocks. The MLQ 5X Rater form instrument has four questions each that are associated with Idealized Influence (attribute), Idealized

Influence (behavioral), Inspirational Motivation, Intellectual Stimulation, Individualized Consideration, Management by Exception (Active), Management by Exception (Passive), Contingent Reward, and Laissez- Faire Leadership. The instrument also has three questions each to determine Extra Effort and Effectiveness, and 2 questions for satisfaction. Avolio and Bass (2004), reported that the MLQ 5X instrument demonstrated validity. The certificate for permission to use the instrument will be placed in Appendix C. In addition, the permission allowed for 5 questions of the instrument to be published. The 5 allowed questions are labeled for the leadership behaviors associated with this study and are available for viewing in Appendix B.

Avolio and Bass (2004), reported that the MLQ 5X demonstrated validity. The reliabilities reported by Avolio and Bass (2004) for the various dimensions in the MLQ instrument are all good ranging from .69 to .83 ($n = 27,285$). See Table 2 for the complete list of reliabilities.

Table 2

<i>Cronbach Alpha Reliabilities for the Subscales of the MLQ 5X</i>	
<u>Subscale</u>	<u>Cronbach's alpha</u>
Idealized influence (attributed)	.75
Idealized influence (behavioral)	.70
Inspirational motivation	.83
Intellectual stimulation	.75
Individualized consideration	.77
Contingent reward	.69
Management by exception (active)	.75
Management by exception (passive)	.70
Laissez-faire	.71

Data Analysis

In order address the research questions for this study, canonical correlation analysis (CCA) and regression/correlation were used to examine the potential interrelationships.

Canonical correlation can be useful to evaluate the relationship between two distinct sets of variables (Stevens, 2002). Exploratory data analysis was utilized throughout (Tukey, 1977).

CHAPTER IV: RESULTS

The purpose of the proposed study is to empirically examine the relationship of culture and leadership based on the Competing Values Model, Grid and Group, and Transformational/Transaction Leadership Behaviors in an organization located in the Midwest of the United States. The three research questions were designed to investigate the relationship of the Grid and Group Model, the Competing Values Model, and the Transformational/Transaction Leadership Behaviors of the Full Range Leadership Model. Questions one and three were split into two parts (labeled a and b) to analyze the data taking into account the two aspects of the Organizational Culture Assessment Instrument. The Organizational Culture Assessment Instrument asks the participants how they would like their organizational culture to be in 5 years “Preferred” (related to research Questions 1a and 3a), and how they view the organizational culture “Now” (related to research Questions 1b and 3b).

- 1a. What are the quantitative relationships among the dimensions identified by the Grid and Group Theory and the Competing Values Framework (Preferred) as measured by the Social Game Assessment Tool and Organizational Culture Assessment Instrument respectively?
- 1b. What are the quantitative relationships among the dimensions identified by the Grid and Group Theory and the Competing Values Framework (Now) as measured by the Social Game Assessment Tool and Organizational Culture Assessment Instrument respectively?
2. What is the relationship among the dimensions identified by the Full Range Leadership Model and the Grid and Group Theory as measured by the Multifactor

Leadership Questionnaire 5X Rater Instrument and the Social Game Assessment Tool respectively?

3a. What is the relationship among the dimensions identified by the Full Range Leadership Model and the Competing Values Framework (Preferred) as measured by the Multifactor Leadership Questionnaire 5X Rater Instrument and the Organizational Culture Assessment Instrument respectively?

3b. What is the relationship among the dimensions identified by the Full Range Leadership Model and the Competing Values Framework (Now) as measured by the Multifactor Leadership Questionnaire 5X Rater Instrument and the Organizational Culture Assessment Instrument respectively?

Data Collection and Demographics

The instruments used to collect the data to examine the relationship of the culture and managerial leadership models are the Organizational Culture Assessment Instrument (OCAI), Social Game Assessment Tool (modified), and the Multifactor Leadership Questionnaire 5X (Rater form). The Social Game Assessment Tool was modified to refer to business rather than schools. The data from the survey was collected via a Qualtrics web based survey distributed by the General Manager to an agricultural based organization in the Midwestern part of the United States. Data from a convenience sample of $n = 33$ participants was collected. The gender distribution was 19 males and 11 females ($n = 30$ reported), and all participants were Caucasian. The participants were all employed full-time ($n = 33$) in the organization with an average time employed by the organization of 10.67 years, ranging between 6 months to 36 years with the organization ($n = 32$). The average age of the participants was 45.48 years with a range of 24 to 65 years of age. Education level ($n = 32$) was fairly evenly distributed between High school/GED

($n = 8$), Some college ($n = 8$), two-year college degree ($n = 6$), and four-year college degree ($n = 10$). This data was reported in Tables 3 and 4.

Table 3

Demographics: Gender and Educational Background

Gender	High school/GED	Some college	Two-year college degree	Four-year college degree	Total	%
Male	3	6	4	6	19	63.33
Female	4	1	2	4	11	36.67
Total	7	7	6	10	30	-
%	25.00	25.00	18.75	31.25	-	-

Table 4

Demographics: Age and Length of Employment

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	Min	Max
Age	33	45.48	11.26	24	65
Employment Time	32	10.67	10.00	.5	36

Data Manipulation

Following the data collection, data manipulation was required to compute the composite scores from the subscales of the three instruments used in the study.

Computing the Full Range Composite Scores (MLQ 5X)

The Multifactor Leadership Questionnaire 5x identifies leadership behaviors of transformational and transactional. Bass (1996) identified several studies that grouped Charisma (Idealized Influence), Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration as Transformational, and Contingent Reward and Management by Exception as Transactional. Some studies also linked Laissez-Faire with Transactional Leadership behavior and some listed it as a separate non-leadership style (Bass, 1996). The focus of this study is on the behaviors of transformational and transactional leadership. Therefore, Idealized Influence (Attributed and Behavior), Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration will be used to identify Transformational behaviors, and Contingent Reward and

Management by Exception as Transactional behaviors which is consistent with other studies (Antonakis & House, 2014; Michel, Lyons, & Cho, 2011). For the purposes of this study, the Laissez-Faire or non-transactional or non-leadership behaviors will not be evaluated which is also consistent with other studies (Michel, Lyons, & Cho, 2011).

Table 5

MLQ 5X Items Used for Full Range Leadership Factors

Factor	Composite of Items
Transformational Leadership	Idealized Influence-Attributed Idealized Influence-Behavioral Inspirational Motivation Intellectual Stimulation Individualized Consideration
Transactional Leadership	Contingent Reward Management by Exception-Active Management by Exception-Passive

Computing the Grid and Group Composite Scores (SGAT)

The grid composite score was computed as the average of the 10 grid subscale items. The group score was computed the same with an average of the 10 group subscale items. Each of these composite scores are on a scale of 1 to 8.

Computing the Competing Values Composite Scores (OCAI)

There are four composite scores for each factor (Clan, Hierarchy, Market, and Adhocracy) for each context (Now and Preferred). Each composite was computed as an average of the six items that were assigned to each factor. Data was collected first as to how the participants feel the culture of the organization is “Now,” and then again as to how they would prefer the culture in five years—i.e., “Preferred.” The Now and Preferred are scored separately. The result was reported as four composite scores for each culture type Now (Hierarchy Now, Market Now, Adhocracy Now, and Clan Now) and for Preferred (Hierarchy Preferred, Market Preferred, Adhocracy Preferred, and Clan Preferred).

Parametric Assumptions

The data were examined for potential violations of the assumptions required for analyses based on the general linear model (Garson, 2015). There are no reasons to suspect any violations of independence of observations. The skewness and kurtosis of each variable was computed and examined to check for departures from normality. Skewness and kurtosis were analyzed for the variables as shown in table below. Skewness and kurtosis outside the range of ± 2 are outside a normal range and can be more sensitive to a smaller sample size (Lomax & Hahs-Vaughn, 2012). Linearity was confirmed by visual inspection of relevant scatterplots (see Figures 4 through 14).

Additional method-specific assumptions (e.g., collinearity) were checked as needed. Any issues or violations are addressed in the respective sections. Of special note, Adhocracy was omitted from the canonical correlation analyses due to collinearity issues. The OCAI used constant-sum scaling for the four dimensions, which imposes a very high degree of inter-correlation. In fact, any one dimension could be perfectly predicted from a combination of the other three.

General Descriptive Statistics

The mean, standard deviation, minimum, and maximum were calculated for each of the variables in the study and reported in Tables 6-8. The Group (5.09) had the largest mean in the Social Game Instrument, and Clan Preferred (32.99) and Clan Now (28.90) had the highest mean.

Table 6

Descriptive Statistics for Social Games Subscales (Grid and Group)

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	Min	Max
Grid	33	3.73	.86	1.1	5.4
Group	33	5.09	.84	2.9	6.5

Table 7

Descriptive Statistics for the OCAI "Preferred" Subscales (Competing Values)

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	Min	Max
Hierarchy (P)	32	21.08	7.53	9.20	42.50
Market (P)	32	20.99	9.41	0.00	44.33
Adhocracy (P)	32	21.30	5.99	10.80	35.00
Clan (P)	32	32.99	14.55	5.17	72.50

Table 8

Descriptive Statistics for the OCAI "Now" Subscales (Competing Values)

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	Min	Max
Hierarchy (N)	32	23.17	7.79	6.7	37.5
Market (N)	32	27.38	13.38	3.3	63.0
Adhocracy (N)	32	20.55	6.02	6.2	31.7
Clan (N)	32	28.90	13.53	3.3	70.0

Table 9

Descriptive Statistics for the MLQ 5X Subscales (Full Range Leadership)

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	Min	Max
Idealized Influence (Attributed)	33	3.39	1.11	1.0	5.0
Idealized Influence (Behavior)	33	3.32	0.91	1.3	4.8
Individualized Consideration	33	3.09	1.12	1.0	4.8
Inspirational Motivation	33	3.73	1.15	1.0	5.0
Intellectual Stimulation	33	3.23	0.89	1.8	4.8
Contingent Reward	33	3.23	1.12	1.0	4.8
Management by Exception (Active)	33	2.80	0.78	1.3	4.3
Management by Exception (Passive)	33	2.54	1.09	1.0	5.0

The Frequency for the mean calculation for each culture type of the Grid and Group as determined by the Social Game Instrument was calculated for Corporate (4 participants), Bureaucratic (1 participants), Individualist (3 participants), and Collectivist (19 participants) culture dimensions. The OCAI instrument survey determined the culture type as it is now and the culture type preferred in the future. The Frequency for the culture types determined now for the Competing Values Framework by the OCAI were Hierarchy (7 participants), Market (14 participants), Adhocracy (4 participants), and Clan (17 participants). The Frequency for the culture types determined as Preferred in the future for the Competing Values Framework by the OCAI were Hierarchy (5 participants), Market (7 participants), Adhocracy (2 participants), and Clan (15 participants). The Collectivist (Social Game) and the Clan Now and Clan Preferred (OCAI) were observed to be the larger variable types. The factors for Transformational Leadership behaviors also exhibited the highest means. This was reported in Tables 10-12.

Table 10

Frequencies of the Grid and Group Culture Types

Type	Freq.	Percent
Corporate	4	13.33
Bureaucratic	1	3.33
Individualist	6	20.00
Collectivist	19	63.33

Table 11

Frequencies of the OCAI Culture Types (Now)

Type	Freq.	Percent
Hierarchy	7	16.67
Market	14	33.33
Adhocracy	4	9.52
Clan	17	40.48

Table 12

Frequencies of the OCAI Culture Types (Preferred)

Type	Freq.	Percent
Hierarchy	5	17.24
Market	7	24.14
Adhocracy	2	6.90
Clan	15	51.72

Findings Relevant to Research Question 1a

The analyses in the following section address research question 1a which focuses on the relationship of the Grid and Group model and Competing Values (Preferred) framework.

Bivariate Correlations

A scatter plot matrix graph visually depicted positive and negative correlation of the variables in Figure 4. A scatter plot indicated a positive correlation between the Social Game results and the Competing Values Framework Preferred results.

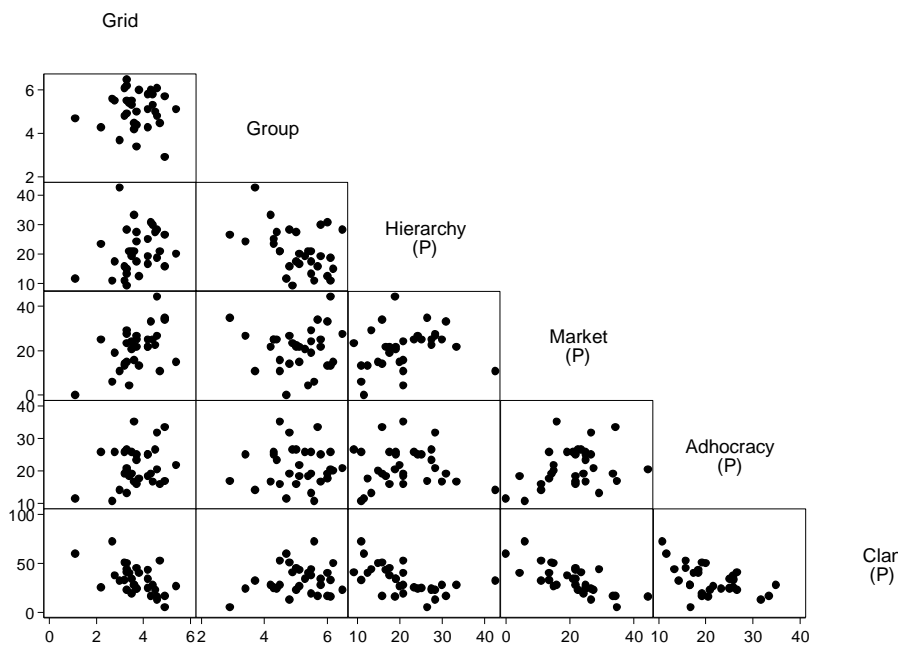


Figure 4. Matrix of scatterplots for Grid and Group composite scores and the Competing Values (Preferred) composite scores.

Pearson Correlation coefficients between the variables was examined for a linear relationship in Table 13 using an alpha of 0.05. The culture dimension variables of the Grid and

Group and Competing Values Framework identified negative moderate correlation of Grid culture with Clan Preferred ($r = -0.5541, p = 0.001$), Market Preferred is moderately negatively correlated with Clan Preferred ($r = -0.7466, p < 0.001$), Grid is mildly positively correlated to Market Preferred ($r = 0.5223, p = 0.002$), Group is marginally negatively correlated with Hierarchy Preferred ($r = -0.3960, p = 0.025$).

Table 13

Correlations for Grid/Group and Competing Values (Preferred) Composite Scores

	Grid	Group	Hierarchy (P)	Market (P)	Adhocracy (P)
Group	.0067				
Hierarchy (P)	.2577	-.3960*			
Market (P)	.5223*	.0254	.2542		
Adhocracy (P)	.2735	.0031	-.0009	.3245	
Clan (P)	-.5541*	.1814	-.5616*	-.7466*	-.5097*

* $p < .05$

Canonical Correlation Analysis

A canonical correlation analysis of the variables was conducted to evaluate the multivariate relations between the two sets of variables for the Grid and Group and Competing Values Framework (Preferred). The full canonical model was statistically significant and we can reject the null hypothesis that there is no relationship between the variables. The test of significance was run for all canonical correlations and found to be significant with (Wilks' Lambda = .543, $F[6, 54] = 3.209, p = 0.009$). Wilk's Lambda is the unexplained variance to the model, thus by taking $1 - \Lambda$ we can determine the model effect size and conclude that 45.7% is the overall effect that can be explained by the relationship of these two sets of variables in the model (Sherry & Henson, 2005). The second canonical correlation was not as significant with (Wilks' Lambda = .839, $F[2, 28] = 2.688, p = 0.0855$). Since the model was statistically significant and had a large effect size, further analysis is warranted to determine which combination of variables explains the effect.

Canonical variates. The canonical correlation coefficients for the first function was 0.5935 and 0.4013 for the second function. In the first function as depicted in the tables 15 and 16 below, the structured coefficients were evaluated for a relationship of the canonical variables. The structure coefficient (canonical loading) are the relationship between the variables and the canonical variates (Dattalo, 2014). For the structure coefficients, the Grid is more closely related to the first canonical function (-0.9508) and Group is more closely related to the second function (0.9509). The Clan Preferred (0.9825) – Market Preferred (-0.8235) is more closely related to the first function and Hierarchy Preferred (-0.7395) is related to the second function. The squared structure coefficients indicate that 90.4% of the variation in U_1 is explained by the variation in V_1 , whereas only 9.6% of variation in U_2 is explained by V_2 .

An Orthogonal Varimax rotation was performed and a comparison of rotated and un-rotated structure. It appears that the Grid and Clan Preferred – Market Preferred dimension have the most effect on the first canonical function and Group and Hierarchy for the second function. This did not provide any additional information than the un-rotated variates.

Table 14 provides a succinct summary of the interpreted meanings of each canonical variate.

Table 14

Summary of Canonical Variate Interpretations

Canonical Variate	Interpretation (Constructs)
U_1	"Grid"
U_2	"Group"
V_1	"Clan/Market Preferred"
V_2	"Hierarchy Preferred" (plus some Market; Adhocracy may be reduced due to collinearity)

Table 15

Loadings for the Grid and Group Canonical Variates

Variable	Canonical Variates	
	U_1	U_2
Grid	-.9508	-.3098
Group	.3094	-.9509

Table 16

Loadings for the Competing Values (Preferred) Canonical Variates

Variable	Canonical Variates	
	V_1	V_2
Hierarchy (P)	-.6196	.7395
Market (P)	-.8235	-.4628
Clan (P)	.9825	-.0026

Table 17

Redundancy Analysis for the Grid and Group Variables with the Competing Values (Preferred) Canonical Variates (V_1 and V_2)

Variable	Canonical Variates	
	V_1	V_2
Grid	-.5643	-.1243
Group	.1837	-.3816

Table 18

Redundancy Analysis for the Competing Values (Preferred) Variables with the Grid and Group Canonical Variates (U_1 and U_2)

Variable	Canonical Variates	
	U_1	U_2
Hierarchy (P)	-.3678	.2968
Market (P)	-.4888	-.1858
Clan (P)	.5831	-.0010

Redundancy analysis. The redundancy analysis of the canonical variates in Tables 17 and 18 indicated a strong correlation between the Grid and Clan/Market Preferred dimension and moderate correlation between the Group and Hierarchy Preferred for the second function.

Overall, appears to be a definite correspondence between the Market/Clan dimension of CV (Preferred) and Grid and between Hierarchy and Group; would expect a stronger relationship

between Group and Adhocracy, but this could be a collinearity issue.

Findings Relevant to Research Question 1b

Relationship of Grid and Group and Competing Values “Now.” The following analysis is to explore the research question 1b of this study. The analysis will use the data gathered from the Competing Values Organizational Culture Assessment Instrument that asks the participants how they would rate their company culture “Now” and the relationship to Grid and Group Social Game Instrument.

Bivariate Correlations

A scatter plot matrix graph in Figure 5 visually depicts the positive and negative correlation of the variables.

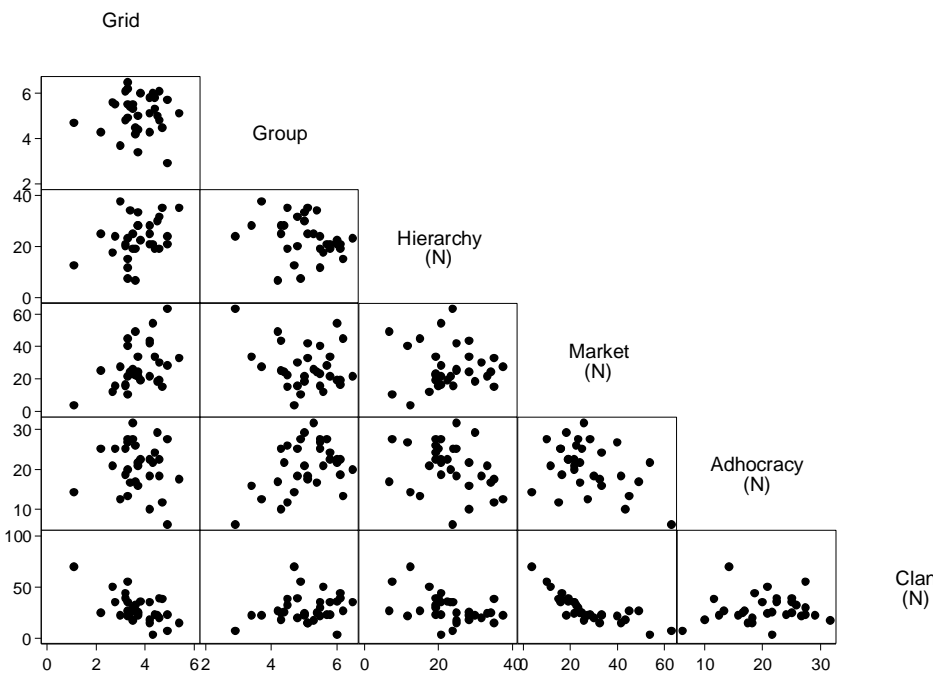


Figure 5. Matrix of scatterplots for Grid and Group composite scores and the Competing Values (Now) composite scores.

Table 19

Correlations for Grid/Group and Competing Values (Now) Composite Scores

	Grid	Group	Hierarchy (N)	Market (N)	Adhocracy (N)
Group	.0067				
Hierarchy (N)	.3505*	-.2645			
Market (N)	.4490*	-.2555	-.0167		
Adhocracy (N)	-.0808	.4442*	-.2847	-.3880*	
Clan (N)	-.6095*	.2072	-.4323*	-.4323*	.1027

* $p < .05$

Pearson Correlation Coefficients between the variables found in Table 19 was examined for a linear relationship using an alpha of 0.05. There was a positive relationship between culture dimension variables of Group and Competing Values Framework Adhocracy Now ($r = 0.4442$, $p = 0.0109$), and Grid and Hierarchy Now ($r = 0.3505$, $p = 0.0492$), and Market Now ($r = 0.4490$, $p = 0.0099$). There was a strong negative relationship between Grid and Competing Values Framework Clan Now ($r = -0.6095$, $p = <0.001$).

Canonical Correlation Analysis

A canonical correlation analysis of the variables was conducted to evaluate the multivariate relations between the two sets of variables for the Grid and Group and Competing Values Framework and the full canonical model was statistically significant for all canonical correlations (Wilks' Lambda .456, $F[6, 54] = 4.327$, $p = 0.001$). The model confirms that 54.4% was the overall effect explained by the relationship of these two sets of variables (Sherry & Henson, 2005). The second canonical correlation was not as significant (Wilks' Lambda .855, $F[2,28] = 2.376$, $p = 0.111$). Since the model was statistically significant and had a large effect size, further analysis was warranted to determine which combination of variables explains the effect.

Canonical variates. The canonical correlation coefficients for the first function was (0.6830) and (0.3809) for the second function. In the first function as depicted in tables 21 and

22, the structured coefficients were evaluated for a relationship of the canonical variables. For the structure coefficients, the Grid was more closely related to the first canonical function (-0.8565) and Group (-0.8567) was more closely related to the second function. The Clan Now (0.9211) / Market Now (-0.7562) dimension and Hierarchy (-0.6395) was more closely related to the first function and Clan Now (0.3595) for the second. The squared structure coefficients indicate that 73.4% of the variation in U_1 was explained by the variation in V_1 , whereas only 26.6% of variation in U_2 was explained by V_2 .

An orthogonal Varimax rotation was performed and a comparison of rotated and un-rotated structure. It appears that the Grid and Clan/Market (Now) have the most effect on the first canonical function which is consistent with the un-rotated. The rotated functions also indicated a mild relationship of Group and Hierarchy Now/Market Now for the second function.

Table 20 provides a succinct summary of the interpreted meanings of each canonical variate.

Table 20

Summary of Canonical Variate Interpretations

Canonical Variate	Interpretation (Constructs)
U_1	"Grid"
U_2	"Group"
V_1	"Clan/Market Now"
V_2	"Clan Now"

Table 21

Loadings for the Grid and Group Canonical Variates

Variable	Canonical Variates	
	U_1	U_2
Grid	-.8565	-.5162
Group	.5159	-.8567

Table 22

Loadings for the Competing Values (Now) Canonical Variates

Variable	Canonical Variates	
	V ₁	V ₂
Hierarchy (N)	-.6395	.1200
Market (N)	-.7562	-.0335
Clan (N)	.9211	.3595

Table 23

Redundancy Analysis for the Grid and Group Variables with the Competing Values (Now) Canonical Variates (V₁ and V₂)

Variable	Canonical Variates	
	V ₁	V ₂
Grid	-.5850	-.1966
Group	.3524	-.3263

Table 24

Redundancy Analysis for the Competing Values (Now) Variables with the Grid and Group Canonical Variates (U₁ and U₂)

Variable	Canonical Variates	
	U ₁	U ₂
Hierarchy (N)	-.4368	.0457
Market (N)	-.5165	-.0128
Clan (N)	.6291	.1369

Redundancy analysis. Redundancy analysis found in Tables 23 and 24 indicated a strong correlation between the Grid and Clan Now/Market Now dimension and mild correlation between the Group and Clan Now. Overall, appears to be a definite correspondence between the Market/Clan dimension of Competing Values (Now) and Grid and between Clan Now and Group.

Findings Relevant to Research Question 2

The following analysis is to explore the question 2 of this study comparing The Full Range Leadership Model to Grid and Group. For the following analysis, correlation was utilized

to first evaluate the results for the combined variables of Transformational and Transactional Leadership of the Full Range Leadership Model and the relationship to Grid and Group.

According to Avolio and Bass (2004), the factors for Transformational Leadership include: Idealized Influence Attributed, Idealized Influence Behavior, Individualized Consideration, Intellectual Stimulation, and Inspirational Motivation. The Factors for Transactional Leadership include: Contingent Reward, Management by Exception Active, and Management by Exception Passive. Following the analysis of the combined factors of Transformational and Transactional Leadership of the Full Range Leadership Model compared to the Grid and Group, correlations were then run for the individual Transformational and Transactional factors compared to Grid and Group.

Bivariate Correlations

A scatter plot in Figure 6 indicated a positive correlation between the Social Game results and the (combined) factors for Transformational and Transactional of the Full Range Leadership Model results.

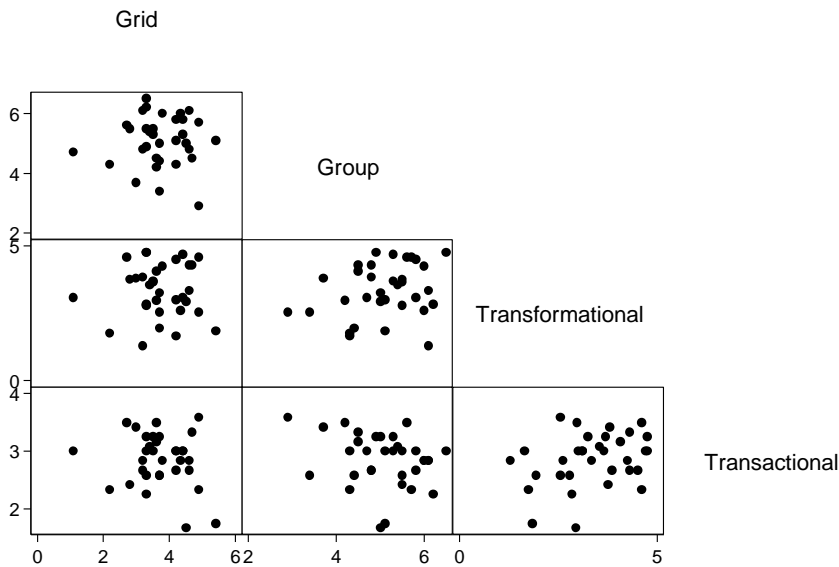


Figure 6. Matrix of scatterplots for Grid and Group composite scores and the Full Range Leadership Model combined factors for Transformational and Transactional composite scores.

A scatterplot matrix in Figure 7 and 8 depicted significances between the factors of the Grid and Group and five Transformational and three Transactional leadership factors of the Full Range Leadership Model. There was positive correlation between the Social Game results and the factors of Transformational and Transactional Leadership results of the Full Range Leadership Model.

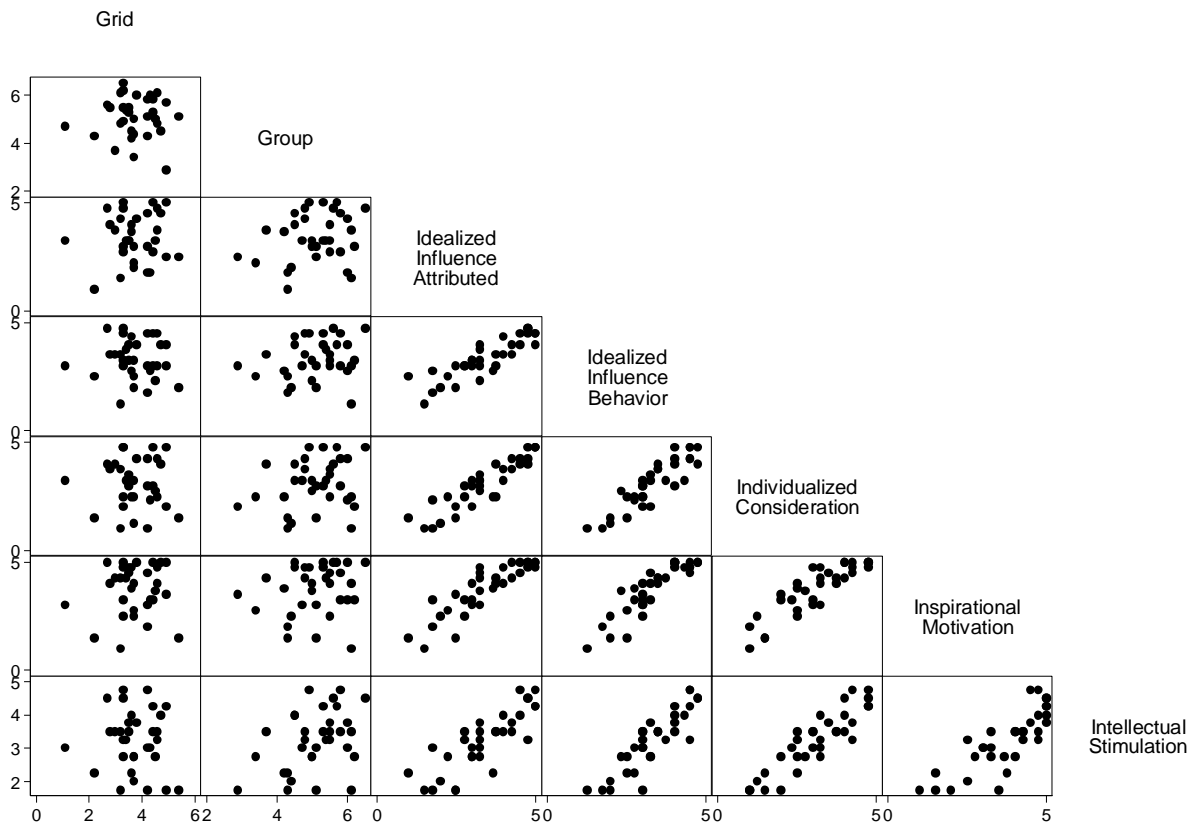


Figure 7. Matrix of scatterplots for Grid and Group composite scores and the Transformational Factors of the Full Range Leadership Model.

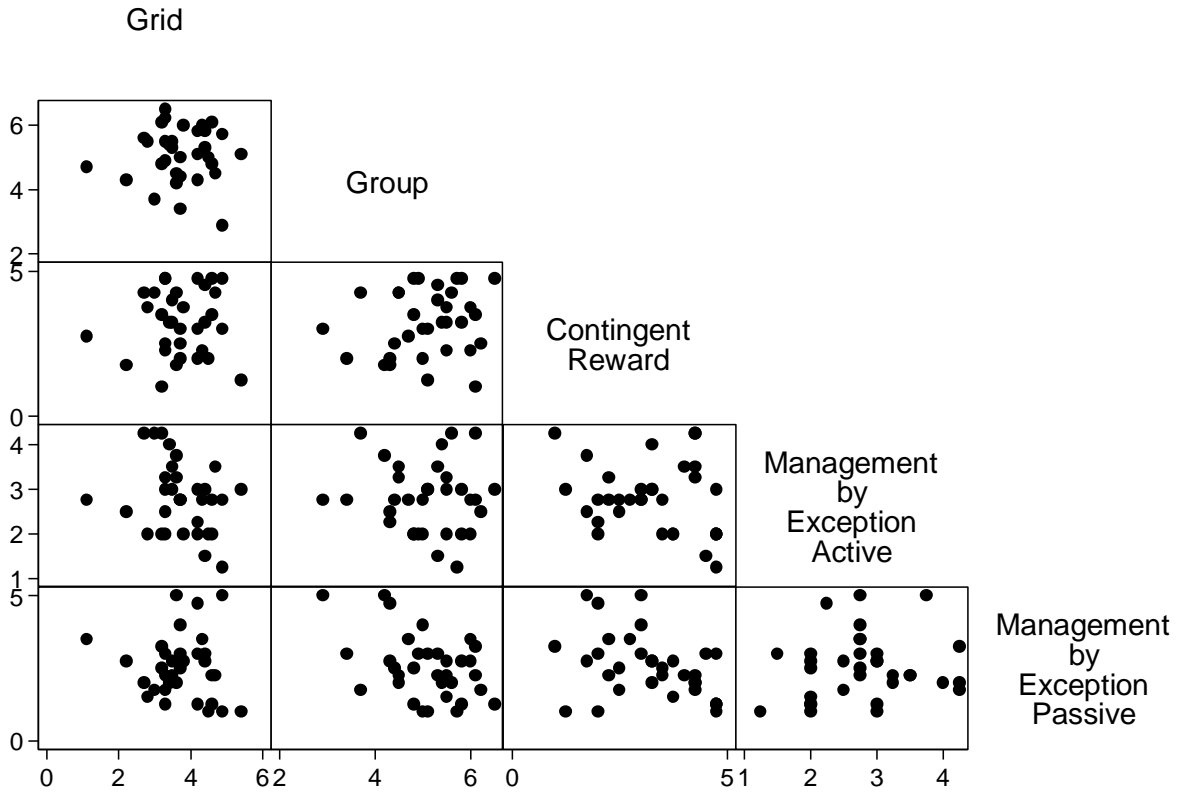


Figure 8. Matrix of scatterplots for Grid and Group composite scores and Full Range Model Transactional scores.

Pearson Correlation Coefficients between the variables found in Table 25 was examined for a linear relationship using an alpha of 0.05. There was not a significant relationship identified with the Grid and Group results and the (combined) factors for Transformational and Transactional of the Full Range Leadership Model results.

Table 25

Correlations for Grid/Group and the Full Range Leadership Model combined factors for Transformational and Transactional Composite Scores

	Grid	Group	Transformational Factors
Group	.0067		
Transformational Factors	.0144	.2601	
Transactional Factors	.1836	-.2482	.3066

* $p < .05$

Pearson Correlation Coefficients between the variables found in Table 26 was examined for a linear relationship. For the factors associated with Transformational Leadership, there was a significant linear relationship identified between the Transformational factor of Intellectual Stimulation and the Social Game Group ($r = 0.4055, p = 0.0192$). There was also a strong relationship among the five leadership behaviors associated with Transformational Leadership.

Pearson Correlation coefficients found in Table 27 were then examined for Grid and Group and behavior factors associated with Transactional Leadership. There was a significant negative correlation between Group and Full Range Leadership Model Management by Exception Passive behavior associated with Transactional Leadership ($r = -0.4278, p = 0.0130$). There was also a mildly negative relationship between the Management by Exception Passive behavior and the Contingent Reward behavior ($r = -0.3923, p = -0.0239$).

Canonical Correlation Analysis

Transformational and Transactional Leadership factors (combined) and Grid and Group. The overall model fit was statistically significant with testing Roy's Largest Root. (Roy's Largest Root .273, $F[2, 30] = 4.098, p = 0.027$; Wilks' lambda .778, $F(4, 58) = 1.944, p = 0.115$). The significance for group 1-2 was run (Wilks' lambda .778, $F(4, 58) = 1.944, p = 0.115$). The model indicated that 22.2% was the overall effect explained by the relationship of these two sets of variables.

Table 26

Correlations for Grid/Group and Full Range Leadership Model for Transformational Leadership

	Grid	Group	Idealized Influence (Attributed)	Idealized Influence (Behavior)	Individualized Consideration	Inspirational Motivation
Group	.0067					
Idealized Influence (Attributed)	.0884	.2305				
Idealized Influence (Behavior)	-.0434	.2269	.8647*			
Individualized Consideration	-.0267	.2290	.9110*	.8915*		
Inspirational Motivation	.0942	.1731	.8805*	.8964*	.8804*	
Intellectual Stimulation	-.0740	.4055*	.8274*	.8820*	.8936*	.8219*

* $p < .05$

Table 27

Correlations for Grid/Group and Full Range Model for Transactional Leadership

	Grid	Group	Contingent Reward	Management by Exception (Active)
Group	.0067			
Contingent Reward	.0583	.1721		
Management by Exception (Active)	-.2673	-.0857	-.2423	
Management by Exception (Passive)	-.1008	-.4278*	-.3923*	.1361

* $p < .05$

Canonical variates. The canonical correlation coefficients for the first function was 0.4632 and 0.1002 for the second function. For the structure coefficients, the Group (0.9285) was more closely related to the first canonical function and Grid (-0.9260) was more closely related to the second function. Combined factors for Transactional Leadership factors (-0.6434) was related to the first function. Combined factors for Transformational Leadership factors (0.8471) was related to the second function. However, there appeared to be a strong relationship with both factors for each functions. The squared structure coefficients indicate that 86.2 % of the variation in U_1 was explained by the variation in V_1 , whereas only 14.3% of variation in U_2 was explained by V_2 . An Orthogonal Varimax rotation was performed and found that Grid (-0.9788) was strongly related to Transactional Leadership (0.9944) and Group (0.9775) was related to Transformational Leadership (0.9142). Table 28 provides a succinct summary of the interpreted meanings of each canonical variate.

Table 28

Summary of (Rotated) Canonical Variate Interpretations

Canonical Variate	Interpretation (Constructs)
U_1	"Grid"
U_2	"Group"
V_1	"Transactional"
V_2	"Transformational"

Table 29

Loadings for the Grid and Group Canonical Variates (Rotated)

Variable	Canonical Variates	
	U_1	U_2
Grid	-.9788	-.2046
Group	-.2111	.9775

Table 30

Loadings for the Full Range Leadership (Combined factors) Canonical Variates (Rotated)

Variable	Canonical Variates	
	V_1	V_2
Transformational Factors	.4052	.9142
Transactional Factors	.9944	-.1054

Table 31

Redundancy Analysis for the Grid and Group Variables with the Full Range Leadership (Combined Factors) Canonical Variates (V_1 and V_2)

Variable	Canonical Variates	
	V_1	V_2
Grid	.1749	-.0928
Group	.4301	.0372

Table 32

Redundancy Analysis for the Full Range Leadership (Combined factors) Variables with the Grid and Group Canonical Variates (U_1 and U_2)

Variable	Canonical Variates	
	U_1	U_2
Transformational Factors	.2462	.0849
Transactional Factors	-.2980	.0767

Redundancy analysis. A redundancy analysis of the combined factors for Transformational and Transactional leadership in Tables 31 and 32 found that Grid (rotated variates) dimension predicted Transactional Leadership and some Transformational and Group predicted Transformational Leadership and some Transactional Leadership combined factors.

Transformational Leadership factors and Grid and Group. In the analysis of the factors associated with Transformational Leadership and Grid and Group, the significance of the overall model fit was significant with Roy's largest root (Wilks' lambda .599, $F[10,52] = 1.521$, $p = 0.158$; Roy's Largest root .454, $F[5, 27] = 2.453$, $p = 0.059$). The canonical significance for group 1-2 was run (Wilks' lambda .599, $F[10,52] = 1.521$, $p = 0.158$). The canonical significance of group two was not as significant (Wilks' Lambda .870, $F[4, 27] = 1.005$, $p = 0.422$). The model detected that 40.1% was the overall effect explained by the relationship of these two sets of variables.

Canonical variates. The canonical correlation coefficients for the first function was 0.5589 and 0.3600 for the second function. For the structure coefficients found in Tables 34 and 35, the Group (-0.9334) was more closely related to the first canonical function and Grid (0.9357) was more closely related to the second function. The Intellectual Stimulation (-0.7264) was more closely related to the first function and Idealized Influence Attributed (0.4549) and Inspirational Motivation (0.4139) was more closely related to the second function. The squared structure coefficients indicate that 87.6 % of the variation in U_1 was explained by the variation in V_1 , whereas only 12.4% of variation in U_2 was explained by V_2 . An Orthogonal Varimax rotation was performed and a comparison of rotated and un-rotated structure. It appears that the Group and Intellectual Stimulation have the most effect on the first canonical function. Grid and Idealized Influenced Attributed have the most effect on the second function.

Table 33 provides a succinct summary of the interpreted meanings of each canonical variate.

Table 33

Summary of Canonical Variate Interpretations

Canonical Variate	Interpretation (Constructs)
U_1	"Group"
U_2	"Grid"
V_1	" Intellectual Stimulation "
V_2	"Idealized Influence Attributed/ Inspirational Motivation"

Table 34

Loadings for the Grid and Group Canonical Variates

Variable	Canonical Variates	
	U_1	U_2
Grid	.3527	.9357
Group	-.9334	.3589

Table 35

Loadings for the Transformational factors (Full Range Leadership) Canonical Variates

Variable	Canonical Variates	
	V_1	V_2
Idealized Influence Attributed	-.3291	.4549
Idealized Influence Behavior	-.4078	.1099
Individualized Consideration	-.4007	.1551
Inspirational Motivation	-.2293	.4139
Intellectual Stimulation	-.7264	.2055

Table 36

Redundancy Analysis for the Grid and Group Variables with the Transformational factors (Full Range Leadership) Canonical Variates (V_1 and V_2)

Variable	Canonical Variates	
	V_1	V_2
Grid	.1971	.3369
Group	-.5216	.1292

Table 37

Redundancy Analysis for the Transformational factors (Full Range Leadership) Variables with the Grid and Group Canonical Variates (U_1 and U_2)

Variable	Canonical Variates	
	U_1	U_2
Idealized Influence Attributed	-.1839	.1638
Idealized Influence Behavior	-.2279	.0396
Individualized Consideration	-.2239	.0558
Inspirational Motivation	-.1281	.1490
Intellectual Stimulation	-.4060	.0740

Redundancy analysis. Redundancy analysis found in Tables 36 and 37 indicated a fairly significant moderate correlation between the Group and Intellectual Stimulation dimension. The Grid and Idealized Influenced Attributed Inspirational Motivation are mildly correlated for the second function.

Transactional Leadership factors and Grid and Group. In the Canonical Correlation analysis of the factors associated with Transactional Leadership and Grid and Group, the significance of the overall model fit was mildly significant with Roy's Largest Root (Wilks' lambda .752, $F(6, 56) = 1.432, p = 0.219$; Roy's Largest root .254, $F[3, 29] = 2.459, p = 0.083$). The canonical significance of group 1-2 and group two were not as significant (Wilks' Lambda 752, $F(6, 56) = 1.432, p = 0.219$; Wilks' Lambda .943, $F(2, 29) = 0.879, p = 0.426$). The model indicated that 24.8% was the overall effect was explained by the relationship of these two sets of variables.

Canonical variates. The canonical correlation coefficient for the first function was .4503 and 0.2391 for the second function. Group (-0.9326) was strongly related to the first function and Grid (-0.9302) was strongly correlated to the second function. Management by Exception Passive (0.9645) was related to the first function and Management by Exception Active (0.9111) for the second function. The squared structure coefficients indicate that 87 % of the variation in U_1 was

explained by the variation in V_1 , whereas only 13.5% of variation in U_2 was explained by V_2 .

Orthogonal Varimax rotation indicated similar findings to the un-rotated findings. Table 38

provides a succinct summary of the interpreted meanings of each canonical variate.

Table 38

Summary of Canonical Variate Interpretations

Canonical Variate	Interpretation (Constructs)
U_1	"Group"
U_2	"Grid"
V_1	" Management by Exception Passive "
V_2	"Management by Exception Active"

Table 39

Loadings for the Grid and Group Canonical Variates

Variable	Canonical Variates	
	U_1	U_2
Grid	-.3671	-.9302
Group	-.9326	.3609

Table 40

Loadings for the Transactional Factors (Full Range Leadership) Canonical Variates

Variable	Canonical Variates	
	V_1	V_2
Contingent Reward	-.4023	.0370
Management by Exception (Active)	.3912	.9111
Management by Exception (Passive)	.9645	-.2639

Table 41

Redundancy Analysis for the Grid and Group Variables with the Transactional Factors (Full Range Leadership) Canonical Variates (V_1 and V_2)

Variable	Canonical Variates	
	V_1	V_2
Grid	-.1653	-.2224
Group	-.4200	.0863

Table 42

Redundancy Analysis for the Transactional Factors (Full Range Leadership) Variables with the Grid and Group Canonical Variates (U_1 and U_2)

Variable	Canonical Variates	
	U_1	U_2
Contingent Reward	-.1811	.0088
Management by Exception (Active)	.1761	.2178
Management by Exception (Passive)	.4344	-.0631

Redundancy analysis. Redundancy Analysis found in Tables 41 and 42 indicated that Group was again related and predicted Management by Exception Passive for the first function. Grid predicted Management by Exception Active for the second function.

Findings Relevant to Research Question 3a

The following analysis is to explore the question 3a of this study. The Competing Values Organizational Culture Instrument collects data as how the participant would like the culture to be “Preferred” in five years (question 3a) followed by how the culture is now (question 3b). The Full Range leadership model factors are analyzed for the combined factors associated with Transformational Leadership (Idealized Influence Attributed, Idealized Influence Behavior, Individualized Consideration, Intellectual Stimulation, and Inspirational Motivation) and Transactional Leadership (Contingent Reward, Management by Exception Active, and Management by Exception Passive) as well as the individual factors were analyzed.

Bivariate Correlations

A scatter plot matrix graph in Figure 9 visually depicts positive and negative correlation of the variables for the Competing Values and Transactional and Transformational factors of the Full Range Leadership Model (combined and individual factors). A scatter plot indicated a positive correlation between the Competing Values Framework Preferred results and the Transformational and Transactional Leadership factors of the Full Range Leadership Model.

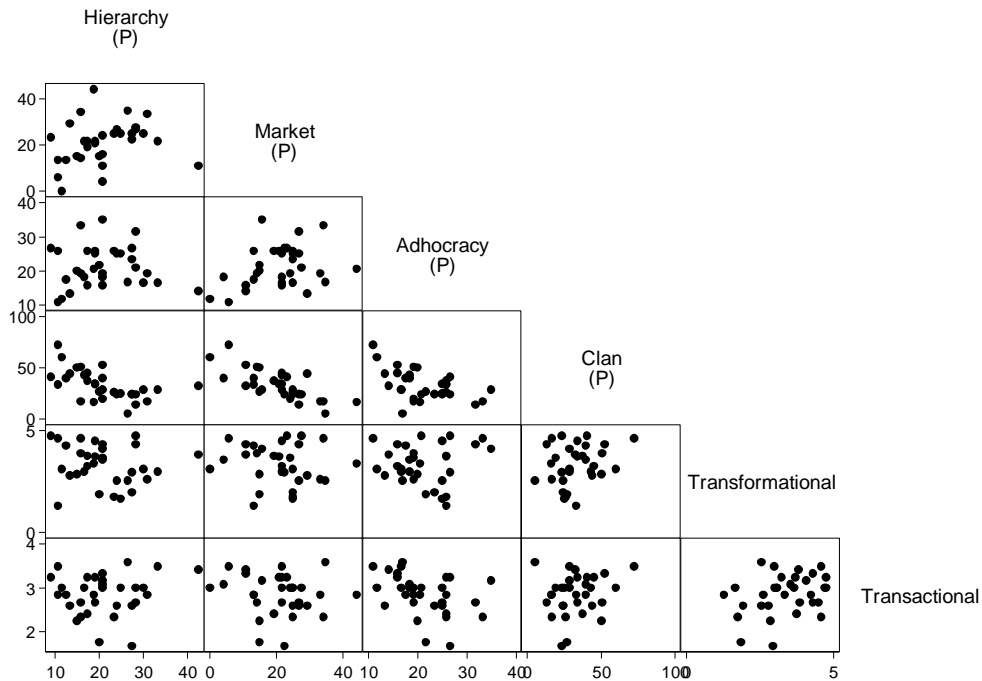


Figure 9. Matrix of scatterplots for Grid and Group composite scores and the Full Range Leadership Model (combined) factors for Transformational and Transactional composite scores.

A scatter plot in Figures 10 and 11 indicated a positive correlation between the Competing Values Framework Preferred results and the factors associated with Transformational (5 factors) and Transactional (3 factors) the Full Range Leadership Model.

Pearson Correlation Coefficients between the variables of the Competing Values (Preferred) and the factors for Transformational and Transactional Leadership behaviors was examined for a linear relationship using an alpha of 0.05 and reported in Table 43. There was moderately significant negative relationship to Adhocracy Preferred (-.4029) and the combined factors of Transactional Leadership.

Pearson Correlation Coefficient was run for the variables of Competing Values Preferred and the five factors associated with Transformational Leadership in Table 43 and found that there was nothing significant.

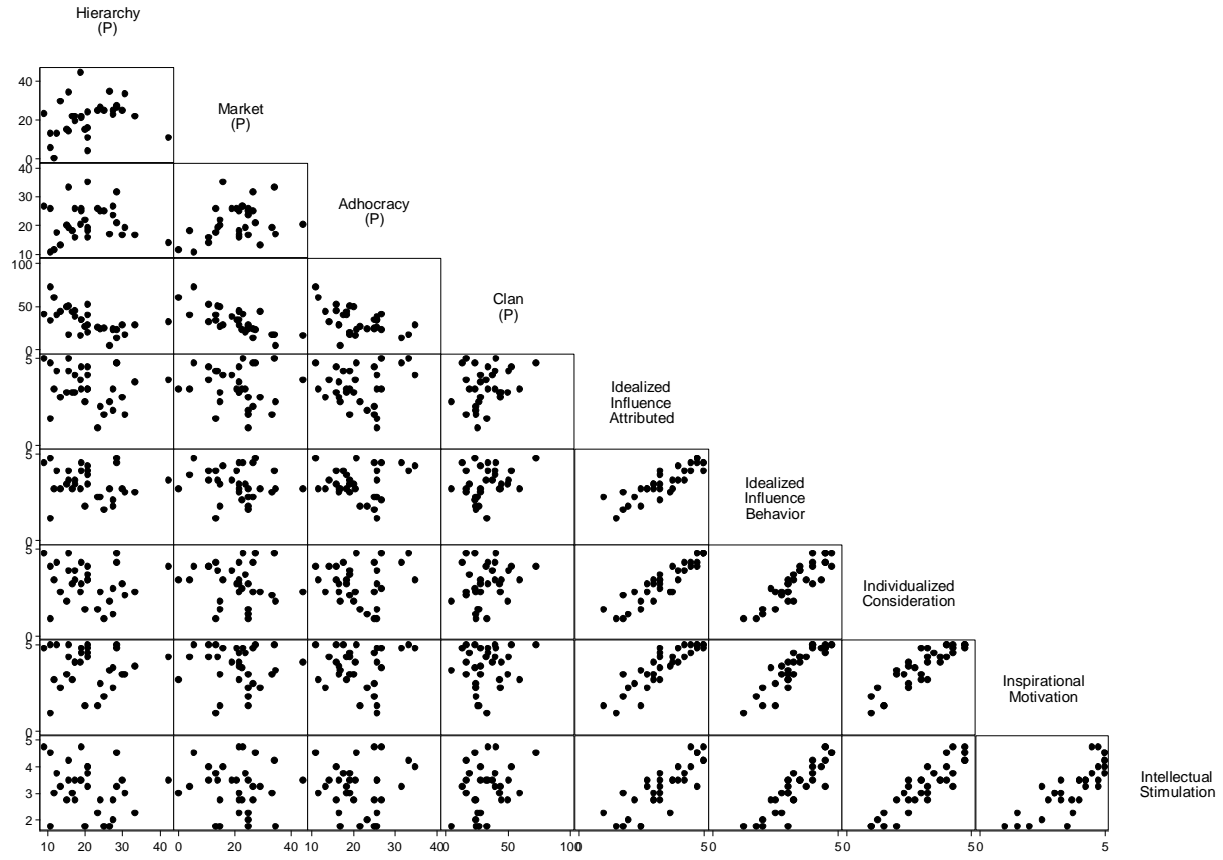


Figure 10. Matrix of scatterplots for Competing Values Preferred composite scores and Full Range Model Transformational scores.

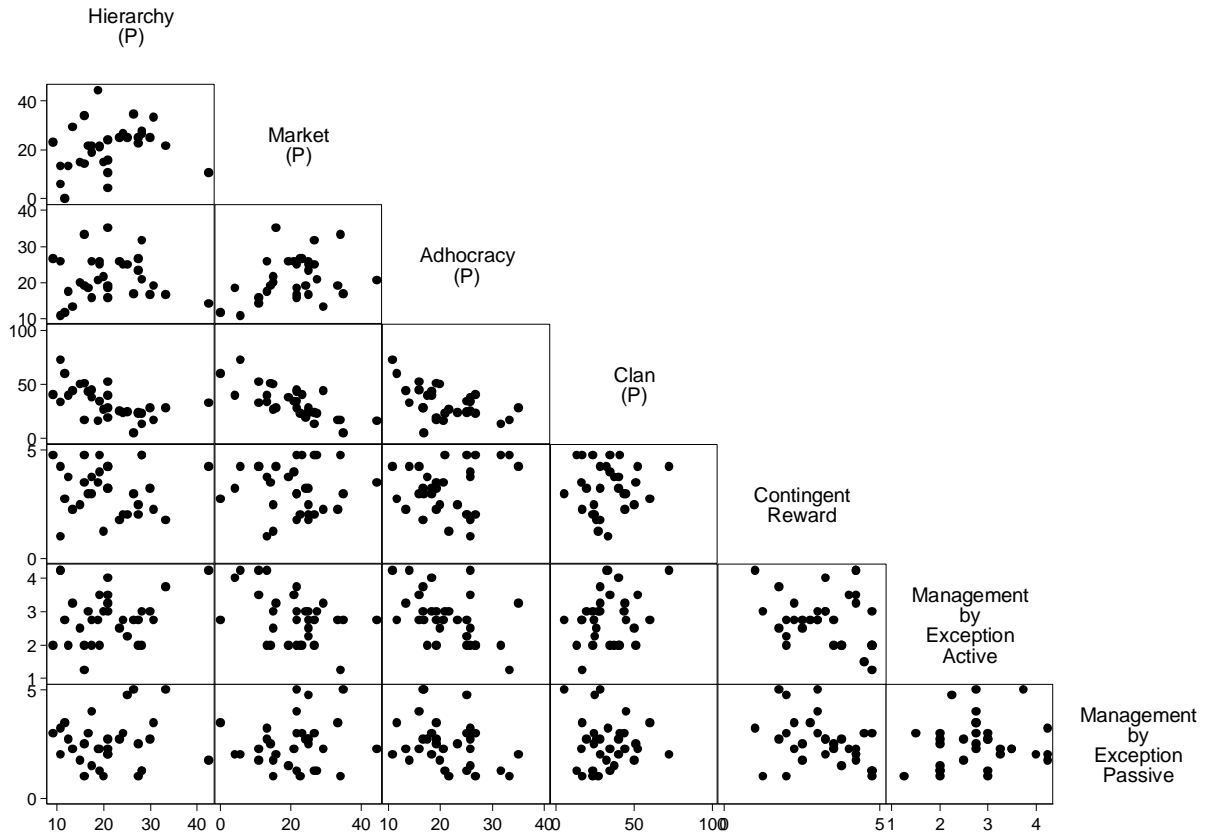


Figure 11. Matrix of scatterplots for Competing Values Preferred composite scores and Full Range Model Transactional scores.

Table 43

Correlations for Competing Values (Preferred) and the Full Range Leadership Model Composite Scores

	Hierarchy (P)	Market (P)	Adhocracy (P)	Clan (P)	Transformational Factors
Market (P)	.2542				
Adhocracy (P)	-.0009	.3245			
Clan (P)	-.5616*	-.7466*	-.5097*		
Transformational Factors	-.1454	-.1152	.0428	.2443	
Transactional Factors	.1026	-.1432	-.4029*	.1943	.3066

* $p < .05$

Table 44

Correlations for Competing Values (Preferred) Composite Scores and Full Range Model Transformational Composite scores

	Idealized Influence (Attributed)	Idealized Influence (Behavior)	Individualized Consideration	Inspirational Motivation	Intellectual Stimulation	Adhocracy (P)	Clan (P)	Hierarchy (P)
Idealized Influence (Behavior)	.8647*							
Individualized Consideration	.9110*	.8915*						
Inspirational Motivation	.8805*	.8964*	.8804*					
Intellectual Stimulation	.8274*	.8820*	.8936*	.8219*				
Adhocracy (P)	.0711	.0468	.0116	.0296	.0465			
Clan (P)	.2550	.2597	.2362	.1326	.2947	-.5097*		
Hierarchy (P)	-.1872	-.1545	-.1209	-.0177	-.2354	-.0009	-.5616*	
Market (P)	-.1378	-.1332	-.1439	-.0549	-.0762	.3245	-.7466*	.2542

* $p < .05$

Pearson Correlation was run for the three factors associated with transactional leadership and the variables of the Competing Values Preferred and reported in Table 45. Market Preferred was negatively correlated with Management by Exception Active ($r = -0.4126, p = 0.0189$), and Adhocracy Preferred was negatively correlated with Management by Exception Active ($r = -0.4754, p = 0.0060$).

Table 45

Correlations for Competing Values (Preferred) Composite Scores and Full Range Model Transactional Composite scores

	Hierarchy (P)	Market (P)	Adhocracy (P)	Clan (P)	Contingent Reward	Management by Exception (Active)
Market (P)	.2542					
Adhocracy (P)	-.0009	.3245				
Clan (P)	-.5616*	-.7466*	-.5097*			
Contingent Reward	-.0611	-.0091	.1506	.1108		
Management by Exception (Active)	.1729	-.4126*	-.4754*	.2800	-.2423	
Management by Exception (Passive)	.0731	.1093	-.3360	-.0565	-.3923*	.1361

* $p < .05$

Canonical Correlation Analysis

Transformational and Transactional Leadership factors (combined) and Competing Values (Preferred). The significance of the overall model fit was tested (Wilks' Lambda .842, $F [6, 54] = 0.806, p = 0.570$). The canonical function for group 1-2 was run (Wilks' Lambda .842, $F [6, 54] = 0.806, p = 0.570$). The canonical significance of group two was run (Wilks' Lambda Wilks' lambda .954, $F [2, 28] = 0.674, p = 0.518$). The model indicated that 15.8%% was the overall effect was explained by the relationship of these two sets of variables.

Canonical variates. Reported in Tables 47 and 48, the canonical correlation coefficients for the first function was 0.3423 and 0.2143 for the second function. Clan preferred (0.7171) accounted for the first function and Hierarchy Preferred for the second function (-0.9702).

Transactional Leadership (0.9497) was related to the first function and Transformational Leadership (0.8107) was related to the second function. The squared structure coefficients indicate that 51.4% of the variation in U_1 was explained by the variation in V_1 , whereas only 1.3% of variation in U_2 was explained by V_2 . An Orthogonal Varimax rotation was performed and found a strong relationship with Hierarchy Preferred - Clan Preferred for the first function, and mild relationship of the same factors for the second function. There was a strong relationship of Transformational factors for the first function and a strong relationship of Transactional factors for the second function.

Table 46 provides a succinct summary of the interpreted meanings of each canonical variate.

Table 46

Summary of Canonical Variate Interpretations

Canonical Variate	Interpretation (Constructs)
U_1	"Transactional"
U_2	"Transformational"
V_1	"Clan Preferred"
V_2	"Hierarchy Preferred"

Table 47

Loadings for the factors (Combined) for Transactional and Transformational Leadership Canonical Variates

Variable	Canonical Variates	
	U_1	U_2
Transformational Factors	.5855	.8107
Transactional Factors	.9497	-.3130

Table 48

Loadings for the Competing Values (Preferred) Canonical Variates

Variable	Canonical Variates	
	V ₁	V ₂
Hierarchy (P)	.1155	-.9702
Market (P)	-.4663	-.1254
Clan (P)	.7171	.5791

Table 49

Redundancy Analysis for the factors (Combined) for Transactional and Transformational Leadership Variables with the Competing Values (Preferred) Canonical Variates (V₁ and V₂)

Variable	Canonical Variates	
	V ₁	V ₂
Transformational Factors	.2004	.1737
Transactional Factors	.3251	-.0671

Table 50

Redundancy Analysis for the Competing Values (Preferred) Variables with the factors (Combined) for Transactional and Transformational Leadership Canonical Variates (U₁ and U₂)

Variable	Canonical Variates	
	U ₁	U ₂
Hierarchy (P)	.0395	-.2079
Market (P)	-.1596	-.0269
Clan (P)	.2455	.1241

Redundancy analysis. Redundancy Analysis in Tables 49 and 50 indicated a mild relationship between Clan Preferred (0.2455) – Market Preferred (-0.1596) and Transactional Leadership (0.3251) and Hierarchy (-0.2079) and Transformational Leadership (0.1737).

Transformational Leadership factors and Competing Values (Preferred). Canonical correlation was used to analyze the relationship between the factors associated with Transactional Leadership and Competing Values Preferred culture. The overall model fit was tested (Wilks' Lambda .628, $F[15, 66.65] = 0.816, p = 0.656$). Significance was tested for the 1-

3 function (Wilks' Lambda .628, $F[15, 66.65] = 0.816$, $p = 0.656$). The significance for function 2-3 was tested (Wilks' Lambda .887, $F[8, 50] = .3862$, $p = 0.923$). The significance for the third was tested (Wilks' Lambda .967, $F [3, 26] = 0.291$, $p = 0.831$). The model indicated that 37.2% was the overall effect that was explained by the relationship of these two sets of variables.

Canonical variates. In the first function as depicted in tables 52 and 53 below, the structured coefficients were evaluated for a relationship of the canonical variables. The Canonical Correlation Coefficients for the first function was 0.5405, the second 0.2885, and 0.1803 for the third. For the canonical loading structure coefficients, the Hierarchy Preferred (-0.8636) was related to the first function. Market Preferred (-0.9127) was more closely related to the second function and the third function (0.833021). The Intellectual Stimulation (0.6305) was closely related to the first function and Influence-Attributed (0.2505) and Individualized Consideration (0.2390) was more closely related to the second function. The Idealized Influence Attributed (0.06275) was closely related to the third function. The squared structure coefficients indicate that 74.6 % of the variation in U_1 was explained by the variation in V_1 , whereas only 1.8% of variation in was explained by V_2 , and 4.9% of the variation in U_3 was explained by the variation in V_3 .

Orthogonal Varimax rotation of the canonical loadings was performed and the first function indicated a moderately strong relationship to Clan Preferred (0.6746). Market Preferred (-0.9701) – Clan Preferred (0.5630) dimension was related to the second function, and Market Preferred – Clan Preferred was also related to the third function. All the factors associated with Transformational Leadership were related to the first function. Individualized Consideration

(0.4284) was related to the second function. Idealized Influence Attributed (0.2775) and Inspirational Motivation (0.2317) was related to the third function.

Table 51 provides a succinct summary of the interpreted meanings of each canonical variate.

Table 51

Summary of Canonical Variate Interpretations

Canonical Variate	Interpretation (Constructs)
U_1	"Hierarchy/Clan Preferred"
U_2	"Market Preferred"
U_3	"Clan Preferred"
V_1	"The Intellectual Stimulation"
V_2	"Idealized Influence Attributed /Individualized Consideration"
V_3	"Idealized Influence Behavior/Individualized Consideration/Inspirational Motivation/Intellectual Stimulation"

Table 52

Loadings for the Competing Values (Preferred) Canonical Variates

Variable	Canonical Variates		
	U_1	U_2	U_3
Hierarchy (P)	-.8636	-.3172	.3920
Market (P)	-.1344	-.9127	-.3860
Clan (P)	.6996	.4986	.5119

Table 53

Loadings for the Transformational Leadership Canonical Variates

Variable	Canonical Variates		
	V_1	V_2	V_3
Idealized Influence (Attributed)	.4390	.2505	.5743
Idealized Influence (Behavior)	.4211	.1732	.8185
Individualized Consideration	.3353	.2390	.8129
Inspirational Motivation	.1723	-.0549	.8158
Intellectual Stimulation	.6305	-.0779	.7315

Table 54

Redundancy Analysis for the Competing Values (Preferred) Variables with the Transformational Leadership Canonical Variates (V_1 and V_2)

Variable	Canonical Variates		
	V_1	V_2	V_3
Hierarchy (P)	-.4667	-.0915	.0707
Market (P)	-.0727	-.2633	-.0696
Clan (P)	.3781	.1438	.0923

Table 55

Redundancy Analysis for the Transformational Leadership Variables with the Competing Values (Preferred) Canonical Variates (U_1 and U_2)

Variable	Canonical Variates		
	U_1	U_2	U_3
Idealized Influence (Attributed)	.2373	.0723	.1035
Idealized Influence (Behavior)	.2276	.0500	.1476
Individualized Consideration	.1812	.0689	.1466
Inspirational Motivation	.0931	-.0158	.1471
Intellectual Stimulation	.3408	-.0225	.1319

Redundancy analysis. Redundancy analysis in Tables 54 and 55 indicated that Hierarchy/Clan Preferred was related to Intellectual Stimulation. The rotated variates indicated the relationship was related to Clan Preferred. There was nothing overall significant with the second or third functions.

Transactional Leadership factors and Competing Values (Preferred). Canonical correlation was used to analyze the relationship between the factors associated with Transactional Leadership and Competing Values Preferred culture. The overall model fit was evaluated and was significant with testing Roy's Largest Root (Wilks' Lambda .658, $F[9, 63.43] = 1.32$, $p = 0.243$; Roy's largest root .425, $F[3, 28] = 3.971$, $p = 0.018$). Significance was tested for functions 1-3 (Wilks' Lambda .658, $F[9, 63.43] = 1.32$, $p = 0.243$). The significance for function 2-3 was tested (Wilk's Lambda .938, $F[4,54] = 0.493$, $p = 0.780$). The third function

was also tested (Wilk's Lambda .991, $F[1,28] = 0.257$, $p = 0.617$). Therefore, 34.2% was the overall effect explained by the relationship of these two sets of variables in the model.

Canonical variates. The Canonical Correlation Coefficients for the first function was 0.5463, the second 0.2312, and 0.0953 for the third as reported in Tables 57 and 58. Market Preferred (-0.8093) - Clan Preferred (0.5750) are related to the first function. Market Preferred (0.3245) – Clan Preferred (0.2882) are related to the second function. Hierarchy Preferred (0.9589) was related to the third function.

Management by Exception Active (0.9599) was related to the first function. Contingent Reward (0.6067) was related to the second function, and Management by Exception Passive (0.8804) was related to the third function. The squared structure coefficients indicate that 33-65.5 % of the variation in U_1 was explained by the variation in V_1 and by V_2 , and 7.9% of the variation in U_3 was explained by the variation in V_3 .

Rotated Orthogonal Varimax was performed and for the first function and Hierarchy (0.7783) and some Market Preferred (0.5183) accounted for the first function, Market Preferred (-0.8361) and some Clan Preferred (0.5039) for the second and Clan Preferred (0.7878) and some Hierarchy Preferred (0.5530) for the third. Management by Exception Passive (0.9664) was related to the first function, and Management by exception Active (0.9583) for the second function and contingent reward (0.9741) for the third.

Table 56 provides a succinct summary of the interpreted meanings of each canonical variate.

Table 56

Summary of Canonical Variate Interpretations

Canonical Variate	Interpretation (Constructs)
U_1	"Market Preferred"
U_2	"Market/Clan Preferred"
U_3	"Hierarchy/Clan Preferred"
V_1	"Management by Exception Active"
V_2	"Contingent Reward"
V_3	"Management by Exception Passive/Contingent Reward"

Table 57

Loadings for the Competing Values (Preferred) Canonical Variates

Variable	Canonical Variates		
	U_1	U_2	U_3
Hierarchy (P)	.2812	.0382	.9589
Market (P)	-.8093	.3245	.4895
Clan (P)	.5750	.2882	-.7657

Table 58

Loadings for the Transactional Leadership Canonical Variates

Variable	Canonical Variates		
	V_1	V_2	V_3
Contingent Reward	.0397	.6067	-.7940
Management by Exception (Active)	.9599	-.0161	.2798
Management by Exception (Passive)	-.0748	.4683	.8804

Table 59

Redundancy Analysis for the Competing Values (Preferred) with the Transactional Leadership Canonical Variates (V_1 and V_2)

Variable	Canonical Variates		
	V_1	V_2	V_3
Hierarchy (P)	.1536	.0088	.0914
Market (P)	-.4422	.0750	.0466
Clan (P)	.3141	.0666	-.0730

Table 60

Redundancy Analysis for the Transactional Leadership Variables with the Competing Values (Preferred) Canonical Variates (U_1 and U_2)

Variable	Canonical Variates		
	U_1	U_2	U_3
Contingent Reward	.0217	.1403	-.0757
Management by Exception (Active)	.5244	-.0037	.0267
Management by Exception (Passive)	-.0409	.1083	.0839

Redundancy analysis. Redundancy analysis in Tables 59 and 60 indicated a correlation between Market/Clan Preferred and Management by Exception Active for the first function. The second and third function did not indicate a strong relationship. The rotated variates indicated a relationship to Management by Exception Passive.

Findings Relevant to Research Question 3b

The following analysis is to explore the research question 3b of this study. The data collected from the Competing Values Organizational Culture Assessment Instrument asked the participants how they would rate their company right now. This will be compared to the data collected from the Full Range Leadership Model Multifactor Leadership Questionnaire 5X (Transformational and Transactional Behaviors). The Full Range leadership model factors are analyzed for the combined factors associated with Transformational Leadership (Idealized Influence Attributed, Idealized Influence Behavior, Individualized Consideration, Intellectual Stimulation, and Inspirational Motivation) and Transactional Leadership (Contingent Reward, Management by Exception Active, and Management by Exception Passive) as well as the individual factors were analyzed.

Bivariate Correlations

A scatter plot in Figure 12 indicated a positive correlation between Competing Values Now and the (combined) factors for Transformational and Transactional results of the Full Range Leadership Model results.

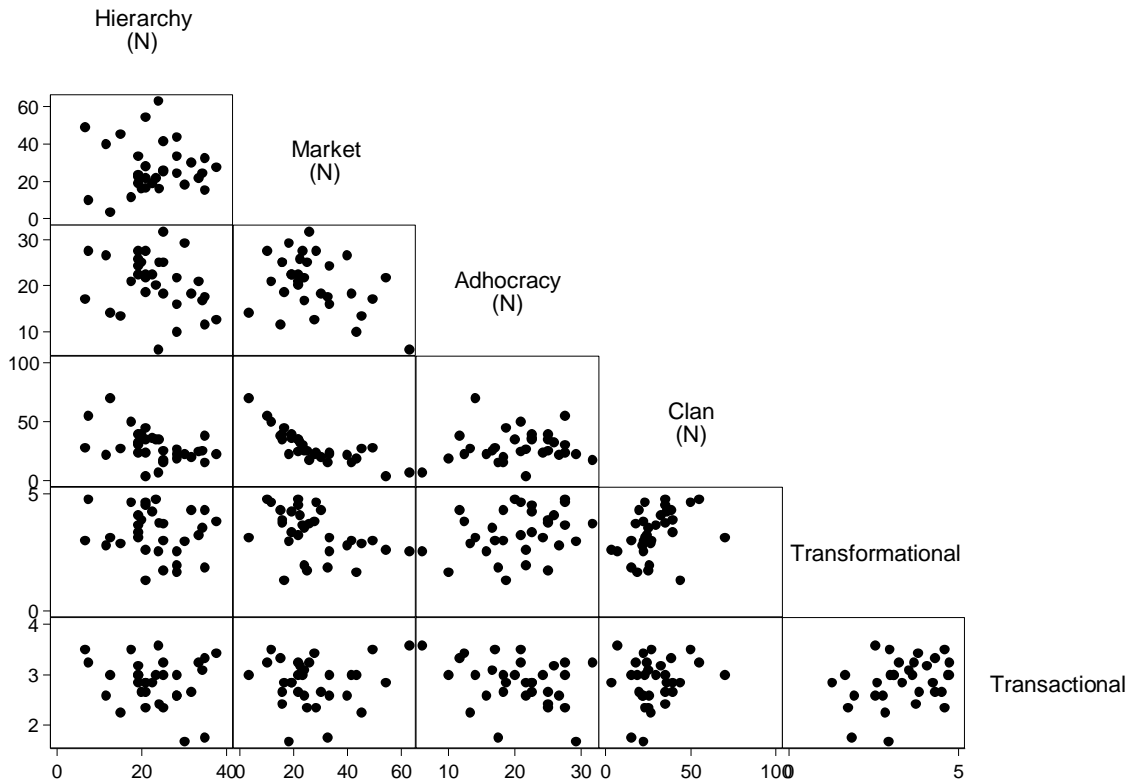


Figure 12. Matrix of scatterplots for Competing Values Now composite scores and Full Range Model combined factors for Transformational and Transactional Composite scores.

A scatter plot in Figures 13 and 14 indicated a positive correlation between the results of the Competing Values Now and the five factors for Transformational Leadership and the three factors for Transactional Leadership of the Full Range Leadership Model.

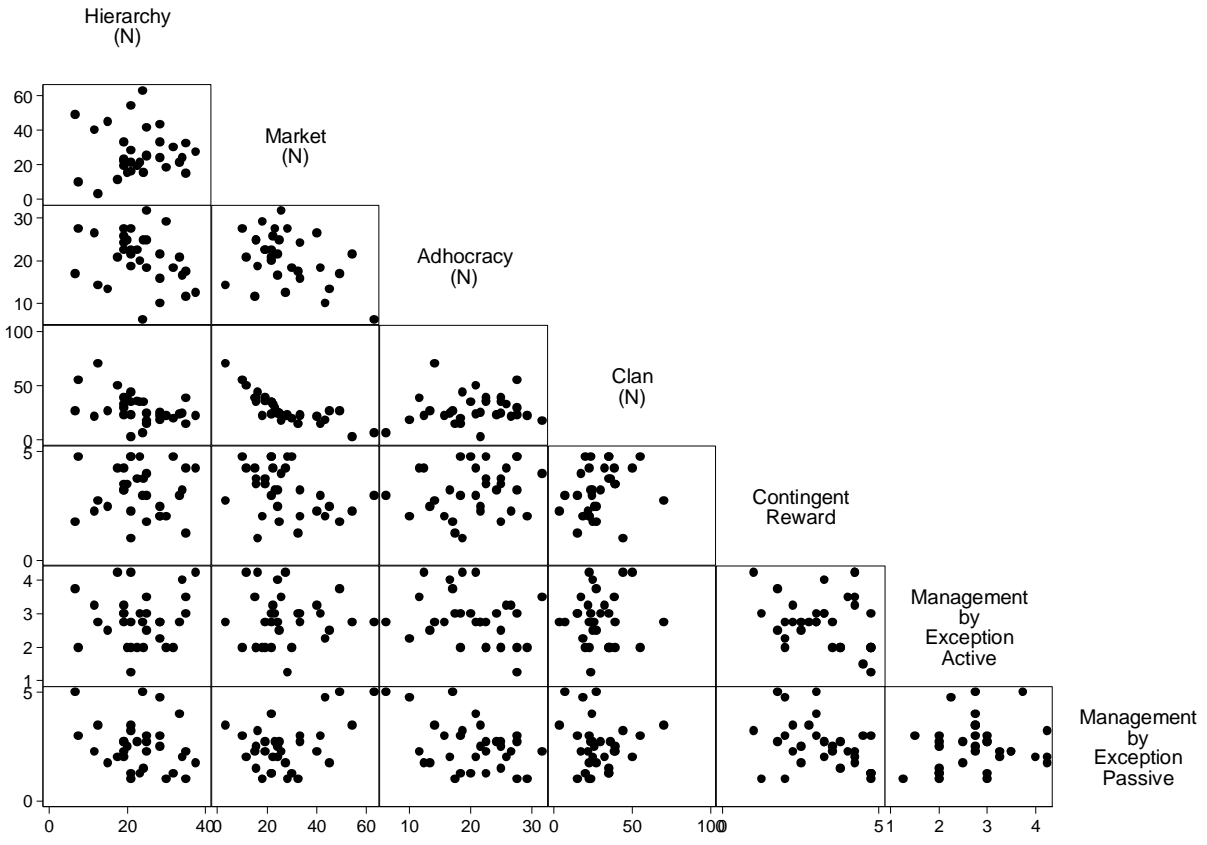


Figure 14. Matrix of scatterplots for Competing Values Now composite scores and Full Range Model Transactional scores.

Pearson Correlation Coefficients between the variables of the Competing Values (Now) and the combined factors for Transformational and Transactional Leadership behaviors reported in Table 61 was examined for a linear relationship using an alpha of 0.05. It was determined that Market Now (-0.4157) was negatively correlated and Clan Now (0.3577) was positively Correlated with the combined factors associated with transformational Leadership.

Table 61

Correlations for Competing Values Now Composite Scores and Full Range Model Composite scores

	Hierarchy (N)	Market (N)	Adhocracy (N)	Clan (N)	Transformational Factors
Market (N)	-.0167				
Adhocracy (N)	-.2847	-.3880*			
Clan (N)	-.4323*	-.8063*	.1027		
Transformational Factors	-.1321	-.4157*	.2906	.3577*	
Transactional Factors	-.1630	.0580	-.3065	.1727	.3066

* $p < .05$

Pearson Correlation Coefficients between the variables of the Competing Values (Preferred) and the five factors for Transformational and three factors for Transactional Leadership behaviors was examined for a linear relationship using an alpha of 0.05 and reported in Table 62. For the factors associated with transformational Leadership, Market Now was negatively correlated with Idealized Influence Attributed ($r = -0.4318$, $p = 0.0136$), Individualized Consideration ($r = -0.4447$, $p = 0.0108$), and Intellectual Stimulation ($r = -0.4869$, $p = -0.0047$). Clan Now was positively correlated with Individualized Consideration ($r = 0.3595$, $p = 0.0433$), Idealized Influence Attributed ($r = 0.4250$, $p = 0.0153$), and Intellectual Stimulation ($r = 0.4231$, $p = 0.0158$). Adhocracy Now was positively correlated with Intellectual Stimulation ($r = 0.4359$, $p = 0.0126$).

Pearson Correlation Coefficient was run for factors of the Competing Values Now and the Transactional Leadership behaviors and reported in Table 63. Contingent Reward was negatively correlated with Market Now ($r = -0.3621$, $p = 0.0417$), Management by Exception Passive was positively correlated with Market Now ($r = 0.4198$, $p = 0.0167$). Management by Exception Passive was negatively correlated with Adhocracy Now ($r = -0.4108$, $p = 0.0195$).

Table 62

Correlations for Competing Values Now Composite Scores and Full Range Model Transformational Composite Scores

	Idealized Influence (Attributed)	Idealized Influence (Behavior)	Individualized Consideration	Inspirational Motivation	Intellectual Stimulation	Adhocracy (N)	Clan (N)	Hierarchy (N)
Idealized Influence (Behavior)	.8647*							
Individualized Consideration	.9110*	.8915*						
Inspirational Motivation	.8805*	.8964*	.8804*					
Intellectual Stimulation	.8274*	.8820*	.8936*	.8219*				
Adhocracy (N)	.2091	.2297	.2798	.2444	.4359*			
Clan (N)	.4250*	.2828	.3595*	.2153	.4231*	.1027		
Hierarchy (N)	-.1586	-.1262	-.0770	-.0527	-.2359	-.2847	-.4323*	
Market (N)	-.4318*	-.3160	-.4447*	-.2971	-.4869*	-.3880*	-.8063*	-.0167

* $p < .05$

Table 63

Correlations for Competing Values Preferred Composite Scores and Full Range Model Transactional Composite scores

	Hierarchy (N)	Market (N)	Adhocracy (N)	Clan (N)	Contingent Reward	Management by Exception (Active)
Market (N)	-.0167					
Adhocracy (N)	-.2847	-.3880*				
Clan (N)	-.4323*	-.8063*	.1027			
Contingent Reward	-.0034	-.3621*	.2094	.2667		
Management by Exception (Active)	.0953	.0242	-.2734	.0428	-.2423	
Management by Exception (Passive)	-.2672	.4198*	-.4108*	-.0786	-.3923*	.1361

* $p < .05$

Spearman Correlation reported in Table 64 indicated a positive relationship between the combined factors associated with Transformational Leadership (Idealized Influence-Attributed, Idealized Influence-Behavior, Individualized Consideration, Intellectual Stimulation, and Inspirational Motivation), and Clan Now ($r = 0.4514$) and negative correlation with Market Now ($r = -0.5019$).

Table 64

Spearman Correlations for Competing Values (Now) Composite Scores and Full Range Model Composite Scores

	Transformational Factors	Transactional Factors	Hierarchy (N)	Market (N)	Adhocracy (N)
Transactional Factors	.2975				
Hierarchy (Now)	-.1485	-.0859			
Market (N)	-.5019*	-.0639	.0875		
Adhocracy (N)	.2925	-.2933	-.3194	-.2984	
Clan (N)	.4514*	.1329	-.4649*	-.8206*	.1328

* $p < .05$

Canonical Correlation Analysis

Transformational Leadership factors (Combined) and Competing Values (Now). A Canonical Correlation was run to evaluate the combined factors for Transformational and Transactional Leadership compared to the Competing Values Now. The overall model fit was statistically significant (Wilks' Lambda .597, $F(6, 54) = 2.650$, $p = 0.025$). The canonical function 1-2 was significant (Wilks' Lambda .597, $F(6, 54) = 2.650$, $p = 0.025$). The canonical significance of group three was not as significant (Wilks' Lambda .888, $F(2, 28) = 1.772$, $p = 0.189$). The model indicated that 40.3% was the overall effect explained by the relationship of these two sets of variables.

Canonical variates. The canonical correlation coefficients for the first function was 0.5724 and 0.3352 for the second function. Market Now (0.7267)/Clan Now (-0.3142) was related to the first function and Clan (0.7267), Market Now (-0.5737), and Hierarchy Now (-0.5497) are all moderately related to the second function.

Combined factors (Transformational Factors) for Transformational Leadership (-0.6470) and some Transactional Leadership (0.5312) reported in Tables 66 and 67 are related to the first function and combined factors (Transactional Factors) of Transactional Leadership (0.8472) and some Transformational Leadership (0.7625) are related to the second function. The squared structure coefficients indicate that 41.2% of the variation in U_1 was explained by the variation in V_1 , whereas only 28.2% of variation in U_2 was explained by V_2 . An Orthogonal Varimax rotation and a Redundancy Analysis was performed and reported with similar but more significant findings to the un-rotated Canonical Loadings.

Table 65

Summary of (Rotated) Canonical Variate Interpretations

Canonical Variate	Interpretation (Constructs)
U_1	“Transformational”
U_2	“Transactional”
V_1	“Clan/Market Now”
V_2	“Clan/Hierarchy Now”

Table 66

Loadings for the factors (Combined) for Transformational and Transactional Leadership Canonical Variates (Rotated)

Variable	Canonical Variates	
	U_1	U_2
Transformational Factors	.9841	.1776
Transactional Factors	.1282	.9917

Table 67

Loadings for the Competing Values (Now) Canonical Variates (rotated)

Variable	Canonical Variates	
	V_1	V_2
Hierarchy (N)	-.3318	-.4388
Market (N)	-.9256	.0188
Clan (N)	.8428	.5297

Table 68

Redundancy Analysis for the factors (Combined) for Transformational and Transactional Leadership Variables with the Competing Values (Now) Canonical Variates (V_1 and V_2)

Variable	Canonical Variates	
	V_1	V_2
Transformational Factors	-.3704	.2555
Transactional Factors	.3041	.2840

Table 69

Redundancy Analysis for the Competing Values (Now) Variables with the factors (Combined) for Transformational and Transactional Leadership Canonical Variates (U_1 and U_2)

Variable	Canonical Variates	
	U_1	U_2
Hierarchy (N)	-.0130	-.1842
Market (N)	.4159	-.1923
Clan (N)	-.1798	.3166

Redundancy analysis. Redundancy analysis in Tables 68 and 69 indicated that Clan/Market was related to Transformational Leadership for the first function. There was a less significant relationship of Clan/Hierarchy Now predicting Transactional for the second function.

Transformational Leadership factors and Competing Values (Now). A canonical correlation analysis of the variables was conducted to evaluate the multivariate relations between the two sets of variables for the Competing Values Now and the Full Range Leadership Model specifically for Transformational Leadership behaviors. A significance test was run for all canonical correlations or model fit and found to be significant with (Wilks' Lambda .387, $F[15, 66.65] = 1.826, p = 0.049$). Therefore, 61.3% was the overall effect explained by the relationship of these two sets of variables in the model (Sherry & Henson, 2005). The 1-3 function was significant (Wilks' Lambda .387, $F[15, 66.65] = 1.826, p = 0.049$). The 2-3 function of the canonical correlations was not as significant (Wilks' Lambda .755, $F[8,50] = 0.941, p = .491$), and the third function was also tested for significance (Wilks' Lambda .906, $F[3, 26] = 0.894, p = 0.457$). Adhocracy Now was removed to reduce collinearity.

Canonical variates. The canonical correlation coefficients for the first function was 0.6986, 0.4084 for the second, and 0.3058 for the third function. In Tables 71 and 72, Market Now (-0.8134)/Clan Now (0.8021) dimension are related to the first function. Clan Now

(0.5747) was related to the second function. Hierarchy Now (0.8149)/Market Now (-0.5719) were related to the third function.

Intellectual Stimulation (0.8204), Idealized Influence Attributed (0.6265), and Individualized Consideration (0.6139) were related to the first function. Idealized Influence Attributed (0.2358) and Intellectual Stimulation (-0.1907) were correlated with the second function. Individualized Consideration (0.5611) was related to the third function. The squared structure coefficients indicate that 64.3-66.1% of the variation in U_1 was explained by the variation in V_1 , whereas only 64.3% of variation in U_2 was explained by V_2 , and % of variation in U_2 was explained by V_2 , and 27% of the variation in U_3 was explained by the variation in V_3 .

An Orthogonal Varimax rotation was performed and a comparison of rotated and un-rotated structure. It appears that the Clan Now - Market Now and Idealized Influence Attributed and Individualized Consideration have the most effect on the first canonical function. Market Now and Intellectual stimulation and Individualized Consideration have the effect on the second function. Hierarchy Now and Individualized Consideration have the most effect on the third function. This was similar to the un-rotated findings with a few exceptions to the table below of the un-rotated interpretation. Table 70 provides a succinct summary of the interpreted meanings of each canonical variate.

Table 70

Summary of Canonical Variate Interpretations

Canonical Variate	Interpretation (Constructs)
U_1	"Clan/Market Now " (some "Hierarchy")
U_2	"Clan Now"
U_3	"Hierarchy/Market Now "
V_1	"Intellectual Stimulation/ Idealized Influence Attributed/Individualized Consideration"
V_2	"Idealized Influence Attributed/Intellectual Stimulation"
V_3	"Individualized Consideration"

Table 71

Loadings for the Competing Values (Now) Canonical Variates

Variable	Canonical Variates		
	U_1	U_2	U_3
Hierarchy (N)	-.5187	-.2588	.8149
Market (N)	-.8134	-.1060	-.5719
Clan (N)	.8021	.5747	.1625

Table 72

Loadings for the Transformational Canonical Variates

Variable	Canonical Variates		
	V_1	V_2	V_3
Idealized Influence Attributed	.6265	.2358	.3745
Idealized Influence Behavior	.4946	-.0189	.2046
Individualized Consideration	.6139	-.0527	.5611
Inspirational Motivation	.4330	-.1880	.3383
Intellectual Stimulation	.8204	-.1907	.1655

Table 73

Redundancy Analysis for the Competing Values (Now) Variables with the Transformational Canonical Variates (V_1 and V_2)

Variable	Canonical Variates		
	V_1	V_2	V_3
Hierarchy (N)	-.3623	-.1057	.2492
Market (N)	-.5683	-.0433	-.1749
Clan (N)	.5603	.2347	.0497

Table 74

Redundancy Analysis for the Transformational Variables with the Competing Values (Now) Canonical Variates (U_1 and U_2)

Variable	Canonical Variates		
	U_1	U_2	U_3
Idealized Influence Attributed	.4377	.0963	.1145
Idealized Influence Behavior	.3455	-.0077	.0626
Individualized Consideration	.4289	-.0215	.1716
Inspirational Motivation	.3025	-.0768	.1035
Intellectual Stimulation	.5731	-.0779	.0506

Redundancy analysis. Redundancy analysis in Tables 73 and 74 indicated a strong correlation between the Market Now/Clan Now dimension and Intellectual Stimulation, Idealized Influence Attributed, and Individualized Consideration for the first function. The second and third function did not indicate a strong relationship among the variables.

Transactional Leadership factors and Competing Values (Now). A canonical correlation analysis of the variables was conducted to evaluate the multivariate relations between the two sets of variables for the Competing Values Organizational Culture Now and Full Range the Leadership Model specifically for Transformational Leadership behaviors. The full canonical model was statistically significant the test of significance was run for all canonical correlations and found to be significant with (Wilks' Lambda = .535, $F[9, 63.43] = 2.0640$, $p = 0.046$). Therefore, 46.5% was the overall effect explained by the relationship of these two sets of variables (Sherry & Henson, 2005). The 1-3 canonical correlation were significant (Wilks' Lambda = .535, $F[9, 63.43] = 2.0640$, $p = 0.046$). The 2-3 function was tested (Wilks' Lambda=.868, $F[4,54] = 0.991$, $p = 0.420$). The third was also tested (Wilks' Lambda .952, $F[1,28] = 1.4066$, $p = 0.246$) respectively.

Canonical variates. In Figures 76 and 77, the Canonical Correlation Coefficients for the first function was 0.6192, 0.2975 for the second, and 0.2187 for the third function. For the first function, the Market Now (0.6885) was related to first function. For the second function, Clan Now (0.8069) - Market Now (-0.6522) dimension was related. The third function was related to Hierarchy Now (0.9129). Management by Exception Passive (0.9965) was related to the first function, Management by Exception Active (0.6442) and Contingent Reward (0.6001) are related to the second. Management by Exception Active (0.7291) and Contingent Reward (-0.6466) are also related to the third function.

The squared structure coefficients indicate that 64.3 - 66.1% of the variation in U_1 was explained by the variation in V_1 , whereas only 26.9% of variation in U_2 was explained by V_2 , and 16.3% of variation in U_3 was explained by V_3 .

An Orthogonal Varimax rotation was performed and a comparison of rotated and unrotated structure. It appears that the Clan Now/Market Now and Contingent Reward have the most effect on the first canonical function. Hierarchy Now/Market Now and Management by Exception Passive have the effect on the second function. Hierarchy Now and Management by Exception Active are related to the third function.

Table 75 provides a succinct summary of the interpreted meanings of each canonical variate.

Table 75

Summary of Canonical Variate Interpretations

Canonical Variate	Interpretation (Constructs)
U_1	" Market Now "
U_2	" Clan Now/Market Now "
U_3	"Hierarchy Now "
V_1	"Management by Exception Passive"
V_2	"Management by Exception Active/Contingent Reward"
V_3	"Management by Exception Active/Contingent Reward"

Table 76

Loadings for the Competing Values (Now) Canonical Variates

Variable	Canonical Variates		
	U_1	U_2	U_3
Hierarchy (N)	-.4060	.0410	.9129
Market (N)	.6885	-.6522	.3172
Clan (N)	-.1427	.8069	-.5732

Table 77

Loadings for the Transactional Canonical Variates

Variable	Canonical Variates		
	V ₁	V ₂	V ₃
Contingent Reward	-.4710	.6001	-.6466
Management by Exception (Active)	.2313	.6442	.7291
Management by Exception (Passive)	.9965	-.0042	-.0834

Table 78

Redundancy Analysis for the Competing Values (Now) Variables with the Transactional Canonical Variates (V₁ and V₂)

Variable	Canonical Variates		
	V ₁	V ₂	V ₃
Hierarchy (N)	-.2514	.0122	.1997
Market (N)	.4263	-.1940	.0694
Clan (N)	-.0883	.2401	-.1254

Table 79

Redundancy Analysis for the Transactional Variables with the Competing Values (Now) Canonical Variates (U₁ and U₂)

Variable	Canonical Variates		
	U ₁	U ₂	U ₃
Contingent Reward	-.2916	.1785	-.1414
Management by Exception (Active)	.1432	.1916	.1595
Management by Exception (Passive)	.6170	-.0012	-.0182

Redundancy analysis. Redundancy Analysis in Figures 78 and 79 revealed a relationship between Market Now and Management by Exception Passive for the first function and Management by Exception Active and Contingent Reward is related to Clan-Market for the second function, Hierarchy is related to Management by Exception Active and Contingent Reward for the third function.

CHAPTER V: DISCUSSION

The purpose of the proposed study was to empirically examine the relationship of culture and managerial leadership based on the Competing Values Model, Grid and Group, and Transformational/Transaction Leadership behaviors (Full Range Leadership Model) in an organization. The significance and practical implications of the study results can have an impact on the andragogy of organizational culture and managerial leadership for training and analysis for organizations such as business and education. Furthermore, the study also helps identify areas that need further research.

Businesses are expected to continue to increase what they spend on Leadership training (Meinert, 2014). Subsequently, the significance and impact of the results of this study could be more meaningful. A better understanding of the relationship of culture and managerial leadership could assist in the development of new tools (as well as for improvement of existing tools) for assessment and analysis of organizations. Further, this may be beneficial for the development of curriculum for culture and managerial leadership training. Ultimately, these may be used to create a learning organization “where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together” (Senge, 2006, p. 3). The results of the study could improve the long-term effectiveness of the organization and assist in creating shared vision in the organization. Senge (2006) also discussed the importance of understanding system archetypes in that it “starts an organization on the path of putting the systems perspective into practice” (p. 94). From this perspective, the results could elevate the understanding by employees regarding the different behaviors required from their leaders in different situations (stability versus instability) in relation to the current culture of the

organization. Further research should be conducted to replicate this study to determine if the findings are transferrable across different industry types and sizes and different geographical locations. Further research should also be conducted to replicate this study in a stable organization to compare the results in the midst of change and in stable situations.

Method Summary

The instruments used to collect the data to examine the relationship of the culture and managerial leadership models are the Organizational Culture Assessment Instrument (OCAI), (SGAT) Social Game Assessment Tool (modified), and the Multifactor Leadership Questionnaire 5X (Rater form). The participants were a volunteer convenience sample from an agricultural organization in the upper Midwest and likely represent the middle management level of the organization. The data was collected via a web-based survey and analyzed with Stata software for the relationship of the variables (correlation).

This study revealed a few important issues regarding the instruments used. First, the way the data was collected with the OCAI limited a participant's responses to a fixed sum of 100, which inadvertently caused collinearity. Second, the instruments presented a few challenges for the integration of the models. Specifically, the OCAI and SGAT represent ostensibly congruent theoretical structures, yet the two instruments operationalized these in fairly dissimilar ways (see Figure 3). Finally, Full Range Leadership Model identified the transformational and transactional leadership behaviors which presented some issues since the factors were not always consistently identified in the literature or the study findings. For example in this study, the Transformational factors (Idealized Influence Attributed, Idealized Influence Behavior, Individualized Consideration, Intellectual Stimulation, and Inspirational Motivation) were strongly correlated to one another which may create a problem with discriminant validity. It was

not always clear if Laissez-Faire factor (not used as part of the model for this study) was part of Transactional Leadership or a separate component since they were listed as both (Bass, 1996). Further evidence of this found was this this study where the findings indicated that Contingent Reward may also be a Transformational Leadership factor rather than Transactional which does not align with the way the Full Range Leadership Model assigns the factors.

Discussion of Significant Findings Regarding the Proposed Theory Integration

The following is a discussion of the significant results of the study that provided support for the development of the proposed theoretical model based on the integration of the theories of Harris's (2005) Grid and Group Theory, Cameron and Quinn's (2011) Competing Values Framework, and Avolio and Bass's (2004) Multifactor Leadership Questionnaire 5X.

According to the proposed theoretical model (see figure 3) which was the basis of this study, the culture typologies of Harris' (2005) Grid and Group Theory (GG) should align with Cameron and Quinn's (2011) Competing Values Framework (CVF) [Corporate (GG) and Hierarchy (CVF); Bureaucratic (GG) and Market (CVF); Individualist (GG) and Adhocracy (CVF); Collectivist (GG) and Clan (CVF)]. In addition, Avolio and Bass' (2004) Full Range Leadership Transformational Leadership factors should align with Collectivist/Clan and he Transactional Leadership factors should align with Bureaucratic/Market. A combination of Transformational and Transactional behaviors was expected to be found in the Corporate/Hierarchy and Individualist/Adhocracy with Transformational factors stronger in Individualist/Adhocracy and Transactional factors stronger in Corporate/Hierarchy.

For this study, the Grid and Group Social Game Assessment Tool (SGAT) asked the participants what (culture) they would prefer and the Competing Values Framework (CVF) OCAI asks the participants first how they view the organization now, and then how they would

view it in 5 years (Preferred). Although it is expected that both will overlay well, the OCAI “Preferred” results should better align with the Grid and Group Social Game results. The Multifactor Leadership Questionnaire 5X asked how the leadership is viewed overall which should align better with the OCAI Competing Values “Now” results.

The following is a discussion of the findings relevant to the proposed theoretical model organized by analyzing and comparing the findings for each of the research questions.

Analysis of the Relationship of Competing Values and Grid and Group Models

The first question of the study was divided into two parts. The first part was to determine the quantitative relationships among the dimensions identified by the Grid and Group Theory and the Competing Values Framework (Preferred) as measured by the Social Game Assessment Tool and Organizational Culture Assessment Instrument respectively for an organization. In the theoretical model (Figure 3), Market and Hierarchy of the Competing Values Framework (CVF) were expected to align with the Strong Grid of the Grid and Group Theory.

The study results found a positive correlation of CVF Hierarchy Preferred and Market Preferred to Grid. There was also a strong negative correlation of Grid to Clan Preferred which is a Weak Grid in the theoretical model. The Canonical Correlation demonstrated that Grid strongly predicted Clan/Market Preferred dimension and a moderate prediction of Group for Hierarchy Preferred in the second function. We would expect a stronger relationship between Group and Adhocracy with Canonical Correlation, which could be a collinearity issue. There was some positive correlation to Adhocracy Preferred and Group and which was not explained by this model.

The next part of the first question of the study is to determine the quantitative relationships among the dimensions identified by the Grid and Group Theory and the Competing

Values Framework (Now) as measured by the Social Game Assessment Tool and Organizational Culture Assessment Instrument respectively for an organization. The relationship of the Competing Values Now was expected to correlate with the model since there was not a significant difference between the frequencies of culture typologies for each set of data. However, it was expected to align better with the Preferred that matched the way the questions were asked to the participants.

The results found that Grid was positively related to Hierarchy Now and Market Now and strongly negatively correlated to Clan Now. Group was positively correlated to Adhocracy Now which again was an unexpected finding. Canonical Correlation indicated that Grid statistically predicted Clan Now/Market Now dimension and Group predicted Clan Now. Overall, appears to be a definite correspondence between the Market/Clan dimension of Competing Values (Now) and Grid and between Clan Now and Group.

Analysis of the data supported a relationship between the Hierarchy and Market dimension of CVF and Grid and a negative correlation to Clan. The Group also predicted Clan. These results of question one of the study confirm that there is a relationship between the culture types of the Social Game Grid and Group Model (Harris, 2005) and the Competing Values Framework (Cameron & Quinn, 2011) as anticipated by the model. The strongest relationship was to the Grid and relationships to Market and Hierarchy and a negative relationship to Clan. The unexpected result was that Group was positively correlated to Adhocracy (Adhocracy was identified by the model as weak group/weak grid dimension) which was not explained by the model. However, this result could be due to the limitation of the forced response of the instrument. Further research should be conducted to determine if Adhocracy is positively correlated with group across organizations in the midst of change and in stable situations. Further

research should also be conducted on different levels of analysis to determine if the Adhocracy connection to group is consistent across all levels.

Implications for adult education. A strong group is regarded as strong social incorporations and the interest of the group is prioritized over individuals (Harris, 2005). In this type of culture, it would be important for individuals in the organization to learn that there is a strong social incorporation in the strong group/weak grid (Clan) and there are few rules and successful leaders cultivate trust and remind others of the group goals. It is expected that decision making is shared among all levels of the organization. For example, input on scheduling training would likely be a shared among all levels. In the strong group/strong grid (Hierarchy) there is still group cohesion and there are strong rules and hierarchy is valued (Harris, 2005).

Implications for business/organizational analysis. The strong Grid forces of the Grid and Group model are aligned with the stability and control forces of the Hierarchy and Market archetypes. The Competing Values Market (strong Grid/weak Group) is related to the performance of the organization where statistics are measured and valued. In this type of organization, reward for performance is often based on sales volume. The Grid is negatively correlated to the Competing Values Clan which is characterized as a close knit group or like a family. For a clan organization, it is important that employees understand that there is not much separation between work and social.

Analysis of the Relationship of Grid and Group and Full Range Leadership Model

The second question of the study is to determine the quantitative relationships among the dimensions identified by the Full Range Leadership Model and the Grid and Group Theory as measured by the Multifactor Leadership Questionnaire 5X Instrument (Rater form) and the Social Game Assessment Tool respectively. According to Avolio and Bass (2004), the factors

for Transformational Leadership include: Idealized Influence Attributed, Idealized Influence Behavior, Individualized Consideration, Intellectual Stimulation, and Inspirational Motivation. The Factors for Transactional Leadership include: Contingent Reward, Management by Exception Active, and Management by Exception Passive. In the theoretical model, Group would be expected to align with Transformational Leadership and Grid with Transactional Leadership factors. A combination of Transformational and Transactional behaviors was expected to be found in the Corporate (strong Group/strong Grid) and Individualist (weak Group/strong Grid) dimensions with Transformational factors stronger in Individualist (weak Group/strong Grid) and Transactional factors stronger in Corporate (strong Group/strong Grid).

A redundancy analysis of the combined factors for Transformational and Transactional leadership found the expected results that Grid predicted Transactional Leadership and Group predicted Transformational Leadership. For the individual managerial leadership behaviors, Redundancy analysis and Pearson correlation indicated a fairly significant relationship between the Group and Intellectual Stimulation dimension. However, theoretically it should also align with the Weak Grid/Weak Group culture type (Individualist) which is entrepreneurial. The expected finding of Individualized Consideration and Inspirational Motivation alignment was not a direct finding in the analysis. There was a significant negative correlation between Group and Full Range Leadership Model Management by Exception Passive behavior associated with Transactional Leadership. Redundancy Analysis also indicated that Group predicted Management by Exception Passive. Grid predicted Management by Exception Active and mildly predicted Idealized Influenced Attributed.

The integration of the Full Range Leadership Model and the Grid and Group theory provide support for a quantitative relationship between culture and leadership as measured by

these instruments. The analysis supported the theoretical model as the Grid positively predicted Transactional Leadership and Group predicted Transformational Leadership. Management by Exception Passive negatively correlated with Group and Grid predicted Management by Exception Active which what would be expected for these Transactional factors. Further research should be conducted to determine if there are differences in the relationship of these theories in a non-profit versus for profit organizations. Further research should also be conducted prior to and following a merger or acquisition of an organization of differing dominant culture types to learn more about the culture types before and after a significant organizational change. In addition, this research should be replicated in institutions of higher education to learn more about leadership at the student organization level, faculty senate, middle management, and senior management levels.

Implications for adult education. It is important for the purposed of organizational training that the employees understand the different leadership and culture types for an effective organization. In a strong Grid organization, there is very little autonomy and rules are what govern what people do (Harris, 2005). In this culture, centralized power and authority are effective which aligns with the Management by Exception Active of the Transactional Leadership. In a weak group culture, there is minimal pressure to accept group goals (Harris, 2005) which aligns well with the Transactional management behavior of Management by Exception Passive where the leader only intervenes to make corrections (Antonakis et al., 2003). This is opposed to the Strong Group/weak Grid of the Clan Culture where decentralized decision making is valued and there is strong allegiance to the organization (Harris, 2005). In a strong group organization, employers are likely to along with a process if they believed it was in the best interest of the organization.

Implications for business/organizational analysis. The effective supportive and coaching type of leadership of the strong group (Harris, 2005) aligns with the Transformational Leadership and may be necessary leadership behaviors in changing environment. This information may be important to organizations going through a merger or acquisition. The supportive type of leadership behavior may also coincide with findings of the critical leadership behaviors of problem solving and obstacle elimination in a crisis situation (Peterson & Van Fleet, 2008) in the sense that leadership would provide support-including problem solving for situations.

In the analysis, Group was related to the Intellectual Stimulation which theoretically aligned with the Strong Group/Weak Grid culture type (Collectivist) in that it is a behavior of Transformational Leadership. As organizations move through the organization growth cycle, the organization is more entrepreneurial when the organization is created or has a high rate of growth which aligns with the intellectual stimulation of the Full Range Leadership Model.

Analysis of the Relationship of Competing Values and Full Range Leadership Model

The third question of the study was divided into two parts. The first part was to determine the quantitative relationship among the dimensions identified by the Full Range Leadership Model and the Competing Values Framework (Preferred) as measured by the Multifactor Leadership Questionnaire 5X Rater Instrument and the Organizational Culture Assessment Instrument respectively. It was expected that there would be a relationship of the Competing Values Preferred results and the Transformational and Transactional factors of the Full Range Leadership Model. (However, it was expected that the Competing Value Now in the next part of question three would better align.)

For the Preferred results, there was a negative relationship of Adhocracy Preferred and Transactional Leadership. For the individual managerial leadership behaviors, the Management by Exception Active was mildly negatively correlated to Market Preferred and Adhocracy Preferred.

Redundancy Analysis found that Clan Preferred/Market Preferred dimension predicted Transactional Leadership, and Hierarchy predicted Transformational Leadership. For the individual Transformational managerial leadership behaviors, Redundancy analysis indicated that Hierarchy/Clan Preferred predicted Intellectual Stimulation. The rotated variates indicated the influence was a result of Clan Preferred. For the individual managerial leadership transactional behaviors, redundancy analysis found that Market/Clan Preferred dimension predicted Management by Exception Active.

Analysis of the next part of question three is to determine the quantitative relationship among the dimensions identified by the Full Range Leadership Model and the Competing Values Framework (Now) as measured by the Multifactor Leadership Questionnaire 5X Rater Instrument and the Organizational Culture Assessment Instrument respectively. The Now results of the Competing Values Framework and the Full Range Leadership are expected to align more similarly than the Preferred results since the surveys asked the participants how they feel the culture/leadership is now.

The results were very consistent to what was predicted by the theoretical model. Clan Now was positively associated with the Transformational combined factors. Market Now was negatively correlated to combined Transformational factors. Clan Now was positively correlated with Transformational Leadership and Market Now was a negatively correlated with Transformational Leadership.

Further analysis of the individual factors for Transformation managerial leadership factors found that Adhocracy Now was positively correlated with Intellectual Stimulation, Clan Now positively was correlated to Idealized Influence Attribute, Intellectual Stimulation, and Individualized Consideration. Market Now was negatively correlated with the same factors of Transformational Leadership factors of Idealized Influence Attributed, Individualized Consideration, and Intellectual Stimulation. For the individual Transactional managerial leadership behaviors, Management by Exception Passive was negatively correlated to Adhocracy now and positively correlated with Market Now.

Redundancy analysis indicated that the Clan/Market dimension predicted Transformational Leadership. For the individual transformational managerial leadership behaviors, redundancy analysis indicated a Market Now/Clan Now dimension also strongly predicted Intellectual Stimulation, Idealized Influence Attributed, and Individualized Consideration. For the individual Transactional Managerial behaviors, Market Now predicted Management by Exception Passive, Clan/Market Now dimension predicted Management by Exception Active and Contingent Reward, and Hierarchy predicted Management by Exception Active and Contingent Reward.

The results supported the relationship of the Competing Values (Now) and the Full Range Leadership Model. The one surprising finding was Market Now being negatively correlated to Contingent Reward and Contingent Reward was negatively correlated with Management by Exception Passive. However, Market Now was negatively correlated and Clan Now was positively correlated with the combined factors associated with transformational Leadership. In addition, the data supported the relationship with Individualized Consideration but not the Inspirational Motivation as proposed theoretically. The data also supported the

alignment with Clan to the Transformational Leadership behaviors of Idealized Influence Attribute, Intellectual Stimulation, and Individualized Consideration and Market negatively correlated with these same factors. Further research should be conducted to determine the relationship of Market Culture in different types of institutions undergoing change to determine if this “sales” type of culture is different in profit versus not for profit where the expectations for performance may be tied to different types of goals. In addition, further research should be conducted for different levels in the organizations. The middle management level may have a different view of the Market Culture and Contingent Reward behavior than the employees that work for them.

Implications for adult education. For organizational education, the Clan culture values Human Resources and training and the Market values productivity and efficiency and a preference for shorter time lines and prefers more directive leadership (Quinn, 1991). It is important for the organization and the leader to understand that in a Market type of culture, a leader with a long-term vision may not have buy-in from the organization. The Clan type culture will have more tolerance in the organization and will be more flexible and prefers a more supportive type of leader (Quinn, 1991). These premises are supported by this study in that the Transformational Leadership behaviors (supportive type) aligns better with the Clan type of culture and the Transactional management behaviors (directive style) is a better fit for the Market Culture.

Implications for business/organizational analysis. The integration of the Full Range Leadership model and Competing Values Framework theories had expected findings. The Clan Now directly aligned with Transformational leadership. The Adhocracy aligned with the Transformational Leadership factor of Intellectual Stimulation which is described as creative and

entrepreneurial stimulation of the follower. This leadership attribute aligns well with the innovative and entrepreneur leader type described for the Adhocracy culture of the Competing Values Framework (Cameron & Quinn, 2011).

Management by Exception Passive is related to Adhocracy Now Culture type. The Management by Exception Passive aligns with the model in that it was expected to have some overlap of Transactional and Transformational behaviors. Theoretically, the coach and mentor style of the Individualized Consideration aligns with the Clan culture type. The Clan Culture is on the flexible discretion dimension of the Competing Values Framework. The flexible organic culture is a theoretical alignment of the transformational leadership which is effective in an unstable environment (Bass, 1996). This premise is also supported by Kotter (1988) where leadership is effective in unstable times and managerial behaviors are effective in stable times. The organization being studied is in a state of change and these results would be expected in this environment.

For the individual Transactional managerial leadership behaviors, Management by Exception Passive was theoretically related to Market Now which was also confirmed by the results. The Transactional behavior of Contingent Reward is theoretically related to the Market culture type and is regarded as rewards in exchange for performance type of behavior. However, the data indicated a negative relationship between Market and Contingent Reward which was an unexpected finding according to the theoretical model. The One explanation for this is that Graen and Uhl-Bien (1995) pointed out that a Leader Member Exchange is at the level of transactional leadership until a strong relationship built on trust evolves and then the Leader Member Exchange becomes Transformational. In the situation of this organization, the leader is a long term leader that spent time at each of the locations and likely build trust in the organization.

Another explanation could be that in a growing organization building new facilities, there is likely pressure to perform in sales. This could lead to a negative feeling towards Contingent Reward if sales goals are not met and the rewards are not realized. If the employee feels the reward is inequitable, this scenario could result in a negative (feelings) correlation of Contingent Reward to the Market Culture type. Further research should be conducted in organizations to determine if a trusted leader has the same results of an untrusting leader in a market culture. Additional research that includes aspects of equity theory may provide an explanation for this finding. Based on this finding (as previously suggested), further research should also be conducted to determine if Contingent Reward is negatively correlated with Transactional leadership across other organizations such as for profit or non-profit and educational and business institutions.

Conclusion

Although there are numerous studies and articles written on Management, Leadership, and Organizational Culture, the definitions of these topics still appears to be vague. The culture of an organization has a profound effect on the operations and effectiveness of an organization yet to describe it becomes more challenging. Culture may in fact be a feeling of our surroundings rather than something we can see or describe. It also seems that the effectiveness of managerial leadership and behaviors depend on the culture of an organization. Leadership can change a culture over time, but the leader needs to be well aware of the culture before implementing any changes unless there is a crisis situation, then the culture is more willing to change due to the crisis. Often times when there is a managerial leadership change, the leader will sit back for some time to get a sense of the culture prior to begin planning for the future which may be wise for the longevity and success of the leader.

The Grid and Group model developed by Douglas (2007/1970) and adapted for schools by Harris (2005) has anthropological roots. The Competing Values Framework model refined by Cameron and Quinn (2011) is based on business effectiveness. The Full Range Leadership Model (Avolio & Bass, 2004) explains managerial leadership behaviors. Although the culture models have different origins, the data collected supported the alignment of the models and provides evidence to support the integration of these culture theories. As a result, these findings support the interchangeable use of these culture instruments in this organization. The managerial leadership behaviors also overlay and align with both culture models. The diverse origins of the integrated theories provided a new perspective for viewing and determining organizational culture dimensions and the relationship to managerial leadership behaviors in an organization.

The significance of the study is that the results can be added to the existing body of knowledge of organizational culture and managerial leadership in an organization for analysis and learning organizations. As previously discussed, leadership and culture are often viewed separately. The results from this particular organization imply that there is a strong integrated relationship between organizational culture and managerial leadership in an organization that should be considered for future theory development and research. The information gained can also be incorporated into future research of the unexpected results of this study as well as future research on different types of organizations and different levels of analysis of an institution. In addition, the study could provide further insight into the behaviors of managers and leaders and how they align with the current research.

According to the frequency tables, the Clan-Market was the dominant CVF culture dimension for this organization and the “Preferred” culture and the “Now” culture are congruent. A congruent culture is a more effective organization (Cameron & Quinn, 2011). In this particular

study, the leader type of behaviors aligned with the transformational leadership (Clan Culture and Group culture types) and the managerial type of leadership behaviors align with the transactional leadership (Grid Culture and Market Culture types). Different leadership behaviors are necessary for different situations and are more effective in different culture types. The right leader is the leader that is compatible with the right culture of the organization. It is important to note that the culture of an organization will dictate which leadership style (in the short-term) is preferred based on the situation. Culture is more difficult to change than the leader. Even if the leader's strategy seems to be a great strategy and the best approach, if it does not align with the culture then the leader will not be effective and may not even last in the organization.

Peter Drucker¹ was spot on when he said, "*Culture eats strategy for breakfast.*"

¹ There is no known citation for this quotation, however Peter Drucker is widely acknowledged as the original source.

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APPENDIX A: INSTRUMENT MOCK UP

This appendix contains a mock-up of the online instrument used in this study. In this mock-up, separate HTML pages are demarcated by dashed lines, and navigation buttons are shown as grey rectangles.

Introduction

Thank you for considering taking this survey. The information gained from this research can help your organization as you continue to move forward.

The first part of the survey is an Informed Consent for the survey. This part is long, but it is important that you have all of the information you need to participate in the survey.

Click on NEXT below to take you to the Informed Consent.

NEXT

Informed Consent to Participate in the Survey

Introduction and purpose of the research study

██████ is working with Heidi Larson, a graduate student at NDSU, to conduct her graduate research study to learn more about the dynamics of this organization.

Invitation to participate

Since you are a member of this organization, you are invited to participate. Your participation is not required and is entirely your choice, and you may change your mind or quit participating at any time, with no penalty to you. However, your assistance would be greatly appreciated in making this a meaningful study. The survey is only for participants 18 years or older. If you are under 18, please do not participate and thank you for your time.

Explanation of survey and access to information

It should take about 25 minutes to complete the questions which are multiple choice or fill in a number.

Access to information

This study is anonymous. That means that no one, not even members of the research team, will know that the information you give comes from you and there is no link to your identity. Once analyzed, the results will be shared with your company in aggregate form meaning that just an overall summary of the entire organization will be presented. No individual results will be presented.

Potential benefits and risks

It is not possible to identify all potential risks in research procedures, but we have taken reasonable safeguards to minimize any known risks. These known risks include: loss of confidentiality or some of the questions could make you feel uncomfortable. You are not expected to get any personal benefit from being in this study. Benefits to others and the organization are likely to include advancement of knowledge of the relationship of elements in the organization.

Contact information for questions or concerns

If you have any questions or concerns about this project, please contact me, Heidi Larson, Education Graduate Student at heidi.h.larson@ndsu.edu, or 701.320.2298, or contact my adviser Dr. Brent Hill, at NDSU, 701.231.8011, or the NDSU Human Research Protection Program toll-free at 1-855-800-6717 or by email at ndsu.irb@ndsu.edu.

After reading the information above, choose from the following and click on NEXT below.

- **Yes, I would like to continue with the survey after reading the Informed Consent to the survey and I am 18 years of age or older.**
- **No, I am not interested in continuing with the survey, OR, I am under 18 years of age as of today.**

NEXT

Organizational Culture Assessment Instrument (OCAI) / Current Status

INSTRUCTIONS

Below there are six sets of statements about the culture of the organization. There is no "right" culture of an organization. For each set, I would like you to think about the culture as it is right now, and using 100 points total, assign each of the 4 statements in each set giving the highest points to the statement that is most like your organization as it is right now. This is an example using types of food:

If I were to assign 4 types of my favorite foods and I was given the following statements:

1. Pizza
2. Hamburger
3. Salad
4. Broccoli

This is how I would assign the points. Since I really like pizza, somewhat like hamburger, seldom eat salad, and rarely eat broccoli, I might choose to assign pizza 55 points, hamburger 23 points, salad 12 points, and broccoli 10 points as my favorite foods as of right now. Note that it is very important that the total points assigned to each of the 4 statements equal 100 points. So, $55 \text{ (pizza)} + 23 \text{ (hamburger)} + 12 \text{ (salad)} + 10 \text{ (broccoli)} = 100$ total points.

Using this as an example, click on NEXT below to take you to the first set of statements, and assign each statement points as to how you find the culture in your organization right now.

NEXT

Using 100 points, assign each of the following 4 statements as to how you find the culture in your organization now. As you assign the statements numbers to indicate levels of likeliness, the box at the bottom will total the numbers for you which needs to equal 100. If the total does not equal 100, adjust your numbers according to your preference so the total equals 100.

Set 1 of 6

Remember to click on the total and make sure the total in that box is EXACTLY 100 before moving on.

- | | |
|----------------------|---|
| <input type="text"/> | 1. The organization is a very personal place. It is like an extended family. People seem to share a lot of themselves. |
| <input type="text"/> | 2. The organization is a dynamic and entrepreneurial place. People are willing to stick their necks out and take risks. |
| <input type="text"/> | 3. The organization is very results oriented. A major concern is with getting the job done. People are very competitive and achievement oriented. |
| <input type="text"/> | 4. The organization is a very controlled and structured place. Formal procedures generally govern what people do. |
| <input type="text"/> | Total |

Set 2 of 6

Remember to click on the total and make sure the total in that box is EXACTLY 100 before moving on.

- | | |
|----------------------|--|
| <input type="text"/> | 1. The leadership in the organization is generally considered to exemplify mentoring, facilitating, or nurturing. |
| <input type="text"/> | 2. The leadership in the organization is generally considered to exemplify entrepreneurship, innovation, or risk taking. |
| <input type="text"/> | 3. The leadership in the organization is generally considered to exemplify a no-nonsense, aggressive, results-oriented focus. |
| <input type="text"/> | 4. The leadership in the organization is generally considered to exemplify coordinating, organizing, or smooth-running efficiency. |
| <input type="text"/> | Total |

Set 3 of 6

Remember to click on the total and make sure the total in that box is EXACTLY 100 before moving on.

- | | |
|----------------------|---|
| <input type="text"/> | 1. The management style in the organization is characterized by teamwork, consensus, and participation. |
| <input type="text"/> | 2. The management style in the organization is characterized by individual risk taking, innovation, freedom, and uniqueness. |
| <input type="text"/> | 3. The management style in the organization is characterized by hard-driving competitiveness, high demands, and achievement. |
| <input type="text"/> | 4. The management style in the organization is characterized by security of employment, conformity, predictability, and stability in relationships. |
| <input type="text"/> | Total |

Set 4 of 6

Remember to click on the total and make sure the total in that box is EXACTLY 100 before moving on.

- | | |
|----------------------|--|
| <input type="text"/> | 1. The glue that holds the organization together is loyalty and mutual trust. Commitment to this organization runs high. |
| <input type="text"/> | 2. The glue that holds the organization together is commitment to innovation and development. There is an emphasis on being on the cutting edge. |
| <input type="text"/> | 3. The glue that holds the organization together is the emphasis in achievement and goal accomplishment. |
| <input type="text"/> | 4. The glue that holds the organization together is formal rules and policies. Maintaining a smoothly running organization is important. |
| <input type="text"/> | Total |

Set 5 of 6

Remember to click on the total and make sure the total in that box is EXACTLY 100 before moving on.

- | | |
|----------------------|---|
| <input type="text"/> | 1. The organization emphasizes human development. High trust, openness, and participation persist. |
| <input type="text"/> | 2. The organization emphasizes acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are valued. |
| <input type="text"/> | 3. The organization emphasizes competitive actions and achievement. Hitting stretch targets and winning in the marketplace are dominant. |
| <input type="text"/> | 4. The organization emphasizes permanence and stability. Efficiency, control, and smooth operations are important. |
| <input type="text"/> | Total |

Set 6 of 6

Remember to click on the total and make sure the total in that box is EXACTLY 100 before moving on.

- | | |
|----------------------|---|
| <input type="text"/> | 1. The organization defines success on the basis of the development of human resources, teamwork, employee commitment, and concern for people. |
| <input type="text"/> | 2. The organization defines success on the basis of having unique or the newest products. It is a product leader and innovator. |
| <input type="text"/> | 3. The organization defines success on the basis of winning in the marketplace and outpacing the competition. Competitive market leadership is key. |
| <input type="text"/> | 4. The organization defines success on the basis of efficiency. Dependable delivery, smooth scheduling, and low-cost production are critical. |
| <input type="text"/> | Total |

Click NEXT to continue.

NEXT

Organizational Culture Assessment Instrument (OCAI) / Preference

INSTRUCTIONS

In the following section, you will find the exact same set of questions. Except for this set, I would like you to think about how you would like to see the culture in 5 years. Again, using 100 points total, assign each of the 4 statements in each set. This is an example using types of food:

If I were to assign 4 types of my favorite foods as to how I would like them to be in 5 years:

1. Pizza
2. Hamburger
3. Salad
4. Broccoli

Even though I assigned pizza higher points for my favorite food now, I would now assign salad 65 points, broccoli 20 points, hamburger 8 points and pizza 7 points as to how I would like my favorite foods to be in 5 years. Again for this section, the points will need to add up to 100 points total. So, 7 (pizza) + 8 (hamburger) + 65 (salad) + 20 (broccoli) = 100 total points.

Using this as an example, click on NEXT below to take you to the first set of statements, and assign each statement points as to how you would like to see the culture in 5 years.

NEXT

Again using 100 points, assign the following 4 statements as to how you would like the culture to be in 5 years. If the total is not at 100, adjust your numbers according to your preference so the total equals 100.

Set 1 of 6

Remember to click on the total and make sure the total in that box is EXACTLY 100 before moving on.

- | | |
|--|---|
| | 1. The organization is a very personal place. It is like an extended family. People seem to share a lot of themselves. |
| | 2. The organization is a dynamic and entrepreneurial place. People are willing to stick their necks out and take risks. |
| | 3. The organization is very results oriented. A major concern is with getting the job done. People are very competitive and achievement oriented. |
| | 4. The organization is a very controlled and structured place. Formal procedures generally govern what people do. |
| | Total |

Set 2 of 6

Remember to click on the total and make sure the total in that box is EXACTLY 100 before moving on.

- | | |
|----------------------|--|
| <input type="text"/> | 1. The leadership in the organization is generally considered to exemplify mentoring, facilitating, or nurturing. |
| <input type="text"/> | 2. The leadership in the organization is generally considered to exemplify entrepreneurship, innovation, or risk taking. |
| <input type="text"/> | 3. The leadership in the organization is generally considered to exemplify a no-nonsense, aggressive, results-oriented focus. |
| <input type="text"/> | 4. The leadership in the organization is generally considered to exemplify coordinating, organizing, or smooth-running efficiency. |
| <input type="text"/> | Total |

Set 3 of 6

Remember to click on the total and make sure the total in that box is EXACTLY 100 before moving on.

- | | |
|----------------------|---|
| <input type="text"/> | 1. The management style in the organization is characterized by teamwork, consensus, and participation. |
| <input type="text"/> | 2. The management style in the organization is characterized by individual risk taking, innovation, freedom, and uniqueness. |
| <input type="text"/> | 3. The management style in the organization is characterized by hard-driving competitiveness, high demands, and achievement. |
| <input type="text"/> | 4. The management style in the organization is characterized by security of employment, conformity, predictability, and stability in relationships. |
| <input type="text"/> | Total |

Set 4 of 6

Remember to click on the total and make sure the total in that box is EXACTLY 100 before moving on.

- | | |
|----------------------|--|
| <input type="text"/> | 1. The glue that holds the organization together is loyalty and mutual trust. Commitment to this organization runs high. |
| <input type="text"/> | 2. The glue that holds the organization together is commitment to innovation and development. There is an emphasis on being on the cutting edge. |
| <input type="text"/> | 3. The glue that holds the organization together is the emphasis in achievement and goal accomplishment. |
| <input type="text"/> | 4. The glue that holds the organization together is formal rules and policies. Maintaining a smoothly running organization is important. |
| <input type="text"/> | Total |

Set 5 of 6

Remember to click on the total and make sure the total in that box is EXACTLY 100 before moving on.

1. The organization emphasizes human development. High trust, openness, and participation persist.

2. The organization emphasizes acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are valued.

3. The organization emphasizes competitive actions and achievement. Hitting stretch targets and winning in the marketplace are dominant.

4. The organization emphasizes permanence and stability. Efficiency, control, and smooth operations are important.

Total

Set 6 of 6

Remember to click on the total and make sure the total in that box is EXACTLY 100 before moving on.

1. The organization defines success on the basis of the development of human resources, teamwork, employee commitment, and concern for people.

2. The organization defines success on the basis of having unique or the newest products. It is a product leader and innovator.

3. The organization defines success on the basis of winning in the marketplace and outpacing the competition. Competitive market leadership is key.

4. The organization defines success on the basis of efficiency. Dependable delivery, smooth scheduling, and low-cost production are critical.

Total

We will now be moving on to the next part. Click NEXT to continue.

NEXT

Multifactor Leadership Questionnaire (MLQ)

(NOTE: Permission was given to print only five of the survey questions. As an example, the Leadership behavior associated with the survey question is in blue print following the question.)

INSTRUCTIONS

The following statements have to do with the overall leadership in the organization. When thinking about the leadership of the organization, rate each statement accordingly.

Response key:

1 = Not at all

2 = Once in a while

3 = Sometimes

4 = Fairly often

5 = Frequently if not always

NEXT

Social Games Assessment Tool

This next section has two sets of questions.

Set 1 of 2

Please answer the following questions as to your preferred work preference. These questions are asking what you would **prefer** and **not how it currently is**.

Response key:

1 = Very Strongly Disagree

2 = Strongly Disagree

3 = Disagree

4 = Somewhat Disagree

5 = Somewhat Agree

6 = Agree

7 = Strongly Agree

8 = Very strongly Agree

<i>Items</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>
I prefer a work atmosphere where authority is shared rather than a structure where it is centralized (decision making occurs in the head office).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer a work atmosphere where my role(s) is non-specialized/no explicit job description.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer a work atmosphere where work and labor activities are self-directed rather than no autonomy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer a work atmosphere where individuals are encouraged to take ownership rather than being discouraged to participate in decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer a work atmosphere where tools are individually chosen rather than allocated by administration.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer an atmosphere where there is emphasis on individualized rather than non-personalized.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am motivated by intrinsic/self-defined interests rather than extrinsic or institutional group rewards.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer a work atmosphere where hiring decisions are more controlled by all levels rather than controlled only at the administrative level.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer a work atmosphere where schedules are determined through group negotiation rather than organizational rules/routines.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer a work atmosphere where rules and procedures are few rather than numerous.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Click NEXT to continue.

NEXT

Set 2 of 2

Please answer the following questions as to your preferred work preference. These questions are asking what you would **prefer** and **not how it currently is**.

<i>Items</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>
I prefer a work atmosphere where work activities are initiated/planned by individual working alone rather than collaboratively working together.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer a work atmosphere where work and after work socialization are separate rather than incorporated activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer a work atmosphere where rewards benefit the individual rather than everyone.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer a work atmosphere where work is planned around individual goals/interests rather than group goals/interests.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer a work atmosphere where performance is evaluated according to individual goals/priorities, and criteria rather than group goals/priorities, and criteria.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer an atmosphere where employees work in isolation towards goals and objectives rather than collaboratively towards goals and objectives.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer a work atmosphere where goals are generated individually rather than in collaboratively in a group.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer a work atmosphere where communication flows primarily through individuals and informally rather than corporate formal networks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer a work atmosphere where workers have no allegiance/loyalty to the organization rather than full allegiance/loyalty to the organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer a work atmosphere where responsibilities are ambiguous and fragmented with no accountability rather than clear responsibility with much accountability.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Click NEXT to continue.

NEXT

Demographics

Before we conclude this survey, we would like to learn a little bit about you.

What is your gender?

- Male Female

What is your race?

- White/Caucasian African American Hispanic Asian
 Native American Pacific Islander Other

How long have you been employed with this organization?

What is the highest level of education you have completed?

- Less than High School High School / GED
 Some College 2-year College Degree
 4-year College Degree Master's Degree
 Doctoral Degree Professional Degree (JD, MD)

What is your age as of today?

What best describes your employment status?

- Full-time
- Full-time seasonal (40 or more hours per week)
- Part-time
- Part-time seasonal (less than 40 hours/week)

Thank you! Your time is appreciated and your participation will help make this a meaningful study.

Click NEXT to finish.

NEXT

APPENDIX B: IRB APPROVAL DOCUMENT FROM NDSU



October 27, 2014

Dr. Brent Hill
School of Education

Re: IRB Certification of Exempt Human Subjects Research:
Protocol #HE15064, "The relationship of Organizational Culture, Leadership, Engagement, and Followership"

Co-investigator(s) and research team: Heidi Larson, Claudette Peterson, Tim Peterson, Tom Hall

Certification Date: 10/27/14 Expiration Date: 10/26/17
Study site(s): Dakota Plains Cooperative - online
Sponsor: n/a

The above referenced human subjects research project has been certified as exempt (category # 2) in accordance with federal regulations (Code of Federal Regulations, Title 45, Part 46, Protection of Human Subjects). This determination is based on the revised protocol materials (received 9/30/14).

Please also note the following:

- If you wish to continue the research after the expiration, submit a request for recertification several weeks prior to the expiration.
- The study must be conducted as described in the approved protocol. Changes to this protocol must be approved prior to initiating, unless the changes are necessary to eliminate an immediate hazard to subjects.
- Notify the IRB promptly of any adverse events, complaints, or unanticipated problems involving risks to subjects or others related to this project.
- Report any significant new findings that may affect the risks and benefits to the participants and the IRB.

Research records may be subject to a random or directed audit at any time to verify compliance with IRB standard operating procedures.

Thank you for your cooperation with NDSU IRB procedures. Best wishes for a successful study.

Sincerely,

Kristy Shirley

Digital signed by Kristy Shirley
DN: cn=Kristy Shirley, o=NDSU, ou=IRB,
email=kristy.shirley@ndsu.edu, c=US
Date: 2014.10.27 10:40:40 -0500

Kristy Shirley, CIP, Research Compliance Administrator

For more information regarding IRB Office submissions and guidelines, please consult www.ndsu.edu/irb. This Institution has an approved FederalWide Assurance with the Department of Health and Human Services: FWA00002439.

INSTITUTIONAL REVIEW BOARD

NDSU Dept 4000 | PO Box 6050 | Fargo ND 58108-6050 | 701.231.8995 | Fax 701.231.8098 | ndsu.edu/irb

Shipping address: Research 1, 1735 NDSU Research Park Drive, Fargo ND 58102

NDSU is an EO/AA university.

APPENDIX C: PERMISSION TO USE MLQ INSTRUMENT

For use by Heidi Larson only. Received from Mind Garden, Inc. on January 8, 2015



To whom it may concern,

This letter is to grant permission for the above named person to use the following copyright material for his/her research:

Instrument: *Multifactor Leadership Questionnaire*

Authors: *Bruce Avolio and Bernard Bass*

Copyright: *1995 by Bruce Avolio and Bernard Bass*

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The entire instrument may not be included or reproduced at any time in any published material.

Sincerely,

Robert Most
Mind Garden, Inc.
www.mindgarden.com

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