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Change Is Conflict: Exploring Relationships Between Preferred Cognitive Styles and Conflict Management Styles of University Administrators at a Large Flagship University

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EXPLORING RELATIONSHIPS BETWEEN PREFERRED COGNITIVE STYLES AND
CONFLICT MANAGEMENT STYLES OF UNIVERSITY ADMINISTRATORS
AT A LARGE FLAGSHIP UNIVERSITY

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DISSERTATION
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A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Education in the
College of Education
at the University of Kentucky

By

Sandra L. Gillilan

Lexington, Kentucky

Director: Dr. Beth Rous, Professor of Educational Leadership Studies

Lexington, Kentucky

2016

ABSTRACT OF DISSERTATION

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EXPLORING RELATIONSHIPS BETWEEN PREFERRED COGNITIVE STYLES AND
CONFLICT MANAGEMENT STYLES OF UNIVERSITY ADMINISTRATORS
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As pressures continue for colleges and universities to find new ways of doing business, the calls for change heighten and the potential for conflict ensues. The purpose of the research study was to explore change as conflict via an exploration of organizational change related to preferred cognitive style, as measured by the Kirton Adaption-Innovation (KAI) instrument, and conflict management style, as measured by the Rahim Organizational Conflict Inventory-II (ROCI-II) instrument. The two instruments were administered to 72 university administrators at a large flagship university. The results indicate that the preferred cognitive style of university administrators is not significantly different from that of the general population. In addition, there were no statistically significant differences in style when comparing functional reporting area, gender, or education level. University administrators were found to prefer using the integrating conflict management style, followed by the compromising and obliging styles. Dominating and avoiding styles were the least used by university administrators. An understanding of cognitive styles and conflict management styles may help university administrators to be more self-aware and to know when each style is appropriate for use, particularly as it relates to problem-solving in teams with a diversity of styles to manage change and enhance organizational effectiveness.

KEYWORDS: Organizational Change, Cognitive Style, Conflict Management, Leadership, Higher Education Administration

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This dissertation is not the end of the journey, but simply a milestone along the way!

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

The purpose of the research study was to explore change as conflict via an exploration of organizational change related to preferred cognitive style, as measured by the Kirton Adaption-Innovation (KAI) instrument, and conflict management style, as measured by the Rahim Organizational Conflict Inventory-II (ROCI-II). The study measured preferred cognitive styles and conflict management styles of university administrators at a large public flagship university. In addition to the scores obtained from the two instruments, categorical variables for functional reporting area, gender, and education level were analyzed allowing for comparison of styles across attributes and to explore possible significant relationships between preferred cognitive style and conflict management style. The knowledge gained from an understanding of preferred cognitive styles and management styles adds to the higher education leadership literature by increasing awareness and knowledge of these critical variables in the ability to effectively manage organizational change. The ability for university leaders to successfully orchestrate change initiatives, particularly via the use of teams, is critical in moving institutions beyond the status quo and staying competitive in a complex and ever-changing environment.

Statement of the Problem

A recent literature review conducted by Wetzel and Van Gorp (2014) found 85 articles related to change management published in top tier journals in 2010. But, the notion of change is not new to higher education, as publications for more than 40 years have focused on the need for colleges and universities to adapt to the environment as a means of remaining competitive and agile in a constantly changing world. The concept of organizational adaptation, defined as "modifications and alterations in the organization or its components in order to adjust to change in the external environment" (Cameron, 1984, p. 123) dates back to the 1970s. However, the primary impetus leading to the heightened desire for higher education to move beyond the status quo comes from the groundbreaking publication by the National Commission on Excellence in

Education (1983), *A Nation at Risk: The Imperative for Education Reform,* which called upon all educational institutions to reform by innovative measures both the quality and the competitiveness of the American educational system. Nevertheless, with literally hundreds of publications related to organizational change in various forms and based on numerous theories, colleges and universities continue to struggle with change efforts of all shapes and sizes.

Purpose and Significance of the Study

Kirton (2003) contends that change occurs all of the time, whether it be small or large scale, and that all persons can be agents of change, albeit selective in the changes they are willing to make and the cognitive style in doing so. As aptly noted by Rahim (2011), "Change is associated with conflict, and dealing with conflict is essential for realizing the benefits of change" (p. xi). The literature supports both cognitive conflict and preferred cognitive style as approaches to manage heterogeneous teams and to produce high quality outcomes (Amason & Schweiger, 1994; Kirton, 2003; Schweiger & Sandberg, 1989). Thus, while there is some research exploring conflict management styles or cognitive styles as related to organizational change, there is no known research exploring the relationships using two pre-existing, highly reliable instruments, the Kirton Adaption-Innovation Inventory (KAI) assessing preferred cognitive style and the Rahim Organizational Conflict Inventory (ROCI-II) measuring conflict management style.

As noted by Horwitz (2005), the literature regarding the effectiveness of team heterogeneity on team effectiveness is not clearly understood. However, it is clear that organizations are increasingly using a team-based approach and these groups will inherently be heterogeneous in some respects. Thus, the purpose of this study was not to determine the effectiveness of using groups, but rather accept that groups are widely used as an organizational vehicle for change, conflict can be managed, and the dynamics of better understanding these complexities through the lenses of preferred cognitive style and conflict management style will establish a better understanding to manage change more efficiently.

This study considers organizational change via the dual theoretical lenses of preferred cognitive style and conflict management style. As noted by Kirton (2003), "in order to manage change both widely and well it is at the same time necessary to manage diversity well" (p. 182). This study adds to the literature by exploring relationships between these styles to better understand and predict individual and group behavior in achieving organizational change. This knowledge will assist those in leadership positions to better manage organizational change by developing an awareness of how cognitive styles and conflict management styles influence change initiatives, particularly in team settings.

<div align="center">**Research Questions**</div>

The study explored the following research questions and related hypotheses:

Research Question 1. What cognitive styles are demonstrated by university administrators at a large public research university?

Research Hypothesis 1: University administrator mean KAI scores will exceed the mean of the general population, suggesting a preferred cognitive style that is more innovative.

Research Question 2. What conflict management styles are demonstrated by university administrators at a large public research university?

Research Hypothesis 2: University administrators will indicate a preference for the integrating conflict management style.

Research Question 3. Are there significant differences between university administrators' cognitive styles as related to (a) functional reporting area, (b) gender, or (c) education level?

Research Hypothesis 3a: Cognitive style scores will differ significantly by functional area with the academic area scoring as more innovative than the non-academic areas.

Research Hypothesis 3b: Cognitive style scores will differ significantly by gender with women scoring as more innovative than men.

Research Hypothesis 3c: Cognitive style scores will differ significantly by education level as those with a doctorate will score more innovatively than those with a bachelors or master's degree.

Research Question 4. Are there significant differences between university administrators' conflict management styles as related to (a) functional reporting area, (b) gender, or (c) education level?

Research Hypothesis 4a: Conflict management style scores will differ significantly by functional area.

Research Hypothesis 4b: There will be no significant differences related to gender with regard to conflict management style.

Research Hypothesis 4c: Conflict management style scores will differ significantly by education level.

Research Question 5. Are there significant relationships between university administrators' cognitive styles and conflict management styles?

Research Hypothesis 5: There will be significant relationships between university administrators' cognitive styles and conflict management styles.

Design

This exploratory study utilized a quantitative, non-experimental survey research design via two pre-existing instruments for data collection, the KAI to measure preferred cognitive style and the ROCI-II Form C to measure conflict management style. The research setting was a large flagship university in the southern United States. This site is comparable to other large public universities throughout the country with regard to challenges posed by budgetary concerns, rapidly advancing technology, heightened accountability, and the overarching need to move beyond the status quo.

Study participants included university administrators at two levels. The first level of administration included those persons reporting directly to the chief academic officer (CAO),

4

chief financial officer (CFO), chief student affairs officer (CSAO), or the athletics director (AD) with a leadership portfolio, including supervision of other administrators. Examples of positions at this level include associate vice president and college dean. The second level of positions included those persons reporting to the positions in the first level who have leadership for a functional area, including supervision of others. Examples of these positions includes academic department chair or executive director. All persons in positions meeting the definition described were invited to participate in this study.

The study is based at one large flagship university and thus, the results may not be generalizable to contexts outside of this setting. In addition, a critical element of this study is the intended purpose of assessing an individual's preferred cognitive style and conflict management style in an effort to stimulate self-awareness and to better understand how diverse administrative leadership teams can help to move beyond the status quo. Thus, this study does not assess level, capacity, or actual behaviors.

<div align="center">**Definitions**</div>

The following section provides definitions for the key terms as used in this study.

Administrative leadership team is a structurally defined work group that shares a common agenda under the leadership of a common leader, such as a provost's leadership team (Bensimon & Neumann, 1992).

Cognitive style relates to thinking style and describes individual differences in the way individuals solve problems and bring about change. Cognitive style is stable over time. Style differences are described in terms of adaption and innovation. The adaptive style refers to a preference to accept the current structure within which the problem is embedded and use it to achieve a solution. The innovative style refers to a preference to alter the structure first, in order to solve the problem (Kirton, 2003).

Conflict is broadly defined as an interactive process manifested in perceived incompatibility or disagreement within or between individuals, groups, or organizations. As noted

by Rahim (2011), conflict must not necessarily be reduced, suppressed, or eliminated, but managed to enhance organizational learning and effectiveness" (p. 66).

Conflict management "involves designing effective strategies to minimize the dysfunctions of conflict and enhancing the constructive functions of conflict in order to improve learning and effectiveness in an organization" (Rahim, 2011, p. 46).

Coping behavior occurs when an individual behaves in a manner not in accord with the preferred cognitive style (Kirton, 2003).

Diversity refers to a reflection of differences, such as different perspectives, experiences, and styles that may be found within administrative leadership team membership (Follett, 1940/2013).

Flagship University refers to the land-grant institution in a state.

KAI refers to the Kirton Adaption-Innovation Inventory developed by Kirton (1976) in conjunction with his Adaption-Innovation (A-I) Theory to assess preferred cognitive style.

ROCI-II refers to the Rahim Organizational Conflict Inventory developed Rahim (1983) to assess conflict management styles.

The following chapter reviews the literature pertinent to higher education leadership under the auspices of organizational change, administrative leadership teams, and conflict. Next, the two theoretical frameworks guiding this study, Kirton's A-I theory and Rahim's conflict management style theory, are introduced.

CHAPTER 2

LITERATURE REVIEW

The purpose of this study is to explore the preferred cognitive styles and conflict management styles of university administrators to compare and contrast styles across several attributes and to explore possible significant relationships wherein those in leadership positions may be able to more effectively manage change. This study is based on the premise that "change invariably creates conflict" (Bolman & Deal, 2006, p. 453) and thereby gaining an understanding of how university administrators handle change via preferred cognitive style and conflict management style provides a level of awareness for leaders in effectively working with their administrative teams. While diverse or heterogeneous teams typically are more difficult to manage, including a heightened potential for conflict, the diversity allows for a range of styles in developing solutions to problems that cannot be accomplished in a homogenous group.

This chapter begins with the literature review search components followed by a broad overview of higher education leadership under the auspices of organizational change, administrative leadership teams, and conflict. Next, the discussion narrows to review the two theoretical frameworks guiding this study, Kirton's A-I theory and Rahim's conflict management style theory.

A broad literature search was conducted to identify research pertaining to conflict, cognitive style, change, and leadership teams within higher education settings via the following electronic databases: Academic Search Complete, ERIC, and ProQuest Dissertations and Theses Global. Next, the search focused on research using Kirton's Adaption-Innovation theory or Rahim's conflict management styles, including keywords of Kirton, KAI, Rahim, and ROCI. Finally, readings resulting from these searches led to the use of the reference sections to highlight and retrieve additional useful resources.

Higher Education Leadership

Leadership studies tend to focus on attributes, traits, and behaviors of individual leaders deemed to be successful based on some tangible criteria (Bensimon & Neumann, 1992; Kezar, 2006; Rost, 1993). As noted by Rost (1993), most leadership studies to date have placed an emphasis on periphery and content "and almost none has been aimed at understanding the essential nature of what leadership is, the process whereby leaders and followers relate to one another to achieve a purpose" (p. 4) via dynamic relationships.

In a comprehensive review of higher education leadership theories and research, Kezar (2006) found that studies have shifted from a singular focus on "heroic leaders" to a more collaborative and collective approach for studying and understanding leadership. This is particularly true as organizations have increased in complexity making it difficult for any one person to be well-versed in the multi-faceted nature of the organization. As described by Tierney (1993), the role of leaders and teams in higher education is to cultivate communities of difference allowing distinctly different voices to be heard and considered. This suggests the critical need for leaders to surround themselves with diverse teams of individuals with differing skill sets, experiences, and styles to enhance the depth of problem-solving and decision-making in a complex environment.

To accomplish this new more collective form of leadership, research suggests that leaders need to develop and use cognitive complexity. Kezar (2006) outlines cognitive complexity to include considerations such as thought processes, interpretations, and mental models; analysis via multiple cognitive lenses (Bolman & Deal, 2013), and individual and organizational learning (Argyris & Schon, 1996; Senge, 1990) as tools to enhance leadership processes. The collective nature of leadership requires a comprehensive approach.

Organizational Change

As simply stated by Balderston (1995), "a university cannot rest" (p. 371). And, with each year, this call for change seems to become more intense. Levine (2000) discusses the forces

shaping higher education and the realities of changing relationships, shifting demographics, and new technologies in a fast-paced, information dense society all of which higher education institutions cannot choose to ignore. A recent literature review conducted by Wetzel and Van Gorp (2014) found 85 articles relating to change management published in top tier journals in 2010. Nevertheless, with literally hundreds of publications available pertaining to organizational change in various forms and based on numerous theories, colleges and universities continue to struggle with change efforts of all shapes and sizes. However, it is important to note the unique nature of higher education institutions as a factor in organizational change capabilities. For example, higher education institutions may be defined as loosely coupled structures (Weick, 1976) with the potential for garbage can decision making (Cohen & March, 1974) in a model of shared governance of competing authority systems (Clark, 2000) within a largely hierarchical and bureaucratic structure (Weber, 1946/2004). With all of these considerations, plus the notion of a mission closely tied to societal needs, colleges and universities historically have held reputations for being slow or resistant to change (Birnbaum, 1998).

Organizational change occurs both incrementally or radically and may be planned or unplanned (Burke, 2014). Over time, organizations require both an incremental or evolutionary approach and a more radical or revolutionary strategy, dependent on the context and ultimate goal. Thus, it is critical to be able to know the right tool for the right method (Pascale, Milleman, & Gioja, 2000). Kirton (2003) contends that change is a constant phenomenon that can be viewed on a continuum ranging from strategies for change that are more adaptive to more innovative for both planned and unplanned change. Adaptive styles, such as tweaks to the existing structure, are equivalent to evolutionary change. While innovative styles, such as creating an entirely new paradigm outside of the existing structure, are aligned with revolutionary change. Nevertheless, Kirton concludes "every organization needs a strong element of adaption for its continued existence" (2003, p. 24).

Lewin (1958) views the organization as a social system, which articulates the group level as the most effective way to direct change beyond the status quo. As noted by Burke (2014), "groups of various specialists attempting to produce something that is greater than the total of their individual specialties are becoming more the rule than the exception" (p. 115). Thus, in an ever-changing dynamic and complex environment the need for work groups has increased over the years and these teams are now more typically used in organizational change efforts.

It is clear from the literature that leadership can no longer be defined as a 'one-person act,' but instead as a collaborative or collective undertaking using teams wisely (Day, Gronn & Salas, 2004; Kanter, 1983; Kezar, 1998; Kezar, 2006; Pearce & Barkus, 2004; Rost, 1993; Zaccaro, Rittman, & Marks, 2001). Thus, the following section provides a brief overview of the literature pertaining to the use of administrative teams or groups as a collaborative vehicle for leaders to manage organizational change.

Administrative Leadership Teams

As noted by Simon (1997), "administrative activity is group activity" (p. 7). Higher education institutions are structured in a manner that builds on a hierarchical system of group activity via the organizational formation of administrative teams. For example, a President's Cabinet comprised of those in key positions reporting directly to the president or an academic leadership team comprised of key positions reporting directly to the provost. Administrative teams can exist at any level of the university, but the use is driven by the team's leader in shaping how the group functions.

Based on a study of how college presidents view their leadership teams, Bensimon and Neumann (1992) define the work of teams via three primary functions: utilitarian, expressive, and cognitive. The utilitarian function is task-related by sharing information, planning, coordinating, and making decisions. The expressive function is integrative in providing mutual support and serving in an advisory capacity. The cognitive function is intellective by viewing problems from multiple perspectives and enabling the group to behave collectively in analyzing,

learning and thinking. Bensimon and Neumann (1992) stress that the cognitive function is the most difficult to develop, but "without doubt, the most critical" (p. 75) as it relates to how "team members perceive, discover, think, and create individually and interactively" (p. 101).

Research supports that teams diverse in nature, in terms of providing multiple perspectives as attained by a heterogeneous composition, are the most desirable but also the most difficult to manage (Bensimon & Neumann, 1992; Bantel & Jackson, 1989; Kezar, 2006; Kirton, 2003). These collaborative efforts are rife for the potential of interpersonal conflict as individuals brought together have different views regarding how to reach a common goal along with differing personalities, skills, knowledge, values and attitudes. However, these different perspectives, which can only be achieved through a heterogeneous membership, are required to solve a wide array of problems (Kirton, 2003). Learning to manage these teams effectively is a "wise investment for individuals and organizations to prepare for an uncertain future" (Tjosvold, 1997, p. 24).

Conflict

As discussed, organizational change is best managed through the use of diverse work groups or teams of individuals with different perspectives, skills, and styles. However, the use of these heterogeneous teams has great potential for conflict. In addition, the literature establishes that change by its very nature creates conflict (Baldridge, 1971; Bolman & Deal, 2006; Rahim, 2011).

Wall and Callister (1995) reviewed the literature pertaining to conflict finding a "mountainous" number of articles and research conducted in this field (p. 515). Based on this review, a working definition of conflict emerged as "a process in which one party perceives that its interests are being opposed or negatively affected by another party" (p. 517). The literature suggests that conflict is multi-dimensional (Amason & Schweiger, 1997; Jehn 1997; Rahim, 1983). "The basis of many organizational conflicts can be described by the underlying values regarding work such as being rule-oriented, being innovative, and being attentive to details"

(Jehn, 1997, p. 87). The research defines two primary types of conflict that may impact work group performance – cognitive conflict and affective conflict (Amason & Schweiger, 1997; Jehn, 1997). Cognitive conflict is task-oriented dealing with issues such as scarce resources, policies, procedures, and roles; whereas affective conflict is social-emotional in nature focusing on issues related to personal and relationship issues such as norms, value, personal perceptions, and personality clashes within a group (Amason & Schweiber,1997; De Dreu, 1997; Jehn, 1997). As such, these conflicts align with the adaptive and innovative cognitive styles as defined by Kirton (2003).

Theoretical Framework

As noted in the previous section, utilizing heterogeneous teams to manage change is an effective tool although this strategy also tends to promote the challenge of interpersonal conflict. Based on the literature, this study utilized two theories to explore and understand possible significant relationships between cognitive style and conflict management style to assist leaders in learning to more effectively manage change within their colleges or universities.

Adaption-Innovation Theory

The Kirton Adaption-Innovation (A-I) theory relates to preferred cognitive styles and the differences in the ways humans solve problems (Kirton, 1976). Cognitive style is defined as "the preferred way in which people respond to and seek to bring about change" (Kirton, 2003, p. 43) as related to problem-solving style, which is considered under the domain of cognitive function (Kirton, 2013). The understanding of style versus level or capacity is critical to the A-I theory. Kirton (2013) indicates that the current creativity literature tends to confuse style with capacity. As clearly articulated by Kirton (2013),

> For style the question is: In what manner or way does this person prefer to solve
>
> problems? Whereas for capacity the question is: How good is this person at
>
> solving problems?... This theory and measure relate to preferred style, not

behavior. These are two important distinctions: cognitive (preferred) style is not

level, nor is it behavior (p. 32).

A-I theory builds on the management and problem solving theoretical foundations as developed by Robert Merton, Everett Rogers, and Max Weber. In addition, Kirton's work is aligned with Mary Parker Follett's definition of diversity as a reflection of differences (1940/2013). A-I theory includes the following assumptions: (a) all people solve problems; (b) all people are creative, which is defined as a subset of problem-solving; (c) people are not resistant to change in general, but rather have a preferred approach; (d) focuses exclusively on style, not level or capacity; (e) cognitive style is set at an early age and is stable over time; (f) change is a constant phenomenon; and (g) problem-solving is the key to life in an ever-changing environment.

The A-I theory (Kirton, 2003) describes a normally distributed continuum with "more adaptive" on one end and "more innovative" on the other. The primary trait characteristics of adaptors and innovators are outlined in Table 1. There is no right or wrong cognitive style as both adaptors and innovators are critical to the success of an organization. In addition, A-I theory contends that individuals may choose to employ coping behavior, although this technique can be stressful over time, when facing a situation wherein behavior needs to be other than the preferred cognitive style as dictated by the situation.

Table 1

Trait Characteristics of Adaptors and Innovators

Adaptors	Innovators
Viewed by Innovators as conforming, safe, predictable, wedded to the system, and intolerant of ambiguity.	Viewed by Adaptors as impractical, risky, abrasive, threatening the established system, and causing dissonance.
Prefer to generate a few novel, creative, relevant, and acceptable solutions aimed at 'doing things better."	Generally produce numerous ideas, some of which may not be acceptable to others, and aimed at 'doing things differently."

Prefer more well-established, structured situations. Best at incorporating new data into existing structures or policies, making them more efficient.	Prefer less tightly structured situations. Best at using new data to set new structures or policies, accepting greater risk to the current paradigm.
Essential to managing current systems.	Essential in times of radical change or crisis.

Source: Kirton (2003)

The key is to manage the diversity of styles effectively. Teams of individuals with differing knowledge, skills, experience, attitudes, and values will have differing perspectives of how to address a problem. Kirton's 40 years of research contends that knowing some individual differences, such as cognitive style, are stable over time can lead to more collaborative and effective teamwork based on an appreciation for, and appropriate use of, differing styles. As noted by Kirton (2003),

> To problem solve successfully, whatever that may mean in any given situation, we need to view problems and conceive solutions in terms of what is needed…. The aim of the problem-solving leader and each team member is to make use of the available pool within the team of individual differences, including thinking style, which can be made useful (p. 24).

While A-I theory, as defined by Kirton (1976), defines preferred cognitive style as stable over time and across situations, the theory holds that it is behavior that is flexible. Thus, A-I theory also aligns to the contingency perspective found in conflict management theory as the theory stresses that the preferred problem-solving style may not always be appropriate and as such, coping behavior may be employed. Coping behavior is a learned technique that an individual chooses to employ when "behavior needs to be in a style not in accord with preferred style" (Kirton, 2003, p. 41) in a given problem-solving situation. However, if used excessively, coping behavior comes at a price and results in high levels of stress. Thus, leaders should "provide the knowledge and inspiration that provides colleagues with the insight to do what is

appropriate and to encourage self-motive to provide the energy to cope, when needed" (Kirton, 2003, p. 264).

Overall, the value of the A-I theory with regard to this study includes providing different perspectives regarding interpersonal conflict based on the understanding and use of problem-solving styles; valuing differences in the process; and knowing there is some predictability in what to expect in a group situation. Research supports that an understanding of A-I theory does enhance collaboration and group success (Duron, 2000; Hammerschmidt, 1996; Kirton, 2003). As noted by Kirton (2003), one significant value of understanding and applying A-I theory is that it will "lead to higher mutual respect, which in turn will bring about more fruitful collaboration and less personalized conflict" (p. 182).

The Kirton Adaption-Innovation (KAI) inventory, the instrument developed by Kirton to assess preferred cognitive style based on the theoretical assumptions of A-I theory, has been used in a variety of research studies to analyze relationships of the preferred cognitive style with several styles, attributes, or traits. Examples include personality traits, gender, occupation, and team effectiveness (Kirton, 2013). However, there is no known research using the KAI to consider relationships with conflict management styles.

Prior research using A-I theory via the KAI has predominantly been conducted in the private sector and has a vast following in Europe. As related to this study, prior research as compiled by Kirton (2003; 2013) includes the following findings and norms for comparison purposes.

The mean of the general population, as measured by a sample of 2,744 individuals in the US, UK, and eight other European countries, is 94.76 (Kirton, 2013, p. 325). The adaption-innovation continuum ranges from 32 to 160. Thus, in general, those persons scoring above a 95 are considered to be more innovative in cognitive style, while those scoring 95 or less are considered to be more adaptive in style. Based on these general population samples, the average score for men is 98 and the average score for women is 91. However, McCarthy (1993) found

women's scores can vary dependent upon whether women are currently expected to be in such jobs and as such will score more innovative when in positions traditionally held by men.

Analysis of occupations indicates that those in professional fields have a mean of 96.5, which is just slightly above that of the general population. Persons in occupations, such as accounting and other fields in which answers can be found, operate within a single system and/or exhibit high levels of safety, tend to be more adaptive in style. On the other hand, persons in occupations working in fields requiring multiple systems, such as research and development, planning, and marketing, tend to score as more innovative than the general population mean.

Analysis of the means for education levels finds men and women with at least a baccalaureate degree tend to score more innovative in cognitive style than the general population. The mean for men with at least a baccalaureate degree was found to be 101 as compared to the mean for men in the general population of 98; whereas the mean for women was 95 as compared to 91, respectively.

Large organizations bureaucratic in nature have a tendency to encourage adaption and minimize risk (Kirton, 1984). "Innovative change and bureaucratic practice do not make easy bedfellows; the precepts of the latter work against the adoption of the former and, for this reason, considerable innovation (except during times of crisis) rarely occurs in a bureaucratic setting" (Kirton, 2003, p. 181). This notion of large bureaucratic organizations stems back to the seminal work of Max Weber wherein he defined bureaucracy as ordered by rules delivered in a methodical provision within a hierarchical system (Weber, 1946/2004). Schein (1968) took this theory one step further and related how these bureaucratic values, norms, and behavior patterns impact organizational socialization. As conceived by Kirton (2003), individuals scoring higher on the innovation continuum would employ coping behavior routinely in a traditional bureaucracy steeped in a stable structure. Extended use of coping behavior can lead to stress and burnout, which ultimately may result in leaving the organization in search of a better cognitive style fit.

Thus, this line of reasoning may suggest that those employed by universities overall may be more adaptive than innovative.

Conflict Management Theory

As Rahim (2011) explains, historically most organizational theorists, including Frederic Taylor, Henry Fayol, and Max Weber, viewed conflict as undesirable and negative, with the exception of Mary Parker Follett who "strongly advocated the need for an integrative (problem-solving) method for managing organizational conflict" (p. 9). Still today there is a debate as to whether the focus should be on conflict resolution or conflict management with many outside of scholarly circles still viewing conflict as undesirable (Van de Vliert, 1997). Nevertheless, research has demonstrated strong support in recognizing conflict as a natural and inevitable phenomenon in society coupled with the need to understand how to effectively manage inherent conflict in groups and organizations to enhance effectiveness. Thus, for purposes of this study conflict management theory "involves designing effective functions of conflict in order to improve learning and effectiveness in an organization" (Rahim, 2011, p. 46). As noted by Baldridge (1971), managed conflict can be viewed as "quite healthy, for it may revitalize an otherwise stagnant system" (p. 202).

Conflict management does not seek to avoid conflict, but instead seeks to build on the positive outcomes inherent in conflict situations while minimizing the negative aspects to enhance overall organizational effectiveness (Rahim, 1983). For purposes of this study, conflict between individuals is considered beneficial, the natural result of change, inevitable, and able to be managed effectively. Interpersonal conflict shall be used to analyze conflict between two or more persons. Interpersonal conflict management theory traces its beginnings to the work of Mary Parker Follett and the underlying assumption that conflict, defined as difference, could be positive and any negative aspects could be minimized via three primary styles: (a) domination, (b) compromise, and (c) integration. Follett also contended that "what people often mean by getting rid of conflict is getting rid of diversity" (Graham, 2003, p. 86).

17

Over time, research has highlighted two schools of thought with regard to conflict management perspectives. The first, the stability perspective, suggests individuals have a conflict style that "may reflect a predisposition, habit or stable internal preference" (Wilson & Waltman, 1988) that is consistent over time and across situations. However, more recently, research has supported the contingency perspective, which builds on related leadership theories developed by Fiedler and House, suggesting that decision-making is situational and as such, there is no one best style for handling conflict (Rahim, 2011).

Conflict management theory builds on the managerial grid originally developed by Blake and Moulton to handle interpersonal conflict via the dimensions of concern for self and concern for production within one of five behavior styles: (a) forcing, (b) withdrawing, (c) smoothing, (d) compromising, or (e) problem solving. This model has evolved over time as researchers have more clearly defined the grid and developed complementary instruments to assess conflict management styles (Rahim, 1983; Womack, 1988). At present, the leading model (Rahim, 2011) includes the two dimensions of concern for self and concern for others within five behavioral styles for handling conflict as describe below.

Integrating style. The integrating style for handling conflict is defined by high concern for self and high concern for others. This style emphasizes problem-solving, collaboration, and confrontation of conflict. Situations wherein this style may be appropriate include when issues are complex, commitment is needed from others to be successful, or time is sufficient for appropriate problem-solving.

Obliging style. The obliging, or accommodating, style is defined by high concern for others and low concern for self. This style suggests a tendency to put others needs in front of their own in a self-sacrificing manner. Situations wherein this style may be appropriate include issues more important to other parties and there is a desire to maintain the relationship or an opportunity may exist to strike a deal for support from others on a future issue.

18

Dominating style. The dominating style is defined by high concern for self and low concern for others. This style suggests behavior that is highly competitive in a manner that tends to ignores the needs and expectations of others. Situations wherein this style may be appropriate for use include issues that need to be resolved quickly, issue is important with an unfavorable decision being costly, and there is a need to implement an action that would be considered unpopular.

Avoiding style. The avoiding style is defined by low concern for self and low concern for others. This style suggests evading topics or situations that may cause conflict. Situations wherein this style may be appropriate for use include when issues are non-important and when potential negative impacts outweigh any benefits of confrontation.

Compromising style. The compromising style is defined by medium concern for self and medium concern for others. This style suggests behavior of seeking a middle ground to handle conflict. Situations wherein this style may be appropriate include when consensus cannot be reached, goals are mutually exclusive, and parties have equal power.

The ROCI-II, which was developed by Rahim to assess interpersonal conflict management style, has been used in numerous research studies, primarily in the United States. Rahim (2011) developed national norms based on ROCI-II results from 1,219 executives/managers regarding styles of handling interpersonal conflict with superiors, subordinates, and peers. This will focused on interactions with peers serving on administrative teams. Thus, the following peer-based norms are reviewed as applicable to this study based on findings by Rahim (2011).

Overall, the integrating style was the most prevalently used in handling conflict with peers, with a mean of 4.24, followed by compromising at 3.59, obliging at 3.24, dominating at 3.16, and avoiding at 2.72. When considering functional areas, all groups scored integrating as most prevalent and avoiding as least prevalent. While most professions, including general management, research and development, and engineering, scored means in the same pattern as the

19

general population, finance and accounting professionals scored obliging style at 3.34 as the second most prevalent followed by compromising style at 3.32.

An analysis of the organizational level found the same general pattern with integrating as the preferred conflict management style across all three levels – top, middle and lower. However, those at the top indicated less preference for the obliging style (3.22) than those in the middle (3.36) or lower level (3.41). Instead, those at the top level indicated a preference for dominating more than the other levels (3.20, 3.14, and 3.1, respectively).

An analysis of education levels revealed those with baccalaureate degrees and master's degrees followed the same pattern of conflict handling styles of the general population studied. However, the use of avoiding as a style to handle interpersonal conflict becomes less likely as education levels increase (e.g., high school education at a mean of 2.97, baccalaureate degree at at mean of 2.76, and master's degree at a mean of 2.67).

Many studies have considered gender as related to conflict management style. However, after an extensive review of the literature, Nicotera and Dorsey (2006) concluded that "conflict style is not driven by biological sex, regardless of how many studies try to find the effect" (p. 312). Therefore, there is a general agreement that there are no relationships between gender and conflict management style.

A few studies have been conducted using the ROCI-II in higher education institutions to study preferred conflict management styles of administrators (Bartlett, 2009; Donovan, 1993; Kimencu, 2011) or faculty (Nagao, 2015). The findings from these studies with respect to academic deans at baccalaureate and master's colleges and universities (Donovan, 1993; Kimencu, 2011), senior level administrators at community colleges (Barlett, 2009) and faculty (at community colleges (Nagao, 2015) are consistent with Rahim's overall findings.

Adams (2006) studied the conflict management styles of community college cabinet-level administrators in North Carolina. This study utilized the Thomas-Kilmann Conflict Mode Instrument rather than the ROCI-II. Nevertheless, its findings are useful in that it establishes a

20

basis for comparisons between administrative functional areas. For example, Adams (2006) found that chief business offers have a different preferred conflict handling style than student affairs officers. There are no known studies using the ROCI-II or other instruments to consider relationships with cognitive style.

In sum, the review of the literature makes a compelling case for those in leadership positions to understand and manage cognitive diversity as a means of effectively facilitating change and improving organizational effectiveness. And, while both the notion of change as conflict and the importance of diverse teams in managing change are evident in the literature, there is no known research that studies preferred cognitive style and conflict management styles to better understand how these theories can be used in higher education administration or if there are any significant relationships.

The following chapter briefly reintroduces the study, establishes the research questions and related hypotheses, and defines the research methods used in conducting this study.

CHAPTER 3

RESEARCH METHODS

This chapter presents the research methods used for the study, which analyzed the preferred cognitive styles and conflict management styles of university administrators to compare and contrast styles across several attributes and to explore possible relationships wherein those in leadership positions may be able to more effectively manage change. This study was built on the premise that change is conflict and thereby gaining an understanding of how university administrators handle change via preferred cognitive style and conflict management styles provides a level of awareness for leaders in effectively working with their administrative teams. The ability for university leaders to understand and manage change, particularly via the use of teams, is critical in moving institutions beyond the status quo and staying competitive in a complex and ever-changing environment. The following sections outline the research questions and methodology undertaken to conduct this study, including design, setting, sample, instruments, data collection and analysis, and role of the researcher.

Research Questions

The five research questions and related hypotheses are provided below.

Research Question 1. What cognitive styles are demonstrated by university administrators at a large public research university?

Research Hypothesis 1: University administrator mean KAI scores will exceed the mean of the general population, suggesting a preferred cognitive style that is more innovative.

Research Question 2. What conflict management styles are demonstrated by university administrators at a large public research university?

Research Hypothesis 2: University administrators will indicate a preference for the integrating conflict management style.

Research Question 3. Are there significant differences between university administrators' cognitive styles as related to (a) functional reporting area, (b) gender, or (c) education level?

Research Hypothesis 3a: Cognitive style scores will differ significantly by functional area with the academic area scoring as more innovative than the non-academic areas.

Research Hypothesis 3b: Cognitive style scores will differ significantly by gender with women scoring as more innovative than men.

Research Hypothesis 3c: Cognitive style scores will differ significantly by education level as those with a doctorate will score more innovatively than those with a bachelors or master's degree.

Research Question 4. Are there significant differences between university administrators' conflict management styles as related to (a) functional reporting area, (b) gender, or (c) education level?

Research Hypothesis 4a: Conflict management style scores will differ significantly by functional area.

Research Hypothesis 4b: There will be no significant differences related to gender with regard to conflict management style.

Research Hypothesis 4c: Conflict management style scores will differ significantly by education level.

Research Question 5. Are there significant relationships between university administrators' cognitive styles and conflict management styles?

Research Hypothesis 5: There will be significant relationships between university administrators' cognitive styles and conflict management styles.

Research Design

This quantitative study utilized a non-experimental survey research design via the use of two pre-existing instruments for data collection. In general, a quantitative research design allows

theories as stated by hypotheses to be tested by examining relationships between variables, collecting data typically via use of an instrument, and conducting statistical analysis (Creswell, 2014). The survey research design enables collection of data not already available via a standardized measurement controlling for consistency of responses (Fowler, 2009). This approach was appropriate for this exploratory study as the purpose was to gather information from university administrators regarding cognitive styles and conflict management styles in an objective manner to compare and to contrast findings as well as determine any significant relationships. The use of instruments developed specifically for the purposes of assessing cognitive style via the KAI and conflict management via the ROCI-II streamlined the design process as these instruments have been widely used and evaluated for reliability and validity. In addition, the use of a survey or questionnaire to collect the data provided efficiencies in terms of cost and time (Creswell, 2014).

Research Setting

The research study was conducted at a large flagship university in the southern United States. The campus is defined by the Carnegie Classifications of Institutions of Higher Education as a very large, primarily residential, research university. The public university enrolls more than 32,000 students at the undergraduate, graduate, and professional levels. This research site is comparable to other flagship universities throughout the country with regard to ongoing challenges posed by budgetary concerns, rapidly advancing technology, heightened accountability, and the overarching need to move beyond the status quo.

Research Population and Data Sources

The population studied was comprised of university administrators including those persons in positions meeting one of the criteria below. In general, administrators were defined as those persons holding positions with a leadership portfolio with responsibility for the direct oversight and supervision of others in functional areas.

Academic Administrators

For the purposes of this study, academic administration included those positions with responsibility for the oversight of the academic mission under the leadership of the chief academic officer (CAO) or provost. These positions typically require a terminal degree and are filled by faculty members choosing to pursue roles in administration. For data collection purposes, academic administrators invited to participate in this study are in reporting lines as defined in one of the two defined administrative levels. The first administrative level includes those persons reporting directly to the provost who have leadership responsibility for the administration of academic programs and policies across academic units or at the unit level. In addition, these positions have supervisory responsibility for other academic administrators. For example, this level includes such positions as vice provost and college dean. The second administrative level includes those persons reporting directly to the positions in the first administrative level with leadership responsibility for an academic unit. For example, this second level includes such positions as academic department chairs and school directors.

Non-Academic Administrators

For the purposes of this study, non-academic administration is defined as those positions reporting to the chief financial officer (CFO), chief student affairs officer (CSAO), or the athletic director (AD). These positions require a minimum of a bachelor's degree, although some positions may require an advanced degree. Non-academic administrators have leadership responsibility for those functions in support of the university's academic core, such as payroll, accounting services, human resource management, facilities, student orientation, enrollment management, residential life, and student athletics. For data collection purposes, non-academic administrators invited to participate in this study belong in one of two defined administrative levels. The first administrative level included those persons reporting directly to the CFO, CSAO, or AD

25

who have leadership responsibility for the administration of a functional area, including supervision of other non-academic administrators. For example, this level includes such positions as associate vice president, deputy athletic director, and executive director. The second administrative level included those persons reporting directly to the positions in the first administrative level with responsibility for supervising others in a functional area. For example, this second level includes such positions as directors, associate directors, or associate athletic directors. Given the organizational structure of the non-academic units, the position titles are inconsistent across units. For example, a director may be in the first administrative level in one unit, but another unit may use the director title in the second administrative level.

All persons in positions meeting the definition described above were invited to participate in this study. In addition to functional reporting area, other categories for analysis include gender and education level. Table 2 depicts the study population by category for the purposes of this study.

Table 2

Study Population by Category (N=149)

Category	n	Percent
Functional Reporting Area		
Academic	86	58
Non-Academic	63	42
Gender		
Male	95	64
Female	54	36
Education level		
Completed a Bachelors or Master's Degree	60	40
Completed a Doctoral Degree	89	60

Data Sources

As an administrator at the study site, the researcher secured the support of the CAO, CFO, CSAO, and AD to conduct this study. In addition, to help incent participation, the researcher offered to provide individual test results and consultation with any interested participant. An offer was also extended to conduct group sessions with administrative leadership teams, with the understanding that the discussion would be at a broader, more generalized level given that the researcher cannot share individual test results with anyone other than the participant.

Instruments and Procedures

While groups are used more and more in decision-making and change efforts, Kirton (2003) notes that only individuals, not groups, can think. Thus, the proposed methodology is at the individual level with the ability to inform and predict group behavior. The methodology is comprised of two pre-existing instruments, the KAI and the ROCI-II.

KAI

The KAI was administered to assess preferred cognitive style. Developed by Kirton (1976), the KAI Inventory is the measure of the A-I theory and is unique in its approach to assessing preferred cognitive style, which is not to be confused with cognitive level or capacity. The KAI instrument consists of 33 questions, 32 of which are scorable, with most respondents finishing in less than 15 minutes. The scoring for each question ranges from 1 to 5 representing very hard to very easy. Kirton (1976) developed the questions in such a manner as to avoid response set by reversing the scoring on some items so that for some questions a response of very hard equates to a 1 and for other questions a response of very hard equates to a 5. The instrument itself does not reflect the point values. The KAI is not a self-score measure. Only those persons successfully completing formal training to become a certified practitioner may purchase, administer, and calculate the individual score. As such, the point values are only seen by the certified practitioner.

Based on the A-I theory there are an infinite number of cognitive styles on a normally distributed continuum of scores ranging from 32 to 160 with a theoretical mean of 96. The observed scores typically range from 45 to 145 and are normally distributed with an observed mean of 95. Those scoring below 95 are considered more adaptive with regard to their preferred cognitive style, while those scoring 95 or higher are considered more innovative in cognitive style. However, no one style or score is considered better than another as each has advantages and disadvantages in any given situation.

The KAI has been tested widely for reliability and validity (Bobic, Davis, & Cunningham, 1999; Kirton, 2013). As compiled by Kirton (2013), internal reliability chronbach alpha coeffecents range from .79 to .91 and test-retest reliability ranges from .82 to .86 clearly demonstrating that the KAI is measuring what is intended to be measured. Given the current interest that some may have to be found as innovative, given the current popular culture mentality that innovative is better, six social desirability studies were conducted with results finding the KAI is not affected by social desirability (Kirton, 2003). With regard to validity, more than 100 studies have been conducted to test some aspect of validity – face, content, concurrent, convergent and discriminant, and predictive - with all hypotheses overwhelmingly supported (Kirton, 2003; Kirton, 2013).

The KAI has been used in hundreds of studies around the world to analyze relationships of the preferred cognitive style with several styles or traits, such as personality traits, Myers Briggs, team effectiveness, etc. (Kirton, 2013). However, there is no known research utilizing the KAI to explore relationships with conflict management style.

ROCI-II

The ROCI-II was the instrument utilized to measure preferred conflict management style. As noted by Rahim (2011), this instrument was designed to measure the styles of handling interpersonal conflicts – integrating, obliging, dominating, avoiding, and compromising - with superiors (Form A), subordinates (Form B), and peers (Form C). For the purposes of this study,

Form C was used to measure the style of handling conflict as found in administrative leadership teams, which are primarily peer-based. The ROCI-II includes 28 questions with a Likert scale of 1 to 5 ranging from 1 as strongly disagree to 5 as strongly agree. A higher score indicates greater use of a particular style. A respondent typically completes the questionnaire within 10 minutes and can self-score. However, for purposes of this study, the score sheet was not provided so that the scores could be calculated by the researcher in a consistent manner with the scoring of the KAI instruments.

While there are other instruments measuring conflict management styles, the ROCI-II aligns most closely with the A-I theory in that it acknowledges cognitive dispositions and allows for analysis of respondent's disposition in identifying with a style, not level or capacity. The instructions for the ROCI-II clearly indicate the questionnaire is not a test of intelligence or behavior skills. In addition, the ROCI-II has been extensively tested for reliability and validity with better results than other instruments available (Rahim, 1983; Rahim, 2011; Weider-Hatfield, 1988; Womack, 1988). Internal reliability chronbach alpha coefficents range from .72 to .80 and test-retest reliability from .60 to .83 (Rahim, 2011). Convergent validity assessed with all factor loadings found to be statistically significant ($p < .001$). Plus, unlike the other instruments, the ROCI-II is relatively free from social desirability response distortion (Rahim, 2011).

Study Variables

The theoretical framework for this study was driven by the theories and subsequent instruments developed by Kirton (1976) and Rahim (1983) to assess preferred cognitive style and conflict management style, respectively. The research questions and related hypotheses were developed in relationship to the variables defined by the single score attained via the KAI and the five conflict management styles – integrating, obliging, dominating, avoiding, and compromising - produced by the ROCI-II. In addition, the study considered the following independent variables: functional reporting area (e.g., academic or non-academic), gender, and education level. Figure 1 depicts the study variables.

Figure 1

Study Variables

Functional Reporting Area
Gender   ———————▶   KAI   ———————▶   Conflict Management
Education Level

Data Collection

An analysis of campus organizational charts and directories was used to establish the

population for this study, including position title, incumbent's name, and contact information. In

addition, the list of participants was reviewed by the provost's office to remove any

administrators known to be leaving their positon as of July 1, 2016. The researcher emailed each

of the 149 administrators meeting the definitions of the study to introduce the research study and

ask for their participation (see Appendix B). The consent form as approved by the IRB office

(see Appendix A) was included as an attachment with a request to complete and sign the form via

campus mail or email if interested in participating in the research study.

Upon receipt of the signed consent form, either via email or hard copy, the researcher

compiled a personalized packet of materials for delivery to the participant's campus office within

one business day. The packet of materials contained a memo with detailed information to

complete the process, a copy of the signed consent form for their records, the KAI, the ROCI-II,

and a label for use in returning the completed items to the researcher by a specified date. The

requested deadline allowed two weeks for completion. A second request for participation was

sent to those not responding to the initial request within 3 weeks. A reminder was sent to any

individual with a signed consent form on record who had not returned the completed instruments

as of one week after the missed deadline. The data collection process encompassed an eight-

week period beginning on June 20, 2016 and concluding on August 11, 2016.

This multi-step method sought to minimize survey nonresponse as well as overall cost

(Fowler, 2009). The KAI and ROCI-II instruments were readily available in paper-based formats

allowing for a more personalized and professional approach to the research study given the researcher is employed at the research site. In addition, this method promoted the researcher's desire to ensure that the materials were provided only to those persons interested in participating in the study as a means of controlling costs.

<div align="center">**Data Analysis**</div>

Completed consent forms not submitted via email were scanned and all forms stored in a secure, password protected computer drive accessible only by the researcher. The completed instruments were secured in a locked cabinet. The researcher, a certified KAI practitioner, scored each KAI instrument following guidelines provided in the KAI manual (Kirton, 2013) and scored each ROCI-II following guidelines for administration provided by the ROCI-II manual (Rahim, 2014). Data submitted via the two instruments and demographic data (i.e., functional reporting area, gender, and education level) were loaded into SPSS 23 for data analysis purposes as summarized below in Table 3.

Table 3

Research Questions and Related Statistical Tests

Research Question		Statistical Test
Preliminary	Is the data normally distributed?	Shapiro-Wilks
RQ1	What cognitive styles are demonstrated by university administrators at a large flagship university?	Descriptive statistics
RQ2	What conflict management styles are demonstrated by university administrators at a large flagship university?	Descriptive statistics
RQ3	Are there significant differences between university administrators' conflict management styles in the context of functional reporting area, gender, or education level?	The cognitive style scores (KAI) were found to be normally distributed allowing the use of independent-samples t-test to compare cognitive scores with the independent variables, including functional reporting area, gender, and education level.

RQ4	Are there significant differences between university administrators' conflict management styles in the context of functional reporting area, gender, or education level?	The conflict management scores, as measured by the ROCI-II, were not distributed normally and thus, the Mann-Whitney test was used to compare differences between two independent groups. The Mann-Whitney is the non-parametric alternative to the t-test.
RQ5	Are there significant relationships between university administrators' cognitive styles and conflict management styles?	Due to the non-normal distribution of the conflict management style scores, Spearman's correlation was utilized to analyze relationships between variables.

Limitations and Role of the Researcher

The study is based at one large flagship university with a study population limited to those university administration positions as narrowly defined for the purposes of this exploratory study. Thus, results may not be generalizable to contexts outside of this setting. In addition, a critical element of this study is the intended purpose of assessing an individual's preferred cognitive style and conflict management style in an effort to stimulate self-awareness and better understand how diverse styles can help administrative leadership teams move colleges and universities beyond the status quo.

This study does not assess level, capacity, or actual behaviors. Nevertheless, the potential for social desirability bias exists as some respondents may choose to answers questions based on what they believe may be more socially acceptable or popular, which may impact the validity of the study. However, both the KAI and the ROCI-II have been tested for social desirability bias with findings suggesting little to no risk for social distortion (Kirton, 2003; Rahim, 2011).

Another possible limitation of this study pertains to the potential effect of researcher bias (Creswell, 2014). The researcher is employed as an administrator at the university in the study. Thus, the researcher has familiarity with many of the potential participants. To help reduce the

risk of researcher bias, the following was clearly communicated to potential participants: (a) there are no right or wrong responses to the questions posed in the instruments as all cognitive styles and conflict management styles have value; (b) results will help better understand and appreciate diversity within teams in managing change and enhancing organizational effectiveness; and (c) individual results will only be shared with the individual as all other results will be reported at the aggregate. As a result of the need to maintain scores at the individual level, those persons reporting directly to the researcher were excluded from this study. In addition, the researcher strictly adhered to the scoring of the instruments per administrative guidelines provided for each, which are objective in nature. The following chapter will discuss in greater detail the statistical analysis and related results.

CHAPTER 4

RESULTS

This study explored the preferred cognitive styles and conflict management styles of university administrators at a large flagship university to develop a better understanding of the relationship between change and conflict. The following five research questions and related hypotheses were considered.

Research Question 1. What cognitive styles are demonstrated by university administrators at a large public research university?

Research Hypothesis 1: University administrator mean KAI scores will exceed the mean of the general population, suggesting a preferred cognitive style that is more innovative.

Research Question 2. What conflict management styles are demonstrated by university administrators at a large public research university?

Research Hypothesis 2: University administrators will indicate a preference for the integrating conflict management style.

Research Question 3. Are there significant differences between university administrators' cognitive styles as related to (a) functional reporting area, (b) gender, or (c) education level?

Research Hypothesis 3a: Cognitive style scores will differ significantly by functional area with the academic area scoring as more innovative than the non-academic areas.

Research Hypothesis 3b: Cognitive style scores will differ significantly by gender with women scoring as more innovative than men.

Research Hypothesis 3c: Cognitive style scores will differ significantly by education level as those with a doctorate will score more innovatively than those with a bachelors or master's degree.

Research Question 4. Are there significant differences between university administrators' conflict management styles as related to (a) functional reporting area, (b) gender, or (c) education level?

Research Hypothesis 4a: Conflict management style scores will differ significantly by functional area.

Research Hypothesis 4b: There will be no significant differences related to gender with regard to conflict management style.

Research Hypothesis 4c: Conflict management style scores will differ significantly by education level.

Research Question 5. Are there significant relationships between university administrators' cognitive styles and conflict management styles?

Research Hypothesis 5: There will be significant relationships between university administrators' cognitive styles and conflict management styles.

This chapter presents the results of the research study by first understanding the participants of the study followed by analysis of each research question and related hypotheses.

Summary of the Study

The exploration of change as conflict was driven by the use of two primary instruments along with three demographic variables: functional reporting area (e.g., academic versus non-academic), gender, and education level. For the purposes of this study, change is represented by cognitive style, which is defined as "the preferred way in which people respond to and seek to bring about change" (Kirton, 2003, p. 43). The associated theory is the Adaption-Innovation Theory (A-I) developed by Dr. Michael Kirton (1983). A-I theory contends that cognitive style is stable over time. Styles are described as adaptive or innovative. The adaptive style refers to a preference to use the current structure to solve problems; while the innovative style refers to a preference to alter the existing structure in order to achieve a solution.

Preferred cognitive style is determined by the KAI. The KAI includes 32 scorable questions with responses provided via a five-point Likert scale ranging from "very hard" to "very easy." The KAI results in a single score that is placed on a continuum of more adaptive to more innovative. The scores may range from 32 to 160; however, prior research suggests that the observed scores typically range from 45 to 145 with an observed mean of 95. As depicted in Figure 2, the styles are represented on a normally distributed continuum wherein no place on the continuum is considered better than another.

Figure 2

KAI Normal Distribution Curve and Corresponding Scores

| 32 | 45 | 95 | 145 | 160 |
| More Adaptive | | | More Innovative | |
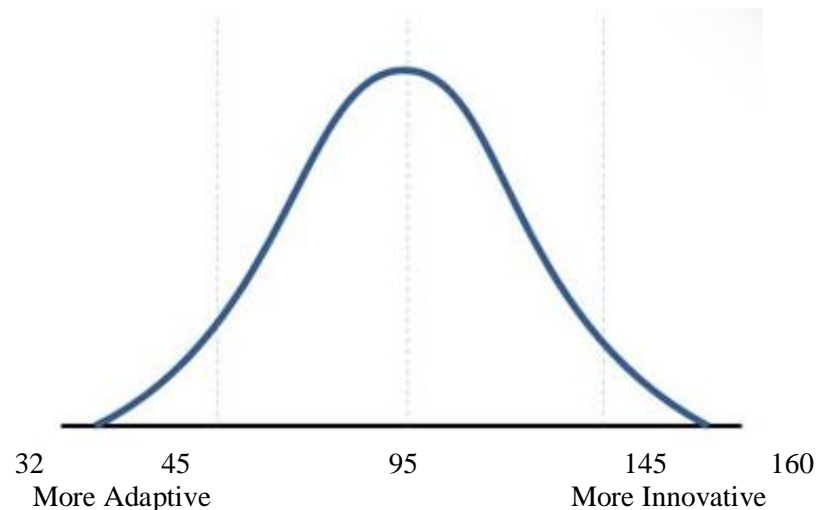
Conflict is defined as "a process in which one party perceives that its interests are being opposed or negatively affected by another party" (Wall & Callister, 1995, p. 517). Conflict management style is represented by the model developed by Rahim (1983), which builds on the managerial grid developed by Blake and Moulton. Conflict management style is assessed via the ROCI-II, which includes 28 questions with responses provided via a five-point Likert scale ranging from "strongly agree" to "strongly disagree." The ROCI-II delivers a score for each of the five conflict management styles (see Figure 3). The preferred conflict management style is

36

determined by the style with the highest score and continues to the least preferred as the lowest score.

Figure 3

ROCI Conflict Management Styles

The Styles of Handling Interpersonal Conflict

Concern for Self

	High	Low
High	Integrating	Obliging
	Compromising	
Low	Dominating	Avoiding

Concern for Others
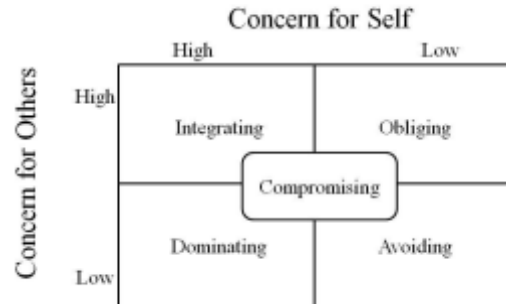
Description of the Sample

Of the total population of 149 university administrators meeting the definitions of this study and invited to participate, 79 completed a consent form indicating a willingness to participate in the study. Two university administrators opted out of the study. Of the 79 administrators completing a consent form, 72 completed and returned both the KAI and ROCI-II. The overall response rate for the study was 48 percent. Additional information pertaining to the study population and sample by category is summarized in Table 4.

In addition to considering university administration overall, data were further analyzed via the following three demographic categories: functional reporting area (e.g., academic or non-academic), gender, and education level (bachelors/master's or doctoral). Composition of the categorical samples include: Academic administrators represent 46 percent, males represent 58 percent, and those completing a doctoral degree represent 50 percent. While male administrators outnumber female administrators in the total study population (95 as compared to 55), the female administrators were more responsive to the request to participate in this study. This participation

aspect is supported by prior research indicating women tend to respond to surveys at a higher rate than men, particularly if the survey is paper-based (Sax, Gilmartin, & Bryant, 2003; Underwood, Kim, & Matier, 2000).

Table 4

Study Population and Sample by Category and Response Rates

Category	N	n	Response Rate
Functional Reporting Area			
Academic	86	33	38.3%
Non-Academic	63	39	61.9%
Gender			
Male	95	42	44.2%
Female	54	30	55.6%
Education level			
Bachelors or Master's Degree	60	36	60.0%
Doctoral Degree	89	36	40.4%
Overall Response Rate	149	72	48.3%

Initial Data Analysis

All data was loaded into SPSS 23 for analysis. There were no missing data. A pre-requisite for statistical analysis is to first establish the normality of the data so as to determine the appropriate statistical analysis, parametric or non-parametric, for use in answering the research questions. Given the smaller sample size, Shapiro-Wilk was used to determine the normality of the data.

As detailed in Table 5, the KAI scores were found to be normally distributed, as assessed by Shapiro-Wilk's test ($p > .05$). Since KAI scores were normally distributed, allowing for use of parametric measures, the independent sample t-test was for comparisons of means regarding statistical significance. On the other hand, the ROCI-II scores for integrating, dominating, and compromising were found to be not normally distributed ($p < .05$). Therefore, the Whitney Mann

U test, which is a non-parametric measures, was used for analysis of ROCI-II data. In addition, due to the ROCI scores not passing the test for normality a non-parametric measure, Spearman correlation, was used to explore statistical relationships amongst cognitive styles and conflict management styles.

Table 5

Tests of Normality, KAI and ROCI-II

Instrument	Shapiro-Wilk (sig)
KAI	.331
ROCI-II, Integrating	.000
ROCI-II, Obliging	.202
ROCI-II, Dominating	.016
ROCI-II, Avoiding	.219
ROCI-II, Compromising	.013

Note. Shapiro-Wilk assumes normality if p-value is greater than .05

Findings Related to Research Questions

Research Question 1

What cognitive styles are demonstrated by university administrators at a large public research university? *Research Hypothesis 1: University administrator mean KAI scores will exceed the mean of the general population, suggesting a preferred cognitive style that is more innovative.*

The cognitive styles of university administrators were analyzed via descriptive statistics to gain an overall understanding of the study sample and compare it to the normative sample as provided by Kirton (2013). As noted in Table 6, the average KAI score for those university administrators participating in this study was 95.07, with scores ranging from 59 to 144. The mean score of 95.07 slightly exceeds the mean of the general population of 94.76 found by

numerous studies utilizing the KAI in the United States, Canada, and Europe with a study population of 2,744 (Kirton, 2013, p. 345). Thus, the research hypothesis is supported.

The research hypothesis was based on previous research (Kirton, 2013) finding that persons with at least a bachelor's degree and employed in a professional occupation tend to score above a 95 suggesting a more innovative preferred cognitive style. However, the rather small difference in means between the university sample and the normative sample suggests that university administrators overall are similar to positions outside of higher education as represented by the normative mean. In addition, the findings may reflect the notion that large, bureaucratic organizations tend to be more adaptive by nature and hence, the scores of the university administrators are closer to the normative mean than expected for a highly educated population. As noted by Kirton (2013), "because the more adaptive are more at home within cognitive systems, they are also likely to readily fit into bureaucratic structures" (p. 180). Those more innovative in style may either choose career paths in other organizational structures or employ coping behavior to operate outside of the preferred style in order to navigate the organizational culture and be successful. While coping behavior is a solution, it can lead to high stress and dissatisfaction if employed frequently.

Table 6

Descriptive Statistics, KAI Results

	University Sample				Normative Sample			
	N	Mean	SD	Range	N	Mean	SD	Range
KAI	72	95.07	17.04	59 - 144	2,744	94.76	17.0	43 – 149

Research Question 2

What conflict management styles are demonstrated by university administrators at a large public research university? *Research Hypothesis 2: University administrators will indicate a*

preference for the integrating conflict management style.

As noted in Table 7, the preferred conflict management style for all university administrators in this sample is integrating with a mean of 4.42 followed by compromising (M = 3.84), obliging (M = 3.16), dominating (M = 2.85), and avoiding (M = 2.80). The normative sample data includes the results from studies of 1,219 managers in the United States conducted by Rahim (2011, p. 186).

Thus, the research hypothesis is supported as integrating was found to be the preferred conflict management style of the participating university. This finding is consistent with other research conducted with managers in the United States (Rahim, 2011) and in a college or university setting (Adams, 2006; Bartlett, 2009; Donovan, 1993; Kimencu, 2011; Nagao, 2015). In addition, the sequence of the other conflict management styles is also consistent.

Table 7

Descriptive Statistics, ROCI-II Sub-Scales of Conflict Styles

	University Sample				Normative Sample		
ROCI-II	N	Mean	SD	Range	N	Mean	SD
Integrating	72	4.42	.47	2.57 – 5.00	1,219	4.22	.41
Obliging	72	3.16	.48	2.00 – 4.17	1,219	3.37	.55
Dominating	72	2.85	.77	1.60 – 4.40	1,219	3.13	.68
Avoiding	72	2.80	.72	1.17 – 5.00	1,219	2.80	.73
Compromising	72	3.84	.62	2.50 – 5.00	1,219	3.48	.67

Research Question 3

Are there significant differences between university administrators' cognitive styles as related to (a) functional reporting area, (b) gender, or (c) education level? *Research Hypothesis 3a: Cognitive style scores will differ significantly by functional area with the academic area scoring as more innovative than the non-academic areas. Research Hypothesis 3b: Cognitive style scores will differ significantly by gender with women scoring as more innovative than men.*

Research Hypothesis 3c: Cognitive style scores will differ significantly by education level as those with a doctorate will score more innovatively than those with a bachelors or master's degree.

Given that the KAI scores were determined to be normally distributed and the small size of the sample, the independent sample t-test was chosen as the method for comparing means of a normally distributed variable, KAI, with independent categorical variables with two groups (e.g., functional reporting area, gender, and education level). The results of the independent sample t-tests found no significant differences as related to the three research hypotheses associated to functional reporting area, gender, or education level. Thus, all three research hypotheses must be rejected. The detailed analysis is provided in Table 8.

The hypotheses were based on prior research suggesting those in more traditionally innovative fields (e.g., engineering) would score higher than those in more traditionally adaptive fields (e.g., accounting). In addition, higher levels of education have been found to typically reflect a more innovative score. In addition, while still highly debated, some have suggested women in non-traditional fields may score more innovatively (McCarthy, 1993). As noted previously, the scores may be influenced by the bureaucratic nature of the organization.

With regard to the analysis pertaining to functional reporting area, there were 33 academic participants and 39 non-academic participants. There was homogeneity of variances for KAI scores for academic and non-academic administrators, as assessed by Levene's test for equality of variance (p = .518). Academic KAI scores (M = 99.06, SD = 17.09) were higher than non-academic KAI scores (M = 91.69, SD = 16.46). However, while the average score for academic administrators exceeds the average score of the non-academic administrators, the mean difference is not statistically significant, t (70) = 1.859, p = .067.

With regard to the analysis pertaining to gender, the participants included 42 males and 30 females. There was homogeneity of variances for KAI scores for males and females, as assessed by Levene's test for equality of variance (p = .987). KAI scores for males (M = 96.33,

SD = 17.78) were higher than the KAI scores for females (M = 93.30, SD = 16.08). However, while the average score for the males exceeds the average score for the female administrators, the mean difference is not statistically significant, t (70) = .742, p = .460.

With regard to the analysis pertaining to education level, there were 36 participants with either a bachelors or master's degree and 36 participants with at least one doctoral degree. There was homogeneity of variances for KAI scores for education level, as assessed by Levene's test for equality of variance (p = .359). KAI scores of those holding a doctorate (M = 98.69, SD = 18.095) were higher than the KAI scores of those with a completed bachelors or master's degree (M = 91.44, SD = 15.32). While the average score for the doctoral education level exceeds the average score for the non-doctoral education level, the mean difference is not statistically significant, t (70) = -1.835, p = .071.

Table 8

Independent Sample T-Test, KAI and Categorical Demographic Variables

Category	n	Mean	SD	Levine sig	t	Sig (2-tailed)
Functional Reporting Area				.518	1.859	.067
Academic	33	99.06	17.10			
Non-Academic	39	91.69	16.46			
Gender				.987	.742	.460
Male	42	96.33	17.78			
Female	30	93.30	16.08			
Education level				.359	-1.835	.071
Bachelors/Master's	36	91.44	15.32			
Doctoral	36	98.69	18.10			

Note. If sig p < .05 the mean difference between the two groups is statistically significant.

Research Question 4

Are there significant differences between university administrators' conflict management styles as related to (a) functional reporting area, (b) gender, or (c) education level? *Research Hypothesis 4a: Conflict management style scores will differ significantly by functional area. Research Hypothesis 4b: There will be no significant differences related to gender with regard to conflict management style. Research Hypothesis 4c: Conflict management style scores will differ significantly by education level.*

Given that the ROCI-II scores were determined to be not normally distributed and the small size of the sample, the Mann-Whitney U Test was used to compare differences between two independent categorical groups. The Mann-Whitney U Test is the non-parametric version of the independent sample t-test using median instead of mean to determine statistical significance. The results using the Whitney-Mann U test found no statistically significant differences for conflict management styles within any of the three categorical areas. Thus, the research hypotheses regarding functional reporting area and education level must be rejected. However, since the research hypothesis for gender predicted no significant difference, the hypothesis is supported. The analysis is provided in Tables 9, 10, and 11.

With regard to functional reporting area, while not statistically significant, it is interesting to note that the participants in this study in an academic administration position least prefer the dominating style, while the least preferred style for non-academic administrators was avoiding. Given that academic administrators reported higher education levels, this finding is consistent with Rahim's (2011) finding that as education level increases the use of avoiding decreases. With regard to gender, the literature had provided ample evidence suggesting gender would not be related to conflict management styles (Nicotera and Dorsey, 2006), which was supported by the study.

44

Table 9

Mann-Whitney U Test, ROCI-II and Functional Reporting Area (Medians)

Reporting Area	Integrating	Obliging	Dominating	Avoiding	Compromising
Academic	4.43	3.33	2.80	2.83	4.00
Non-Academic	4.43	3.17	3.00	2.67	3.75
Total	4.43	3.17	2.80	2.69	3.75
N	72	72	72	72	72
Sig p	0.491	0.084	0.671	0.941	0.467
U	583.0	491.5	681.0	637.0	580.0
z	-0.688	-1.728	0.425	-0.074	-0.728

Note: If $p < .05$ the median difference between the two groups is statistically significant.43

With regard to gender, no statistically significant difference were found. This supports the literature, which provided ample evidence suggesting gender would not be a significant factor for conflict management styles (Nicotera and Dorsey, 2006). However, it is interesting to note that the female administrators indicated the same level of preference for using the dominating style as using obliging style (MD = 3.00).

Table 10

Mann-Whitney U Test, ROCI-II and Gender (Medians)

Gender	Integrating	Obliging	Dominating	Avoiding	Compromising
Male	4.43	3.17	2.80	2.83	3.75
Female	4.57	3.00	3.00	2.67	4.00
Total	4.43	3.17	2.80	2.69	3.75
N	72	72	72	72	72
Sig p	0.068	0.128	0.814	0.372	0.369
U	788.5	497.5	650.5	552.0	707.5
z	1.822	-1.523	0.235	0.372	0.898

Note: If $p < .05$ the median difference between the two groups is statistically significant.

While not found to be statistically significant, it is interesting to note a difference in the sequence of preferred conflict management styles as both types of administrators prefer integrating, followed by compromising and obliging. However, whereas as the administrators with a doctoral degree indicate the least preferred style is dominating (Mdn = 2.67), the least preferred style for administrators with less than an earned doctorate is avoiding (Mdn = 2.83). As noted previously, this result is consistent with Rahim's (2011) finding that as education level increases the use of the avoiding style decreases.

Table 11

Mann-Whitney U Test, ROCI-II and Education level (Medians)

Education Level	Integrating	Obliging	Dominating	Avoiding	Compromising
Bachelors/Masters	4.43	3.17	2.60	2.67	3.75
Doctoral	4.57	3.33	3.00	2.83	3.88
Total	4.43	3.17	2.80	2.69	3.75
N	72	72	72	72	72
Sig p	0.292	0.465	0.413	0.623	0.434
U	741.0	712.5	720.5	691.5	716.5
z	1.054	0.731	0.819	0.491	0.782

Note: If p < .05 the median difference between the two groups is statistically significant.

Research Question 5

Are there significant relationships between university administrators' cognitive styles and conflict management styles? *Research Hypothesis 5: There will be significant relationships between university administrators' cognitive styles and conflict management styles.*

Given that the ROCI-II did not meet the assumptions for a parametric test, Spearman Rho correlations were used to determine any significant relationships between the KAI and the ROCI-II scores. Table 12 highlights the resulting correlation coefficients. A few significant relationships emerged from the study. There was a moderate positive correlation between the KAI scores and the dominating conflict management style r_s = .422, p < .05. This finding suggests the

preference for the dominating conflict management style increases as the KAI score increases or in other words, as scores reflect a more innovative cognitive style. The A-I theory acknowledges that individuals scoring more innovatively in cognitive style tend to be considered abrasive and prefer to work outside the current structure (Kirton, 2003). The dominating conflict style is highly competitive and tends to ignore the needs of others (Rahim, 2011). Thus, this finding is supported by the theoretical foundations of this study.

In addition, significant relationships were found between conflict management styles as follows: compromising style was positively related to the integrating style r_s = .543, p < .05; compromising style was positively related to the obliging style r_s = .368, p < .05; and avoiding style was negatively related to the dominating style r_s = -.246, p < .01. These findings are consistent with other studies using the ROCI-II, Form C (Rahim, 2011).

Table 12

Spearman Rho Correlations, KAI and ROCI-II

	KAI	Integrating	Obliging	Dominating	Avoiding	Compromising
KAI	1.000					
Integrating	-0.114	1.000				
Obliging	0.057	0.205	1.000			
Dominating	.422**	-0.207	-0.133	1.000		
Avoiding	-0.200	-0.134	0.227	-.246*	1.000	
Compromising	-0.179	.543**	.368**	-0.197	0.206	1.000

* Correlation is significant at the .01 level (2-tailed).
** Correlation is significant at the .05 level (2-tailed).

The following chapter provides an overview of the study, a discussion of findings, and implications for practice and future research.

CHAPTER 5

DISCUSSION AND CONCLUSIONS

Introduction

This study explored the overarching concept that change is conflict. As noted by Rahim (2011), "Change is associated with conflict, and dealing with conflict is essential for realizing the benefits of change" (p. xi). For the purposes of this study, the research focused on university administrators at a large flagship university. An understanding of the relationship between change and conflict adds to the higher education leadership literature by increasing awareness and knowledge of these critical variables in the ability to effectively manage organizational change and stay competitive in a complex and ever-changing environment. The following sections provide a brief summary of the study, a discussion of the findings, and implications for future research as well as recommendations related to practice.

Summary of the Study

For the purposes of this study, organizational change was considered via the dual theoretical lenses of preferred cognitive style and conflict management style. The Kirton Adaption-Innovation (A-I) Theory defines cognitive style as the way in which people solve problems or more specifically, "the preferred way in which people respond to and bring about change" (Kirton, 2013, p. 43). Preferred cognitive style was measured by the Kirton Adaption-Innovation (KAI) instrument. Conflict was measured by the preferred conflict management style, as measured by the Rahim Organizational Conflict Inventory-II (ROCI-II) based on the assumptions that conflict is beneficial, the natural result of change, and inevitable. These two pre-existing, highly tested instruments were administered to a sample of 72 university administrators representing both academic and non-academic functional areas at a large flagship university. The study provided comparisons across demographic variables and exploration of possible relationships between preferred cognitive style and conflict management style with the intent to

better understand diversity of styles in helping to improve change initiatives in a higher education institution.

Discussion

A review of the literature suggests a strong need for dynamic relationships and collaborative leadership styles in working collectively in higher education institutions to successfully manage institutional priorities in a rapidly changing environment (Bensimon & Neumann, 1992; Kezar, 2006; Rost, 1993). While the KAI and the ROCI-II have each been widely used across a large number of occupations, the research has predominantly been conducted in business settings. The few studies conducted using these instruments in educational settings almost exclusively examine students with only a few known studies to consider university administration (Bartlett, 2009; Donovan, 1993; Kimencu, 2011). In addition, this is the first known study to use the instruments together. Thus, this study adds to the higher education literature by providing possible tools and enhanced knowledge to understand the roles of cognitive style and conflict management styles in establishing more effective teams and moving beyond the status quo.

This exploratory study found the preferred cognitive style of university administrators overall does not differ significantly from the general population.   In addition, no significant differences were found based on functional reporting area, gender, or educational level. Prior research found that professional occupations and persons with higher levels of education tend to score more innovatively and hence, suggested that scores would have been higher for university administrators than the general population (Kirton, 2003; Kirton, 2013). However, this study of university administrators did not support that conclusion. From a practical standpoint, this may reflect the theory that large, highly bureaucratic institutions tend to be more adaptive in nature (Kirton, 1984; Schein, 1968; Weber, 1946/2004). As noted by Kirton (2013), "Research shows that any occupational group may have a mean different from the general population, if that group's setting generates a need and a climate which are either more adaptive or more innovative

49

than that the of the general population" (p. 154). As university's strive to break free of the status quo, it may be the inherent structure and culture of the university is attracting and retaining persons with an adaptive preferred cognitive style and unintentionally thwarting efforts to think and act more innovatively.

Nevertheless, the wide range of KAI scores from 59 to 144 confirms that a diversity of cognitive styles exists amongst university administrators within this university. It is this diversity that needs to be captured when building an effective team to provide a more balanced way of problem-solving. This is particularly true for the creation of a short-term taskforce or work group established to study a problem and provide recommended solutions. However, as noted in the literature, it is easier to manage a homogenous team than a heterogeneous or diverse team. As eloquently noted by Kirton (2003),

> One of the most difficult strategies that a leader needs to learn is that there is more pay-off in delegating to a person not like themselves – to ensure the widest use of diversity… But all of us find that it is easier to trust those like us, especially if the successful execution of the task is vital to our well-being. But then, neither successful leadership nor successful delegation is easy to learn or execute…" (p. 247).

As little as a ten-point difference in individual KAI scores may be highly noticeable in terms of how the individual approaches problem solving. Awareness of these styles helps each team member to not only be cognizant of the differences, but to also value the benefits of this diversity in bringing together better solutions than can be achieved individually or homogenously. During times when the difference in styles in a group is great, some team members may find themselves unconsciously using coping behavior to handle problem solving in a manner that cannot be solved in their preferred style. Coping behavior only becomes problematic if sustained for a long period of time, which can lead to high levels of stress and dissatisfaction.

In addition, the diversity of styles in teams has the potential for significant intragroup conflict as research has demonstrated that diversity influences conflict and conflict then impacts the effectiveness of the team (Jehn, 1997; Rahim, 2011). Thus, the results of the ROCI-II help leaders to understand the styles for handling such conflict in a constructive manner. In this study, the findings pertaining to conflict management styles align with prior research conducted using the ROCI-II. The university administrators participating in this study prefer the integrating style for handling conflict management style, followed by compromising, and obliging. Significant positive correlations were found between the integrating and compromising conflict management styles and the compromising and obliging conflict management styles. The dominating and avoiding styles were found to be the least preferred styles to handle conflict. When considered by category, those administrators in academic units and those with a doctoral degree, indicated the least preferred style as avoiding, whereas those in non-academic units and with a bachelors or master's degree indicated the least preferred style as dominating. This finding is supported by prior research suggesting that as education level increases the use of avoidance as a conflict management style decreases.

It is important for those in leadership positions to understand which conflict management styles are most appropriate given various situations. In this study, university administrators indicated the use of a variety of styles to manage conflict. However, the most preferred conflict styles of integrating and compromising complement higher education's shared governance model. Integrating style, also known as problem solving, involves an examination of differences to reach an acceptable solution. Compromising style involves give-and-take to reach a solution. As noted by Rahim (2011), "integrating and, to some extent, compromising styles can be used for effectively dealing with conflicts involving strategic or complex issues" (p. 29). Hence, it seems that the university administrators in this study are well-equipped to appropriately manage conflict that may arise from the use of diverse teams via the preferred styles of integrating and compromising.

Implications and Recommendations

This study contributes to the higher education literature by examining change as conflict using two pre-existing well-tested instruments. Understanding cognitive styles and conflict management styles provides a solid foundation of two key factors in managing organizational change. Cognitive style reflects how individuals solve problems. Does the individual prefer to stay within an existing structure, follow rules, and make small changes? Or, does the individual prefer to be a risk-taker, look at new structures, and make larger changes? Conflict management styles reflect how an individual prefers to handle conflict situations. Does the individual tend to high concern for self and others? Or some other combination? Awareness of these styles can assist those in leadership positions to collaborative more effectively and enhance the use of teams in positively managing change.

Recommendations for Practice

Based on this study, those in leadership positions and those serving on teams or committees should be given opportunities for training to establish the underlying knowledge of cognitive styles and conflict management styles. And, most importantly, how to manage these styles effectively. Training sessions with leadership teams wherein group-level data based on the completion of the KAI and the ROCI-II would help raise awareness and start building a toolkit for use. Retreats and routine leadership team meetings provide a good forum for continued discussion and team building. The researcher has offered free sessions with those participating in this study as well as their leadership teams. In addition, as new taskforces or work groups are formed, assessment of individual styles and a brief training session would be beneficial to start the team some tools to help facilitate success. This would also help to ensure diversity of styles as other individuals could be added if diversity gaps existed during the formation of the group.

In addition, this study suggests the bureaucratic nature of the institution may be hampering innovative problem solving by attracting and retaining those persons who have a preferred cognitive style that is more adaptive. Informal conversations with study participants

52

support that the high levels of institutional rules and policies hamper the ability to make changes. This rigidity leads to frustration for many which results in either those persons seeking opportunities outside the university and/or the extensive use of coping behavior. Thus, organizations should periodically review academic and administrative policies and procedures to ensure internal controls are not inhibiting change and innovating problem solving.

Recommendations for Future Research

A significant area for research is to replicate this study at other public and private higher education institutions, including other flagship university, comprehensive universities, and community colleges. In addition, the results of this study could be compared to similar administrative positons within the P-12 sector. The organizational structural differences may produce different results, particularly if the institution is less bureaucratic and more flexible than a large flagship university. Future research may also build on this exploratory study by adding co-variates beyond correlations.

Future research may choose to focus specifically on teams in higher education to better understand relationships between change and conflict. For example, participants may include all members of an academic department or committee comprised of multiple employee classification types, including both those in administrative positions as well as faculty members. A longitudinal approach may be taken to study outcomes or actual decisions made by a taskforce or work group as related to styles. A qualitative component could incorporate interviews to provide additional context.

In this study, conflict management styles were examined based on interaction with peers. However, the study could be replicated to include superiors and/or subordinates. This would provide a sense of whether individual styles may change given the audience.

Another opportunity for future research is to delve deeper into Kirton's notion of coping behavior to study possible impacts to the individual and the team with regard to overall effectiveness. This type of study would be informative in understanding potential outcomes when

individuals are teamed with persons or employed in organizations with significantly different styles from their own. For example, does coping behavior result in a higher rate of attrition, stress, disengagement, or other related outcomes. A longitudinal approach would allow a pre- and post-test scenario whereas a measure could be taken before and after educational opportunities are provided regarding diversity of styles. As noted by Kirton (2003), several studies have sought to understand the impacts of coping behavior; however, these studies have not been undertaken in a higher education institution setting. The findings from such a qualitative study may be able to help identify new techniques to understand and influence change processes while managing conflict.

Summary

Change is conflict. As higher education institutions continue facing pressures to find new ways of doing business, the understanding of cognitive styles and conflict management styles can help organizations navigate change initiatives to move beyond the status quo. This study suggests an educational platform to better manage change via the effective use of teams comprised of a diversity of styles. All cognitive styles have value; however, some styles may be more effective in solving different types of problems. Thus, it is imperative that organizations clearly identify the problem to be solved. Along those same lines, each conflict management style should be used given a particular situation. Thus, understanding the styles and knowing when each is appropriate for use provides an important tool in the university administrator's tool box. "A moderate amount of substantive conflict, managed effectively with problem solving strategy, is essential for attaining and maintaining an optimum level of individual, group, and organizational effectiveness" (Rahim, 2011, p. 203).

APPENDIX A

IRB APPROVAL

Institutional Review Board (IRB)/Independent Ethics Committee (IEC) Authorization Agreement

Name of Institution or Organization Providing IRB Review (Institution/Organization A):
_____Louisiana State University (LSU)_____

Federalwide Assurance (FWA) #, if any: _00003892_____

Name of Institution Relying on the Designated IRB (Institution B):
_____University of Kentucky (UK)_____

FWA #: ___00005295_____

The Officials signing below agree that ___UK___ may rely on the designated IRB for review and continuing oversight of its human subjects research described below:
(check one)

(___) This agreement applies to all human subjects' research covered by Institution B's FWA.

(X) This agreement is limited to the following specific protocol(s):

Name of Research Project: *Change is Conflict: Exploring Relationships Between Cognitive Styles and Conflict Management Styles of University Administrators at a Large Flagship University (Dissertation)*

Name of Principal Investigator: __Sandi Gillilan_____

Sponsor or Funding Agency: ____N/A____ Award Number, if any: _____

(___) Other (*describe*):_____

The review performed by the designated IRB will meet the human subject protection requirements of Institution B's OHRP-approved FWA. The IRB at Institution/Organization A will follow written procedures for reporting its findings and actions to appropriate officials at Institution B. Relevant minutes of IRB meetings will be made available to Institution B upon request. Institution B remains responsible for ensuring compliance with the IRB's determinations and with the Terms of its OHRP-approved FWA. This document must be kept on file by both parties and provided to OHRP upon request.

Signature of Signatory Official (Institution/Organization A):

_____ Date: _5/2/14_

Print Full Name: __Stephen Beck, PhD__ Institutional Title: ____Associate Vice President____

Signature of Signatory Official (Institution B):

_____ Date: _5/4/18_

Print Full Name: __Lisa A. Cassis, PhD__ Institutional Title: _Vice President for Research_____

APPENDIX B

REQUEST FOR PARTICIPATION

The researcher sent an email invitation to each person with an administrator role as defined by the study. The email language is below.

Dear _____:

You have probably heard the expression, "change is the only constant in life!" And, we know from experience that change efforts can be difficult. With these sentiments in mind, I designed a research study building on the premise that change is conflict. For purposes of the study, change is captured via preferred cognitive style and conflict is measured via preferred conflict management style. The resulting scores at the individual level have the potential to improve self-awareness. In the aggregate, the findings may lend insights to improve change initiative efforts, particularly in a team-based environment. While the research study provides the basis for my dissertation, my hope is that the participants of this study will find the individual results and overall findings of value and applicable to their work.

Thus, I ask for your willingness to participate in this research study. I have attached the Informed Consent Agreement, as approved by the Institutional Review Board at LSU. The Agreement contains detailed information about the study. If you would like to participate, please sign the Agreement and return to me via email at sgillilan@lsu.edu or campus mail at 330 Thomas Boyd Hall. Upon receipt of the Agreement, I will provide the two paper-based instruments for completion, which should take less than 20 minutes to complete. I am more than happy to answer any questions or requests for additional information.

Please accept my sincerest thanks for your consideration to participate in this study.

Thank you!
Sandi

INFORMED CONSENT AGREEMENT

You are invited to participate in a research study conducted by Sandi Gillilan, doctoral student at the University of Kentucky and Associate Vice President for Operations at Louisiana State University. The dissertation is supervised by Dr. Beth Rous, Professor, Educational Leadership Studies at the University of Kentucky. Questions may be directed to the following:

Sandi Gillilan
sgillilan@lsu.edu

<u>Study Title</u>
Change is Conflict: Exploring Relationships Between Cognitive Styles and Conflict Management Styles of University Administrators at a Large Flagship University

<u>Performance Site</u>
Louisiana State University (LSU)

<u>Purpose of the Study</u>
The purpose of this study is to explore the preferred cognitive styles and conflict management styles of university administrators to compare and contrast styles across several attributes and to explore possible predictive relationships. This study builds on the premise that change is conflict and thereby gaining an understanding of how university administrators handle change via preferred problem-solving style and conflict management style provides a level of awareness to aid in change initiatives. The ability for university leadership to understand and manage change, particularly via the use of administrative teams, is critical in moving institutions beyond the status quo and staying competitive in a complex and ever-changing environment. The research suggests that while homogenous teams may be easier to manage, those teams comprised of a diversity of styles are more effective in facilitating change.

<u>Study Participants</u>
Study participants include university administrators at LSU as defined below:

(a) *Academic administrator.* For the purposes of this study, academic administration includes those positions with responsibility for the oversight of the academic mission under the leadership of the chief academic officer (CAO). These positions typically require a terminal degree as well as faculty status. Subjects for this study shall include those individuals currently holding positions such as Vice Provost, College Dean, Associate Dean, School Director, or Department Chair/Head.

(b) *Non-academic administrator.* For the purposes of this study, non-academic administration includes those positions reporting to the chief financial officer (CFO), chief student affairs officer (CSAO), or the athletic director (AD). These positions require a minimum of a bachelor's degree, although some positions may require an advanced degree. Non-academic administrators have leadership responsibility for those functions in support of the university's academic core. Subjects for this study shall include those individuals currently holding positions such as Associate Vice President, Associate Athletic Director, Assistant Vice President, Executive Director, or Director.

The proposed study shall not exceed 200 subjects. Participation shall be limited to those individuals with leadership portfolios either (1) reporting directly to the CAO, CSAO, CFO, or AD or (2) reporting to those individuals who report directly to the CAO, CSAO, CFO, or AD.

Study Procedures

Participants are asked to complete two well-established, paper-based instruments. The first instrument, the Kirton Adaption-Innovation Inventory (KAI), assesses preferred cognitive style. The KAI may only be administered by a certified practitioner, of which certification has been attained by the researcher. The inventory consists of 33 questions with responses ranging from "very hard" to "very easy." The KAI derives a single score signifying placement on a continuum ranging from more adaptive to more innovative. The instrument typically takes less than 10 minutes to complete.

The second instrument, the Rahim Organizational Conflict Inventory (ROCI-II) Form C, assesses preferred conflict management styles. The inventory consists of 28 questions with responses ranging from "strongly agree" to "strongly disagree." A score is derived for each of the five conflict management styles: integrating, obliging, dominating, avoiding, and compromising. The instrument typically takes less than 10 minutes to complete.

In addition to the scores collected via the instruments discussed above, participants will also be asked to include their name, job title, and education level in the "respondent details" section of the KAI. Participants wishing to receive their individual KAI and ROCI-II scores may request this information from the researcher. If so desired, the individual may also schedule time with the researcher to attain additional feedback. The researcher shall also offer to discuss the overall findings of the research with interested participating individuals and departments.

Individual data will only be shared with the individual at their request. Individual information will never be shared with anyone other than the individual. The researcher shall maintain strict confidentiality of the individual data and provide only summarized, non-recognizable results in the dissertation or with interested parties.

Benefits

Participants may choose to receive their individual scores on the KAI and ROCI-II thereby increasing their self-awareness of cognitive styles and conflict management styles. The use of this knowledge may enhance the administrator's ability to manage change more effectively, particularly in a team environment.

Risks/Discomforts

There are no known psychological, physical, or social risks for participants in this study. All cognitive styles and conflict management styles have value, with none perceived as more socially acceptable or better than the other. In addition, the information received will be held confidential by the researcher.

Right to Refuse

Participation in this study is voluntary and participants may change their mind and withdraw from this study at any time without penalty or other recourse.

Privacy

The proposed study is not anonymous as the identity of the participant, including name and title, are requested to help facilitate the use of this study by administrators to better understand their individual styles and use this knowledge in their leadership roles. The information received will

be held confidential by the researcher in an electronic password protected file maintained by the researcher. Records shall be destroyed after three years. The researcher shall adhere to the requirements set forth in PS06.20.

Financial Information
Participants will receive no compensation for participation in this study. However, when conducted outside the realm of a study, the KAI typically is conducted at a cost to the individual or a group that includes the cost of the instrument as well as feedback. These services are offered for free to participants.

Participant Signature
I agree to participate in the study described above and acknowledge the researcher's obligation to provide me with a copy of this consent form if signed by me. I may direct any additional questions regarding study specifics to the investigator. If I have questions about subjects' rights or other concerns I can contact Dennis Landin, Chairman, LSU Institutional Review Board, (225) 578-8692, irb@lsu.edu, www.lsu.edu/irb.

Participant Printed Name _____

Participant Signature _____ Date _____

If the participant would like to be contacted upon completion of the study, please check the appropriate box(es):
 □ receive individual results,
 □ schedule feedback session, and/or
 □ receive information regarding the overall study findings.

In addition, the participant may choose to contact the researcher in the future for such information. Records will be maintained for three years. **Please forward the signed Informed Consent Agreement to Sandi Gillilan via email at sgillilan@lsu.edu or campus mail to 330 Thomas Boyd Hall.** Upon receipt, the two instruments and a copy of the signed consent form will be delivered to your campus addres

APPENDIX D

KIRTON ADAPTION-INNOVATION INVENTORY

Only individuals certified in the use of the Kirton Adaption-Innovation Inventory (KAI) may purchase and use this instrument. The inventory is copyrighted and may not be reproduced. Information regarding the KAI may be obtained from The Occupational Research Centre, Cornerways, Cardigan Street, Newmarket, Suffolk CB8 8HZ, United Kingdom or at www.kaicentre.com.

The researcher achieved certification in November 2015.

RAHIM ORGANIZATIONAL CONFLICT INVENTORY - II, FORM C

Rahim Organizational Conflict Inventory-II, Form C: Used with permission from the ©

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without written permission is prohibited. The Center permits providing a representative item from

each subscale of the instrument.

Representative Items

Rating scale: Strongly Agree = 5 ... Strongly Disagree = 1.

Integrating Style: I try to investigate an issue with my peers to find a solution acceptable to us.

Obliging Style: I generally try to satisfy the needs of my peers.

Dominating Style: I use my influence to get ideas accepted.

Avoiding Style: I usually avoid open discussion of my differences with my peers.

Compromising Style: I try to find a middle course to resolve an impasse.

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Assistant Provost for Academic Planning and Policy   *7/2014 - 11/2014*
Director, Academic Planning and Assessment   *10/2008 - 6/2014*
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Associate Director, Academic Affairs   *10/2006 - 8/2007*
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