

## **ABSTRACT**

COLLUM, TRACY LOVEJOY. Conceptualization of Effective Leadership Among University Female Leaders. (Under the direction of Dr. James E. Bartlett, II.)

The purpose of the study was to identify perceived effective leadership in higher education by examining the indicators of effective leadership in a holistic viewpoint from an executive female leaders approach. Theoretical studies have examined female leadership development; however few have statistical data to address the concept. In addition, leadership competencies in four year higher education institutions have not been clearly stated; therefore evaluations are not consistent and have no baseline by which to begin. The study addressed both leadership competencies in four year institutions as well as female leadership. The study utilized Q Methodology with a two tier approach to conceptualize the perception female leaders in higher education have on effective leadership. Participants received a concourse of 61 statements to sort according to their perception of effective leadership indicators which they have observed in others they have worked alongside with a ranking system of “most effective leadership indicator” (+5) through “least effective leadership indicator” (-5). Participants were also asked to sort the same statements, with the same ranking scale, based off the perception of their own leadership indicators. Participants included 18 (for Qsort1) and 15 (for Qsort2) female vice-presidents/chancellors from higher educational institutions in North Carolina and Maryland. In addition, participants completed post-sort questions for demographic purposes as well as to further explain their rankings of the top three and lowest three statements in each of their sorts. For both Qsort1 and Qsort2, two factors emerged from each as effective leadership indicators: Adaptive Leadership and Enabling Leadership.

The results of this study indicate that effective leadership in higher education needs to be both adaptive and enabling to the environment in which one is placed. A primary need for effective leadership is the ability to provide long-range planning through objective analysis, thinking ahead, and planning. In addition, using frameworks to analyze complex situations and understanding complexities as well as emerging trends in higher education are important for effective leadership in higher education. The overarching areas which the participants point toward in their rankings of the statements are the need for flexibility, adapting to circumstances, and helping others learn their roles to be self-sufficient. The area which did not appear as important for effective leadership was the theme of administrative leadership. These statements encompassed following procedure and process to complete tasks.

The insight provided by the female executive leaders in higher education regarding effective leadership indicators are relevant to several areas. Gaining a deeper understanding of what areas females can pursue in order to be effective leaders can only strengthen their positioning in the higher education career ladder. In addition, higher education institutions seeking to utilize more accurate performance standards for those in leadership positions could utilize the results to place a threshold for executive leaders to adhere to. The current study should be utilized as a springboard for future leadership studies in the areas of higher education and female leadership to further provide empirical information which could enhance the leadership skills of future female leaders.

Conceptualization of Effective Leadership Indicators Among University Female Leaders

by  
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## **DEDICATION**

The cumulative effort of this paper, along with my entire doctoral degree, could not have been completed without the understanding, assistance, and support of my husband, Wayne, as well as the laughter from our son Paxton. With “my boys” and multiple zoos in the area to keep you entertained, I will be forever grateful for your love and support.

## **BIOGRAPHY**

Tracy Lovejoy Collum grew up in Sissonville, West Virginia. A first generation college student, Tracy graduated from High Point University with a B.S. in Psychology, minor in Mathematics and Springfield College with a M.S. in Physical Education with a concentration in Sport Psychology. Tracy has been employed with High Point University in North Carolina for over 11 years. In her time at High Point University, she has served as Coordinator of Registration and Associate Dean of the Evening Degree Program, as well as Associate Dean of the Norcross Graduate School. While pursuing her doctoral studies, Tracy was elected Vice-President and President of the North Carolina Adult Education Association. In addition, Tracy is a member of the National Association of Graduate Admission Professionals, Association of Continuing Higher Education, and the Association of the Study of Higher Education and vice-president of the Southeastern Association of Graduate Admission Professionals.

Tracy and her husband, Wayne, had their son Paxton, in her second year of doctoral studies. Paxton has been extremely helpful in selecting pages from research methods and statistics books for Tracy to read and study whilst in school.

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## CHAPTER 1

### Introduction

In a 2007 review of literature on leadership effectiveness at the departmental level in higher education, it was reported there is no set definition for effective leadership (Bryman, 2007). Additionally, the review showed differing standards of effectiveness focusing on behavior linked with leadership effectiveness (Bryman, 2007). The literature review also indicated little scholarly research with methodological attachments to be found at the time, which could summarize leadership behaviors found to be effective in higher education leadership. It appears through other research (Bryman, 2007; Muchiri, Cooksey, Di Milia, & Walambwa, 2011; Eagly, Karau, & Makhijani, 1995), that leadership effectiveness is not defined clearly, only interpreted through behaviors and traits through the views of those who perceive leadership to be effective. Even Yukl (2011) discussed behaviors in relationship to effective leadership, rather than specifically defining leadership effectiveness. Carli and Eagly (2011) stated “leaders can be effective only if other people accept and value their leadership” (p. 111) and leadership effectiveness includes more than just competencies, skills, or performance. In addition, effective leadership style should also be malleable for each organization in which it is directed (Harrow, 1993). Spendlove (2007) discussed leadership as the “behavior of individuals [that] can significantly influence the behavior of others” (p. 408). Consequently, Spendlove (2007) stated “it is argued that an effective leader can influence others to accomplish organizational goals” (p. 408). While opinions and reflections may create a baseline for discussion and a need for research in higher education

leadership areas, research should be conducted to provide support for such remarks that do not have empirical evidence.

Effective leadership has been defined by the American Association of Community Colleges (AACC) as “a combination of effective management and vision” (p. 2). In 2003, the W.K. Kellogg Foundation allotted the AACC a grant to support a project to address the needs of the upcoming vacancies in the community college leadership. What resulted from the project was a leadership summit with representatives from many states, councils, universities and community colleges who discussed key concepts of leadership traits and skills needed by the community college leader. Surveys were sent to select groups of participants concerning leadership competencies. The end result was a document declaring the six leadership competencies (organizational strategy, resource management, communication, collaboration, community college advocacy, and professionalism) which were deemed necessary for community college leaders to effectively lead (AACC, 2005).

Yukl (2010) discussed leadership as a difficult term to define based on research conducted and the multiple definitions of leadership provided. Furthermore, Yukl (2010) proposed researchers base their own research on their personal interpretation of leadership thus analyzing different data or yielding various results. Yukl (2010) stated “most definitions of leadership reflect the assumption that it involves a process whereby intentional influence is exerted over other people to guide, structure, and facilitate activities and relationships in a group or organizations” (p. 3). In order to have a definition of leadership in which to work from, Yukl has defined leadership as “the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual

and collective efforts to accomplish shared objectives” (2010, p. 8; 2006, p. 8). Additionally, effective leadership is a factor which garners subjective tones based on the individual (Yukl, 2010). Rather than define effective leadership, Yukl (2010) refers to indicators which can lead to effective leadership. Effective leadership can be measured by performance and growth of the group, readiness to take on challenges, well-being of staff and co-workers, retention of staff and own position, as well as personal advancement (Yukl, 2006). In addition, factors that could be related to effective leadership are “high energy and stress tolerance, self-confidence, internal location of control orientation, emotional stability and maturity, integrity, motivations, high achievement orientation, and low need for affiliation” (Yukl, 2006, p. 189). Yukl (2010) also indicates there is a challenge with measuring effective leadership without a clear and concise definition or measurement.

While the standards for leadership have been established that can be used to develop leaders for the community college systems, there are no current research findings to dictate relevant leadership traits for 4-year institution by which faculty and staff can strive to reach executive leadership status. Establishing both combined effective leadership traits for 4-year institutions, as well as female leadership, could build a lasting impression for prospective female leaders in the higher education field. Opportunities may be available for advancement in higher education for females, but without the skills and qualification, they may fail to impress those involved in the hiring process. In addition, if yearly reviews are conducted for employees, having a standard related to effective leadership could prove to be useful with regard to salary increases, position promotion and other employment related decisions. As Rosser, Johnsrud, and Heck (2003) discussed, the “evaluation has been slow to develop and



has not been guided by firmly established assessment practices that are systematic, fair, and accurate” (p. 2) for deans and directors, regardless of gender. Once females gain a better understanding of leadership indicators which would serve them in the best manner, they can work to enhance those traits and directly affect their leadership status at current or prospective institutions.

Eagly (2007) pointed out that the leadership traits which females already exhibit, such as “transformational and contingent reward leadership” (p. 5), could provide them with a leadership advantage. Female may be more apt to innately hold the traits more commonly found in effective leaders, thus making them the perfect candidates for leadership roles (Eagly, 2007). Eagly (2007) discussed leadership effectiveness to be contextual and reviewed qualities normally associated with females and how those qualities are woven into a women’s leadership identity. It could be possible that females are only found to be effective leaders based on the leadership style, which could also be said about males in leadership roles (Eagly, 2007). If specific leadership styles are found to be more effective, females may want to gravitate towards those dispositions in order to be a more effective leader. Determining effective leadership styles may be advantageous to females hoping to advance in their careers, specifically at higher education institutions.

### **Problem Statement**

Lack of information concerning effective female leadership traits overall in literature, and specifically in higher education, causes a concern for potential female leaders to refer for seeking guidance and scholarly references to enhance skill and traits related to promotion objectives. According to Madsen (2012), leadership development in higher education has

recently reached a “critical level of importance” (p. 4). Higher education is seeking qualified, competent, effective leaders to navigate schools into the future in various roles; however the field is lacking in candidates (Madsen, 2012; 2010). Additionally, as reported by West and Curtis (2006), women, are undersized in number when looking at those prepared to take on executive leadership roles, just from a faculty standpoint. Data from 2005-2006 to indicated, women made up just 34% of full time faculty at doctoral institutions and 42% at master’s/baccalaureate degree granting institutions (West & Curtis, 2006, p 10).

Concurring, King and Gomez (2008) reported women are less likely to be in positions where advancement would place them into senior administrative positions. For instance, only 38% of women were named provost and 36% named as Dean of their division (King & Gomez, 2008). In comparison, women were more likely to be named chief of staff (55%) or chief diversity officer (57%). Berkelaar, Pope, Sypher, and Cox (2011) agreed, stating a “need for multiple efforts on different fronts to encourage women to develop the skills and abilities necessary for leadership and to encourage their interests in pursuing leadership positions and the path via which they are obtained” as necessary (p. 228). If perceived effective leadership traits for executive female leaders in higher education are not identified, then females may not understand the skills nor develop the leadership competencies needed to advance, resulting in a continued lack of female promotions and leadership roles in 4-year university settings. Rosser, et al. (2003) pointedly noted “Providing a clear understanding of the specific responsibilities, skills, and evaluation goals for performance within the institution cannot only aid in the hiring and selection process, but can lead to more effective evaluations of leadership performance” (p. 20). A disservice is made for female

professionals in higher education who have no other female mentors available to shadow and develop leadership skills and traits in which to prepare them to take on critical administrative and leadership positions within the university context. As Madsen (2012) pointedly noted, “women’s leadership development cannot be pursued in isolation if successful institutional changes are to occur” (p. 5). In other words, female leadership development cannot be built and designed in a silo. When female leadership development occurs, other areas can see a positive impact such as creating more female mentors in higher education for faculty and staff as well as students, developing skill sets to lead universities, and being a role model for college females in the field of education and leadership.

### **Purpose Statement**

The purpose of the current study is to identify perceived effective leadership by vice-president/chancellor female leaders within the university setting by examining the indicators of effective leadership from a holistic viewpoint based on self leadership in addition to leadership of others. For the current research, effective leadership indicators were generally defined by areas found in literature deemed to be effective based on a comprehensive search of previous studies on leadership in higher education at a similar level. The current study will seek to define indicators of effective leadership based on current female perceptions of those who hold a current executive leadership position, vice-president/chancellor, within a 4-year university or college in North Carolina and Maryland. Madsen (2012) suggested the development of leadership programs for women were essential to prepare women for future roles. While traits, skills and competencies cannot guarantee leadership positions for women in higher education, understanding the indicators which appear to be part of an effective

leader in the field establishes a baseline for which women can acquire through professional development or leadership programs. Within the study, participants were asked to sort effective leadership indicators based on their own self-perception of self leadership qualities and again in how they view the same indicators in others they have worked with in higher education. The expectation is that the indicators will differ between the perception of others and self with regard to effective leadership indicators. In addition, three to four areas should be extracted as common themes of effective leadership in higher education.

A stratified purposeful sampling method was utilized according to gender, university employment level, and institutions type (public or private). Brown (2004) has discussed Q Methodology as being utilized to determine perspectives on a topic; therefore Q Methodology was utilized to gather and analyze the perceptions of effective leadership indicators amongst executive female university leaders.

### **Theoretical Framework**

The theory that will be used as a reference for the current study, complexity leadership was developed by Marion and Uhn-Biel (2011). Complexity Leadership Theory has been used to study leadership in a variety of ways including, but not limited to, healthcare organizations (Hanson & Ford, 2010), complex adaptive systems (Boal & Schultz, 2007), emergent self-organization (Plowman, et.al, 2007) as well as gender bias (Hogue & Lord, 2007). The Complexity Leadership Theory indicates that that all “complex systems change to adapt to their environment” (Hogue & Lord, 2007, p. 372). As applied to my study, this theory holds that as individuals conceptualize what traits and behaviors mirror

effective leadership, complex adaptive systems will be considered along with leadership qualities which are adaptive, enabling, and administrative.

## Conceptual Framework



**Figure 1.** Example of Conceptual Framework

## Research Questions

- 1) When considering others, what leadership indicators do executive female leaders in higher education perceive as effective?
- 2) When considering self, what leadership indicators do executive female leaders in higher education perceive as effective?
- 3) What are the highest and lowest rated perceived indicators of effective leaders in higher education items for each factor?

### **Significance of the Study**

The significance of the current study is multifaceted. According to Madsen (2012), there is little scholarly research and literature in the area of female leadership development; therefore creating a trifecta gap in the higher education, female, and leadership literatures. While the standards for leadership have been established for the community college systems (AACC, 2005), there is little research given to dictate relevant leadership indicators for 4-year institution by which faculty and staff can strive. Rosser, et al. (2003) pointedly noted “Providing a clear understanding of the specific responsibilities, skills, and evaluation goals for performance within the institution cannot only aid in the hiring and selection process, but can lead to more effective evaluations of leadership performance” (p. 20). In addition, Varner, Bales, and Lindsey (2002) agreed that a competency model would benefit those in the mid-level and senior management areas of the management and executive development sector. This could be applicable to higher education as well. Research with specific areas of effective leadership competencies within higher education detailed are from McDaniel (2002), Smith and Wolverson (2010), Spendlove (2007) and Rosser, et al. (2003); however these scholarly works lack gender direction as well as advanced senior leadership focus in higher education. The current study focuses on executive female leaders who are employed at the vice-president/chancellor level rather than deans or chairs of departments as other studies have.

The current study intends to add to the body of literature a realm of leadership indicators which are deemed necessary, by the participants, for women to be effective senior leaders at their institution. Once the perceived effective leadership indicators are established

a second sort would be conducted to determine how females perceive their own leadership with respect to the previously perceived indicators. Yoder (2001) stated “there is no single formula for making women more effective as leaders, because there is no singular definition of leadership” (p. 825). Defining effective leadership indicators in the context of females in higher education may help this topic gain momentum in regard to the development of leaders, specifically female leaders.

As Oakley (2000) indicated, often women have not been given the necessary training to move up the corporate ladder. The “improper tracking earlier in their career” (Oakley, 2000, p. 323) prevents females from being qualified for a promotion. Mentoring young female professionals to make sure they have the proper training, skills, and experience is key to ensuring more women have the opportunity for promotions into leadership arenas.

With the lower number of women leaders in higher education in relationship to male leaders, derives less research on female leadership development and therefore the knowledge potential female leaders need to know to increase their development skills in leadership. Without specific guidelines on what qualities and competencies to expect in their professional growth, women may continue to lag behind. What can a prospective female (or male) in higher education recognize as effective leadership indicators if no standard has been determined?

In addition, utilizing the theoretical framework of Complexity Leadership Theory allows the results of effective leadership indicators to be categorized into three areas. These areas may help guide themes which are perceived as a greater benefit to develop effective leadership. For professional women who lack mentors, guidelines, and professional



development direction, adding research on effective leadership indicators could only help to improve their knowledge of which goals to anticipate reaching in order to achieve promotions in the higher education sector. In addition, many workshops and seminars designed for female leaders to invest time and money into their professional development in higher education, could utilize concrete results from the current study to implement into their curriculum.

### **Limitations**

Limitations in the study are inclusive of several areas.

1. First, the methodology of utilizing Q sort has limitations in the design of the method as well as the sorting process by which the participants will use. The sorting method is only as accurate as the participants are in conducting the sorting themselves.
2. Second, narrowing the scope of participants to female vice-president/chancellor level assumes that those participants are deemed leaders at their institution. When the case could be made, some vice-presidents/chancellors are placed in a position to hold them over until retirement and/or work in a silo with little to no leadership experience. In addition, some lead department staff, while are others are a department to one.

### **Delimitations**

The study and literature are delimited to the following:

1. Only females leaders at the vice-president/chancellor level during the spring, summer, or fall 2013 semester were included
2. Only 4-year universities within North Carolina and Maryland were utilized.

3. The study were influenced by the leadership indicators the researcher selects from the literature to include in the Q sort.

### **Definition of Terms**

*Concourse* – “A list of items serving as candidates for inclusion in the Q sort. It can take the form of questions, statements, pictures, etc.” (Brown, 2004, p. 18)

*Factor Loadings* – “Each respondent’s correlation with each of the identified clusters or factors.” (Brown, 2004, p. 18).

*P-Set or Sample* – “It is a structured sample of respondents who are theoretically relevant to the problem under consideration” (van Exel & de Graaf, 2005, p 6)

*Q Methodology* - “defines the distinctive set of psychometric and operational principles which, when combined with specialized statistical applications of correlation and factor-analysis techniques, provide researchers with a systematic and rigorously quantitative means for examining human subjectivity” (McKeown & Thomas, 1988, p. 7).

*Q-Set or Sample* – “is the collection of ‘heterogeneous items’ which the participants will sort” (Watts & Stenner, 2005, p. 74).

*Q sort* - “Each respondent’s rank ordered set of perceptions.” (Brown, 2004, p. 18).

## CHAPTER 2

The purpose of the quantitative study is to identify perceived effective leadership in a holistic fashion by vice-president/chancellor female leaders in North Carolina and Maryland universities by examining the indicators of effective leadership in which female leaders in higher education can aspire in order to be more qualified for advancement in higher education with regard to professional development. In addition, effective leadership indicators need to be established in order to provide a baseline for performance evaluations. The review of literature focuses on the challenges of leadership development in higher education and, more specifically, for women in higher education. In addition, the review of literature seeks to provide a foundation and rationale for the current study by indicating the gaps of leadership development as well as defining effective leadership in higher education. The significance of developing female leaders in higher education will also be discussed. In addition, the literature review examines the theoretical framework by which the study is based, Complexity Leadership Theory.

### **Challenge for Leadership Development in Higher Education**

Madsen (2012) suggested leadership development to be a critical component of society and specifically within human resource development. Solid scholarly research has not been published often with reference to leadership competencies and development for those in higher level, executive level, positions in higher education, rather mid level managers such as deans and chairs or faculty status, (Filan & Seagren, 2003; The Chair Academy, 2012; Thrash, 2009) in addition to those on a presidential track (Spendlove, 2007; Day 2011). As Smith and Wolverton (2010) pointedly noted, “defining competencies, such as knowledge,

skills, behavior, and attributes, that are important for effective leadership and strengthen the probability of achieving desirable organizational outcomes has practical implications that might prove useful” (p. 61). Rosser, et al. (2003) discussed effective leadership has a “pertinent criterion when the evaluation purpose is to hold individuals accountable for certain types of results” (p. 4). Within the same discussion Rosser et al. (2003) proposed that while evaluation purposes should have a set of common criteria, defining effective leadership in higher education is challenging.

Filan and Seagren (2003) deduced that “leadership at all levels in postsecondary education is complex and multidimensional” (p. 21). In addition, midlevel leadership often encompasses so many functions and roles, it is hard to define the roles they have. Leadership training and leadership studies in higher education have focused on higher level leadership in order for replacements in presidential roles to be developed (Spendlove, 2007). Day (2011) discussed that although succession planning was great for organizations, the planning needs to be more in depth than identifying the individuals who would be next in line for a position. The planning needs to detail how to develop the leadership qualities. In addition, while more detailed types of leadership training programs should be in place, leadership training should also occur to help develop managers for promotion or to be a more effective leader within their current position for those who are not on a presidential track.

Discussing a different point of view in a range of theoretical and practitioner letter exchanges, in Hollenbeck, McCall, and Silzer (2006), authors Hollenbeck and McCall suggested leadership competency models should not be utilized as they cause more harm than good. In Hollenbeck et al. (2006), Hollenbeck and McCall indicated when a criteria is

set for determining what an effective leader has as traits and behaviors, the leader is pigeon-holed into the criteria and any other skills or behaviors would be seen as ineffective for a leader.

In addition, leaders, as well as situations and leadership trends/theories, change and grow over time and with experience, thus changing the view of what an effective leader is (Hollenbeck, et al., 2006). On the contrary, Silzer (in Hollenbeck et al., 2006) posited that leadership competency models were useful in gaining insight from “seasoned leaders” (p. 402), getting a stepping stone set for future leaders to start from as well as leaders to try to obtain; and useful for development and evaluation purposes. A pertinent point in which Silzer makes in Hollenbeck et al. (2006) is organizations can utilize competencies in “linking leader behavior to the strategic directions and goals of the business” (p. 403). While all authors agree that leadership is complex, the authors also agree that leadership effectiveness should entail a comprehensive approach with regard to competencies. The “interactions between [person-centered competencies and situational variables] that leads to successful leadership outcomes” (Hollenbeck, et al., 2006, p. 409). Airini, et al. (2011) also deemed leadership as “dynamic” (p. 45) and effective leadership as “essential to the sustainability of universities” (p. 45).

A problem facing the field of higher education, and specifically four year institutions, is the lack of standard leadership competencies and the skills to understand and develop personnel in order to assist them with increasing professional stature within the university setting. The community college has set up leadership competencies for which their constituents know and understand or at minimum can refer to. The employees have a set of

standards to work from which can increase their leadership vision and strategic development plans. Having a similar standard for four-year universities could only enhance the leaders within those organizations. According to Madsen (2012; 2010), higher education is seeking prepared, qualified, competent, effective, and ethical leaders to navigate schools into the future in various roles; however the field is lacking in candidates.

### **Challenge for Leadership Development for Women in Higher Education**

Lack of information concerning effective female leadership traits overall in literature, specifically in higher education, causes a concern for potential female leaders who may need more guidance on how to move forward in their career. As shared by Thomas, Bierema, and Landau (2004), the ACE (2000) report indicated women are underrepresented in higher education chief executive officer positions compared to the ratio of other faculty and senior level positions.

Noteworthy statistics from the White House Project (2009) include:

- Nationally, women are 57 percent of all college students but only 26 percent of full professors, 23 percent of university presidents and 14 percent of presidents at the doctoral degree-granting institutions.
- The number of female presidents has not changed in the previous 10 years.
- Women account for less than 30 percent of the board members on college and university boards.
- Female faculty have not made any progress in closing the salary gap with their male counterparts. In 1972, they made 83 percent of what male faculty made: today they make 82 percent of what male faculty make. (The White House

Project, 2009, p. 10)

As reported by West and Curtis (2006), women, in particular, are undersized in number when examining those prepared to take on executive leadership roles. Data from 2005-2006 to indicated, women made up just 34% of full time faculty at doctoral institutions and 42% at master's/baccalaureate degree granting institutions (West & Curtis, 2006, p 10).

Concurring, King and Gomez (2008) reported women are less likely to be in positions where advancement would place them into senior administrative positions. For instance, only 38% of women were named provost and 36% named as Dean of their (King & Gomez, 2008). In comparison, women were more likely to be named chief of staff (55%) or chief diversity officer (57%) (King & Gomez, 2008). Berkelaar, et al. (2011) agreed, stating a “need for multiple efforts on different fronts to encourage women to develop the skills and abilities necessary for leadership and to encourage their interests in pursuing leadership positions and the path via which they are obtained” as necessary (p. 228). If perceived effective leadership traits for executive female leaders in higher education are not identified, then females may not develop the leadership traits needed to advance, resulting in a continued lack of female promotions and leadership roles in 4-year university settings.

Madsen (2012) opined that “within higher education, leadership development programs and interventions have now reached a critical level of importance” (p. 4). A problem within higher education as a whole, is there needs to be “more individuals prepared to move into leadership roles within organizations around the globe” (Madsen, 2011, p. 134) In addition, Madsen (2012) discussed the effects of the lower number of female leaders in higher education has on the development and progress of the institutions The lack of female

leaders leaves less female role models for those on campus and provides a one-sided perspective to education and educational opportunities. Thomas et al. (2004) suggested higher education institutions were obligated to have an administration which is reflective of its students with regard to gender, race and ethnicity. With that regard, universities should be promoting, developing, and working with females to progress with their career advancement (Thomas, et al., 2004). Madsen (2011) also indicates that other researchers agree more is needed in developing a “strategy toward preparing more women to take on leadership roles and serve successfully in higher education” (p. 134). The way to do this is to increase leadership development efforts. However, Madsen (2011) does not indicate who the researchers are that agree with this assumption.

Madsen (2012) also indicated higher education as a struggling entity with regard to finding “qualified, effective leaders not only to take the helms of their colleges and universities but also to move into other important leadership positions” (p. 4). Part of this challenge is due to the lack of preparedness given to women for those leadership roles (Airini et al., 2011). Airini et al. (2011) conducted an online survey which included 26 female respondents from 8 universities in New Zealand to inquire about significant events (both at work and out of the work environment) that helped or hindered their advancement within the university setting. The method utilized was the Critical Incident Technique which “is a form of interview research in which participants provide descriptive accounts of events that facilitated or hindered a particular aim” (Airini, et al., 2011, p. 48). Five categories were established after analyzing the results from the studies to indicate areas which included: work relationships; university environment; invisible rules; proactivity; and personal



circumstances. Within the category of university environment, participants indicated an area which was unhelpful to them in their career advancement to be: “lack of clarity about what universities are looking for in leaders or who they regard as leaders” (Airini, et al., 2011, p. 54) amongst other statements. With better, more clearly stated standards of what traits help make an effective leader, perhaps females will have a better vision on how to obtain their career advancement goals. Madsen (2012) continued to support the needs for leadership development programs for women in order to prepare them in varying areas of increasing aspirations, developing skills and competencies, and obtaining mentors and coaches.

Yoder (2001) discussed extensively how effective leadership differs between men and women. The point Yoder (2001) wanted readers to understand is gender must be considered when discussed leadership effectiveness, due to the social context in which leadership lies. Yoder (2001) also stated “there is no single formula for making women more effective as leaders, because there is no singular definition of leadership” (p. 825). Again, defining leadership in the context of higher education may help this topic gain momentum in regard to the development of leaders.

Baltodano, et al. (2012) provided two ideas to ensure women advance within their higher education careers. The first was to develop “effective leadership programs.... to better prepare women for the complexity of challenges” (Baltodano, et al., 2012, p. 63) they will face in their careers. The second was for universities to have a system in place to guide women into the open positions that will advance their careers. While there are several leadership development programs available for women, specifically “what remains unknown however is the effectiveness of these programs...” (Thomas, et al., 2004, p. 67). As Airini, et

al. (2011) concurred, “without better knowledge we cannot be sure that approaches being used to enhance leadership are effective” (p. 44). No scholarly data was found which reflects the outcomes of these leadership programs for women leading for women obtaining or harnesses effective leadership competencies.

A sample list of leadership programs designed specifically for women in higher education are:

- Higher Education Resource Services (HERS) [www.hersnet.org](http://www.hersnet.org)
- American Council on Education, National Women’s Leadership Forum  
<http://www.acenet.edu/leadership/programs/Pages/National-Womens-Leadership-Forum.aspx>
- Association of College Unions International, Women’s Leadership Institute,  
<http://www.acui.org/wli/>

As Oakley (2000) indicated, often women have not been given the necessary training to move up the corporate ladder. The “improper tracking earlier in their career” (Oakley, 2000, p. 323) prevents females from being qualified for a promotion. Mentoring young female professionals to make sure they have the proper training, skills, and experience is key to ensuring more women have the opportunity for promotions into leadership arenas.

With the lower number of women leaders in higher education in relationship to male leaders, comes less research on female leadership development and therefore the knowledge potential female leaders need to know to increase their development skills in leadership.

Without specific guidelines on what qualities and competencies to expect in their professional growth, women may continue to lag behind. What can an prospective female in

higher education recognize as effective leadership traits if no standard has been determined?

Appelbaum, Audet, and Miller (2003) pointed out that organizations lose out on a key component when women are not utilized to their fullest extent. Organizations lose the “unique talent and perspective” (Appelbaum, et.al, 2003, p. 43) that come from women. “It has become a ritual of new and aspiring leaders to seek the wisdom of more experienced veterans who might help them find their way to success” (Curry, 2000, p. 20). As leadership roles are earned by more women over time, then prospective women seeking leadership roles may opt to seek out those women who would then be experienced veterans. It is in this vein, effective female leaders need to be abundant in numbers to help future generations of female leaders continue to hold power positions.

Eagly (2007) pointed out that the leadership traits, which females exhibit, such as “transformational and contingent reward leadership” (p. 5), could provide females with a leadership advantage. Female may be more apt to innately hold the traits additionally found in effective leaders, thus making them the perfect candidates for leadership roles (Eagly, 2007). Eagly (2007) discussed leadership effectiveness to be contextual and reviewed qualities normally associated with females (such as communal traits versus agentic traits) and how those qualities are woven into a woman’s leadership identity. It could be possible that females are only found to be effective leaders based on leadership style, which could also be said about males in leadership roles (Eagly, 2007). If specific leadership styles are found to be more effective, females may want to gravitate towards those dispositions in order to be a more effective leader. Determining the effective leadership styles may be advantageous to females hoping to advance in their careers, specifically at higher education institutions.

Yukl (2010) discusses leadership as a difficult term to define based on research conducted and the multiple definitions of leadership provided. Furthermore, Yukl (2010) proposed researchers base their own research on their personal interpretation of leadership thus analyzing different data or yielding various results. Yukl (2010) stated “most definitions of leadership reflect the assumption that it involves a process whereby intentional influence is exerted over other people to guide, structure, and facilitate activities and relationships in a group or organizations” (p. 3). In order to have a definition of leadership in which to work from, Yukl has defined leadership as “the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives” (2010, p 8; 2006, p. 8). Additionally, effective leadership is also a factor which garners subjective tones based on the individual (Yukl, 2010). Rather than define effective leadership, Yukl (2010) refers to indicators which can lead to effective leadership. Effective leadership can be measured by performance and growth of the group, readiness to take on challenges, well-being of staff and co-workers, retention of staff and own position, as well as personal advancement (Yukl, 2006). In addition, factors that could be related to effective leadership are “high energy and stress tolerance, self-confidence, internal location of control orientation, emotional stability and maturity, integrity, motivations, high achievement orientation, and low need for affiliation” (Yukl, 2006, p. 189). Yukl (2010) also indicates there is a challenge with measuring effective leadership without a clear and concise definition or measurement standard. According to Velsor (2008), “leadership development has to do with the development of systemic

processes, collective practices, and organizational cultures that facilitate the emergence of leadership as an outcome of interaction around shared work” (p. 334).

### **Effective Leadership in Higher Education**

Effective leadership has been defined by the American Association of Community Colleges as “a combination of effective management and vision” (p. 2). In 2003, the W.K. Kellogg Foundation allotted the American Association of Community College (AACC) a grant to address the needs of the upcoming vacancies in the community college leadership. What resulted from the grant was a leadership summit with representatives from many states, councils, universities and community colleges who discussed key concepts of leadership traits and skills needed by the community college leader. Surveys were sent to select groups of participants concerning leadership competencies. The end result was a document stating six leadership competencies (organizational strategy, resource management, communication, collaboration, community college advocacy, and professionalism) which were deemed necessary for community college leaders to effectively lead (AACC, 2005).

While the standards for leadership have been established for the community college systems, there is little research given to dictate relevant leadership traits for 4-year institution by which faculty and staff can strive. Research with specific areas of effective leadership competencies with senior level or executive leaders within higher education detailed are from McDaniel (2002), Smith and Wolverson (2010), Spendlove (2007) and Rosser, et al. (2003).

McDaniel (2002) worked with the American Council on Education (ACE) Fellowship program to conceptualize leadership competencies to assist with the programs outcomes and objectives. According to McDaniel (2002), 30 former ACE fellows met to discuss the

characteristics, behaviors, and other areas in which senior leaders in higher education should hold. The list was summarized into a set of leadership competencies that were then given to 100 college university presidents and vice presidents, former ACE fellows and others who held senior roles in relation to higher education areas. The list was reviewed and summarized again to give to the ACE Leadership Commission, who took the suggestions to create a leadership competency list for higher education leadership roles. The list was also broken down into four main areas: context, content, processes, and communication.

Smith and Wolverton (2010) took the previous qualitative study conducted by McDaniel (2002) to reexamine the results to determine if the same four groups of higher educational leadership competencies originally found (context, content, process, and communication) were established again through a quantitative approach. A Higher Educational Leadership Competency (HELIC) Survey was developed by Smith and Wolverton (2010) based on literature, a pilot study, and subject matter experts. The HELIC survey held three sections related to personal information, professional information, and the HELIC inventory which was in the form of a likert scale. The purpose of the study, Smith and Wolverton (2010) stated, was to “actually identify the competencies necessary or important for effective leadership” (p. 64). An online survey was sent to the emails of 971 individuals who held position such as athletic directors, senior student affairs offices, and chief academic offices within the higher education setting. With 295 respondents actually completing the survey, results were analyzed and factor loadings identified. The five main competency categories which resulted from the survey included: analytical, communication, student affairs, behavioral and external relations.

While the main leadership competency categories found varied between the two studies (McDaniel, 2002 & Smith & Wolverson, 2010); differences could be notated by the population by which the studies were conducted. In McDaniel (2002), presidents and senior ranking leaders within higher education were included, while in Smith and Wolverson (2010), those involved in athletics and student affairs were surveyed. The difference in leadership competencies perceived by these two groups could lend itself to show how even different groups within the same organization perceive effective leadership. Neither study mentioned any differences or similarities of findings between gender, public versus private institutional employment, or area of employment (i.e. athletics, student affairs, academics, finances, etc.). Smith and Wolverson (2010) did suggest future research on defining leadership competencies should include “senior executives, including presidents, vice presidents of finance and administration, vice presidents of development and advancement, and legal counsel” (p. 68).

Another study to examine effective leadership competencies was administered by Spendlove (2007). Spendlove (2007) indicated that effective leadership “occurs through the development of individual leaders and that leadership can be added to organizations to improve social and operational effectiveness” (p. 409). While leadership is based on the individual, Spendlove (2007) did suggest it is also convoluted based on the relationships associated with leadership. Spendlove (2007) conducted a study in the United Kingdom to determine the competencies of effective leaders within higher education. Specifically, the focus of the study was on Pro-Vice-Chancellors due to the lack of research focus on those who are a step down from the presidential role. A mixed methods approach was utilized in

the study (Spendlove, 2007), with surveys given to 12 Pro-Vice-Chancellors as well as interviews conducted. The leadership competencies that were quantitatively determined to be ranked the most included: openness; honesty; the need to consult others; the ability to listen; negotiate and persuade; the ability to think broadly /strategically; and to engage with people (Spendlove, 2007). The qualitative process of interviews had competencies emerge to include: credibility, experience, and people skills/human aspects (Spendlove, 2007). Overall, Spendlove (2007), discussed the perception leaders within higher education academics had on leadership was that it was congruent with overall leadership, regardless of the leadership arena. However, the individuals who had worked in professions other than higher education indicated leadership was much different in higher education than in business and the competencies for both would differ. Additionally, Spendlove (2007) suggested the higher education institutions have no strategic plan for developing and/or identifying leadership skills. Spendlove (2007) indicated future research should focus on “building [e.g] a comprehensive, new model of effective leadership in higher education” (p. 415).

Rosser, et al. (2003) wanted to propose a conclusive method to evaluate effective leadership in higher education with regard to deans and directors. While the study is focused on deans/directors, the findings could be relevant to the current study. Rosser, et al. (2003) assessed the leadership effectiveness of deans and directors by surveying 1,950 faculty and staff who reported to 22 deans and directors utilizing leadership effectiveness criteria based from literature. The research conducted also sought to discover how deans influences perceptions of those who reported to them as well as how leadership effectiveness differed between and within groups. The survey items were developed in consultation with a system



wide university committee of leaders. The survey consisted of seven areas: vision and goal setting; management of the unit; interpersonal relationships; communication skills; research/professional/community/campus endeavors; quality of education; and support for institutional diversity with 58 total items to be rated on a Likert scale (Rosser, et al., 2003). A multi-level approach was utilized when analyzing the data. Rosser, et al. (2003) examined responses within groups (faculty and staff responses about their dean) and then between groups among the deans and directors. A structural equation model was utilized by Rosser, et al. (2003) to analyze the data due to the “multilevel constructs” (Rosser, et al., 2003, p. 12) utilized in the leadership effective domains.

Of the seven areas of leadership effectiveness provided in the survey, the area of communication skills was deemed the most effective leadership aspect for the leaders. According to Rosser, et al. (2003), the employees found their deans/directors to be as effective leaders as the deans/directors deemed themselves to be. In addition, Rosser, et al. (2003) found that individual leadership effectiveness is subjective and based on the perception of the individual. Furthermore, Rosser, et al. (2003) determined a group perception was found to be important concerning the leadership effectiveness of their superior, which the researcher felt, should be used to help assess deans and directors during performance evaluations.

While the previous research is useful in finding effective leadership indicators, establishing both combined effective leadership traits for 4-year institutions as well as female leadership could build a lasting impression for prospective female leaders in the higher education field. Opportunities may be available for advancement in higher education for

females, but without the skills and qualifications, they may fail to impress those involved in the hiring process. Once females gain a better understanding of leadership traits which would serve them in the best manner, they can work to enhance those traits and directly affect their leadership status at current or prospective institutions. Establishing effective leadership indicators could also have influence on standards of evaluation processes in higher education. Having a standard in which a review process can be conducted consistently for both genders, would entail a minimum qualification to maintain a position status or be promoted through other opportunities.

### **Significance of Developing Female Leaders in Higher Education**

The significance of the current study has several facets which can be extrapolated, including but not limited to, female leadership development, higher education leadership evaluation, and executive leadership in higher education. According to Madsen (2012), there is little scholarly research and literature in the area of female leadership development. The current study intends to add to the body of literature a realm of leadership competencies which are necessary for women to be effective senior leaders at their institution. Trinidad and Normore (2005) stated “women leaders in education need to find the leadership style that, without denying its feminine origins, result in effectiveness” (p. 579).

Madsen (2011) suggested a current issue revolving around leadership in higher education is that the “world needs more individuals prepared to move into leadership roles within organizations around the globe. One area that needs more investigation is that of developing women leaders” (p. 134). Leadership development plays an integral role in human resource development and in such, has major “implications for career development,

training and development, and organizational development” (p. 134). Therefore, developing leaders, specifically female leaders, in higher education is significant to higher education as a whole. Baltodano, Carlson, Jackson, and Mitchell (2012) agreed, calling the need for leadership development programs for women “imperative” (p. 65).

Madsen (2012) and Madsen, Longman, and Daniels (2012) indicated a lack of scholarly articles that can provide information on higher education in regard to designing leadership skills programs that would be helpful in guiding potential female leaders. While the current research questions could help fill that gap, they could also help guide future research in developing female leadership skills in higher education as well as develop programs specifically designed to do the same. In addition, Madsen (2011) indicated that “HRD, higher education, and leadership scholars and practitioners agree there is still more work to be done and progress to be made in preparing women in academia for positions of influence and leadership” (p. 135).

Airini, et al. (2011) stated “As long as women continue to be underrepresented as role models as teachers, researchers and managers at the higher levels of academia, higher education institutions risk losing women from the sector generally but also risk their competitiveness as they pass over potential leaders who will either fail to be utilized in tertiary education or be absorbed by other sectors” (p. 45). In the same vein, “When we look at where women stand in the leadership ranks of academia, so much more is at stake than the mere numbers of women who have reached the top. The presence — or absence — of female academic leaders can have far-reaching influences not only on the institutions themselves,

but beyond that, on the scope of research and knowledge that affects us all.” (The White House Project, 2009, p. 16).

Nevarez and Keyes (2007) conducted a survey with 88 higher education leaders to determine the impact which professional development had on building or maintaining leadership skills. Of those who participated in the study, 74 felt being on committees helped their leadership skills and 73 felt institutions should provide and finance their leadership training. Overall, 61-66 of the participants ranked leadership institutions, workshops and training at conferences as benefiting them more than leadership certificate programs. Only 43 felt institutional leadership workshops were beneficial. The small sample provided does give some insight to leadership training techniques in which the higher education employees felt were beneficial. While not all areas are necessary for leadership training, universities promoting various forms of leadership training to all employees could benefit both the employee and the higher education system

Nevarez and Keyes (2007) concluded that efficient planning should take place to train future higher education leaders. The suggestion was made to setup a ‘global template of a leadership training plan’ (Nevarez & Keyes, 2007, p. 89) to allow each person or supervisor to adjust the plan as needed. Other suggestions were to build upon other leadership programs, include new updated topics relevant to new trends, and to add topics that get rare attention in training such as finance and budgeting. These suggestions could be applied to higher education at any level, including higher education administrators, but more importantly for purposes of the proposed study, women in higher education.

### **Complexity Leadership Theory**

Leadership theories have evolved over the years, utilizing “social constructivist, critical, and postmodern paradigms” (Kezar, Carducci, & Contreras-McGavin, 2006, p. 31). Leadership theories are broaching the subject of race and gender, more so than in prior decades. Additionally, Yukl (2010) discussed the need for leadership theories which more accurately reflect effective leadership and in essence are more complex than previous leadership theories such as distributed, relational dynamics, and emergent process. According to Kezar et al. (2006), the evolving leadership theories take aim at an environment in which there is no straight forward answer to leadership, leadership definitions, or leadership situations. One environment in which the functionality of leadership is not straight forward is higher education.

Higher education is becoming an increasingly complex environment. With changes to the administrative structure evolving, leadership roles changing due to retirements, and women leaders hoping to bring a new perspective to the atmosphere, higher education lives in a complex world. Within the complex environments, Marion and Uhl-Bien (2001) discussed Complexity Leadership Theory as one that centers on organization effectiveness through enabled leadership efforts.

In regard to higher education research and leadership theories which may apply at the organizational level, women leaders in higher education also need to be considered. Women are looking for the opportunities, developing as leaders, and bring a different perspective.

Complexity theory is the “study of the dynamic behavior of complexly interacting, interdependent, and adaptive agents under conditions of internal and external pressure” (Uhl-

Bien & Marion, 2008, p. 3). Previous to the development of the Complexity Leadership Theory, leadership was viewed as a top down approach (Uhl-Bien & Marion, 2008). With the complexity theory, the authors deemed it important to consider other factors in leadership, which are internal interactions; hence the complexity of leadership. Based originally in the field of science as complexity theory, the Complexity Leadership Theory was developed to “identify and explore the strategies and behaviors that foster organizational and subunit creativity, learning, and adaptability” (Uhl-Bien, Marion, & McKelvey, 2007, p. 299) when involved in complex adaptive systems (CAS). Uhl-Bien, et al. (2007) contrived that past literature focused on leaders as a whole but did not differentiate leaders from leadership. With the Complexity Leadership Theory, the focus is more on leadership and the complex systems that make up leadership. In addition, the Complexity Leadership Theory is a “framework for leadership that enables the learning, creative, and adaptive capacity of CAS in knowledge- producing organizations or organizational units” (p. 304).

The Complexity Leadership Theory is grounded in complex adaptive systems. According to Uhl-Bien et al. (2007), the CAS are a “basic unit of analysis in complexity science” (p. 299). “CAS are changeable structures with multiple, overlapping hierarchies, and like the individuals that comprise them, CAS are linked with one another in a dynamic, interactive network” (Uhl-Bien, et al., 2007, p. 299). Kezar et al., (2006) also summarized Complexity Leadership Theory as indicating leaders can and need to adjust to a changing environment. In addition, Kezar et al., (2006) explained that Complexity Leadership Theory displays leaders as relational and collaborative. When developing the Complexity Leadership Theory, the authors initially utilized the concept of the complex systems personae, which

included the “nature of interactions and interdependencies among agents (people, ideas, etc.), hierarchical divisions, organizations, and environments” (Uhl-Bien, et al., 2007, p. 299).

The Complexity Leadership Theory derives from three leadership perspectives: administrative leadership, enabling leadership, and adaptive leadership (Uhl-Bien, et al., 2007). According to Uhl-Bien, et al. (2007), administrative leadership refers to “leadership grounded in traditional, bureaucratic notions of hierarchy, alignment, and control” (p. 299). The authors wanted to determine the difference between leadership and just managerial positions and view leadership from a lens that was seen throughout an organization, not just a formal role. Therefore, the authors viewed the administrative leadership as the “formal act that serves to coordinate and structure organizational activities” (p. 300). Within Complexity Leadership Theory, administrative leadership is advised by Uhl-Bien, et al. (2007), to “exercise its authority with consideration of the firm’s need for creativity, learning, and adaptability” (p. 306).

Enabling leadership refers to “leadership that structures and enables conditions such that CAS are able to optimally address creative problem solving, adaptability, and learning” (Uhl-Bien, et al., p. 299). Marion (2008), discussed how enabling leaders allows for decision making when unexpected situations occur which generally may be out of the leaders control. In essence, enabling leadership allows the leader to use their critical thinking skills rather than make decisions from a standard operating procedure.

Lastly, adaptive leadership is referred to as “leadership as generative dynamic that underlies emergent change activities” (p. 299). Within the Complexity Leadership Theory, the adaptive leadership considers leadership and leaders to be separate. Specifically, leaders

are referred to as “individuals who act in ways that influence this [emergence, interactive] dynamic and the outcomes” (p. 299). Adaptive leadership was defined by Uhl-Bien et al. (2007) as “emergent change behaviors under conditions of interaction, interdependence, asymmetrical information, complex network dynamics, and tension. Adaptive leadership manifests in CAS and interactions among agents rather than in individuals, and is recognizable when it has significance and impact” (p. 309). Spendlove (2007) suggested “leadership has been shown to be a complex interaction between designated leader and the social and organizational environment” (p. 409).

### **Justification for the theories in the research project**

In regards to the selected theory for the research project, other theories could have been utilized. For example, Kezar et al.(2006), noted theories such as behavior, trait, and contingency sought “to predict an outcome” (p. 32) such as leadership effectiveness. However, the intent of the project is not just to seek out traits or behaviors that will lead to leadership effectiveness. The intent is to engage the perceptions of individuals who not only work in a complex environment, but also are a part of the complex decisions that are made on a daily basis. Allowing for the complexity of the higher education environment to play a role in the perception of effective leadership is integral to the project.

According to Kezar, et al. (2006), complexity theory helps researchers see leadership for the changing nature that is necessary for leadership to develop. In addition, complexity theory helps to keep organizations using concepts such as “partnering, collaboration, local decision making, and globalization” (p. 41) as well as establish new concepts such as “networks and systems thinking” in organizational settings (p. 41). Marion and Uhl-Bien



(2008) discuss that within complexity theory, “patterns emerge within individuals as they make sense of dynamic environments, and these internal patterns guide social interactions leading to the emergence of interpersonal structures that then foster the emergence of meta-structures and so on, until organizations, and even their environments, are fundamentally transformed” (p. 157).

Higher education could be viewed as a complex organization handling so many diverse constituents and areas of expertise. It is only fitting that such complex organizations have leaders, leading effectively. Thus, understanding the Complexity Leadership Theory could help researchers gain a better understanding of the leadership needs in higher education and more specifically how effective female leaders can manage leading such complex organizations.

### **Summary**

Spendlove (2007) assumed, “that more effective leadership occurs through the development of individual leaders, and that leadership can be added to organizations to improve social and operational effectiveness” (p. 409). The issue at hand is not only defining what effective leadership means but what competencies within effective leadership can be standards for those in higher education leadership positions. While leadership development for everyone is significant, it is enhanced for females trying to advance their careers due to the reported inequality based on gender in positions of authority (ACE, 2000; The White House Project, 2009; King and Gomez, 2008). While many factors may attribute to the lack of females in the higher education leadership positions, leadership development is the focus of the current study.

## CHAPTER 3

### Methods

The purpose of this chapter is to discuss the research method, research design, participants, and instrumentation for the study, data collection, and analysis. This chapter will describe in detail the less often used Q Methodology, its background, and justification for use in the study.

A quantitative non-experimental research design utilizing a Q Methodology was utilized with female vice presidents/chancellors employed at 4-year higher education institutions in North Carolina and Maryland to gather their perception of effective leadership indicators. Brown (2004) has discussed Q Methodology as being utilized to determine perspectives on a topic; therefore it appears to be the ideal method to incorporate in the current study.

A stratified purposeful sampling method was utilized according to gender, university employment level, and institutions type (public or private). In addition, a purposeful sample was utilized for the Q sort statements in which participants ranked based on their perception of effective leadership indicators. The sample size for the participants was based on the statements selected for the Q sort concourse. According to van Exel and Graaf (2005) and Brown (2004), it is recommended to have 40-50 statements on the topic being studied, with statement number varying based on the topic. The number of participants should be such that there are four to five statements for each perception (van Exel & Graaf, 2005; Brown, 2004), which would narrow the participant P-set size to a minimum of 10. The four-year higher education institutions in which the participants were derived from include 36 private and 16

public colleges/universities within North Carolina as well as 16 private and 12 public colleges/universities within Maryland.

The study examined the following research questions:

1. When considering others, what leadership indicators do executive female leaders in higher education perceive as effective?
2. When considering self, what leadership indicators do executive female leaders in higher education perceive as effective?
3. What are the highest and lowest rated perceived indicators of effective leaders in higher education items for each factor?

The research questions were developed with the primary goal to conceptualize the perception of female leaders on the subject of effective leadership indicators within higher education.

### **Q Methodology Background**

Q methodology is a research method in which the inherent basis is to find the perceptions, opinions, and beliefs of the participants in the study and henceforth is ideal in research related to conceptualizing the perceptions of effective leadership in higher education from a female point of view. William Stephenson developed the Q Methodology in the 1930's to garner subjectivity in a methodical form (Woods, 2011; Brown, 1997; van Exel & de Graaf, 2005). A Q sort within Q methodology allows the participant to use their own judgment and subjectivity to "interpret each statement in his or her own way" (Danielson, 2009, p. 221). Data is gathered from a P-set based on their opinions which are then "clustered based on similarity of opinion" (Brown, 2004, p. 3).

According to McKeown and Thomas (1988), Q Methodology “defines the distinctive set of psychometric and operational principles which, when combined with specialized statistical applications of correlation and factor-analysis techniques, provide researchers with a systematic and rigorously quantitative means for examining human subjectivity” (p.7). Subjectivity can be hard to measure; however Q Methodology helps to determine factors of which areas can be measured and a quantitative analysis placed up on it – rather than solely a qualitative aspect. In addition, McKeown and Thomas (1988) also stated the purpose of Q Methodology is to “study intensively the self-referent perspectives of particular individuals in order to understand the lawful nature of human behavior” (p. 36).

Militello and Benham (2010) explained how important subjectivity was to experiments which involved human factors. Militello and Benham (2010) discussed that regardless of how controlled a study is with regard to the human participants, subjectivity cannot be controlled. Therefore, allowing the role of subjectivity to play a part in a study would be beneficial to the results. As discussed by Watts and Stenner (2005), Q methodology is an “exploratory technique” (p. 75) and as such “cannot prove hypotheses” (p. 75). In addition, Watts and Stenner (2005) recognized the purpose of Q methodology was to “allow individuals to categorize themselves on the bases of the item configurations they produce” (p. 80). Adams (2000) stated the “strength of Q methodology is precisely that it allows individual responses to be collated and correlated, so as to extract ‘idealised’ forms of discourses latent within the data provided by the individuals involved in the study” (p. 15).

Woods (2011) capitalized on the Q methodology by using it to “capture, compare, and contrast (e.g.) individual perspectives on a specific question within the field of

educational leadership” (p. 318) after finding little research using the Q method in the same field. In regards to leadership, Woods (2011) describe the Q methodology as a positive method to determine “numerically” (p. 332) the opinions of those involved in leadership and leadership development. Additionally, Woods (2011) indicated findings from the Q methodology in a leadership study could be utilized for further development of areas which need to be addressed and are detected within the study.

As summarized by Steelman and Maguire (1999), R analysis is different from Q methodology in the fact that the R looks for “patterns across variables” (p. 3); while the Q methodology seeks to find “patterns of subjective perspectives across individuals” (p. 3). Danielson (2009) discussed Q methodology differing from the standard correlation of R by describing Q methodology as a “standard factor analysis turned on its side” (p. 219) employing a set of statements in the analysis. Adams and Proop (2000) stated “the typical outcome of an R study is a statistical analysis of pre-specified independent categories deemed relevant by the researcher(s), the outcome of a Q study is a more authentic set of factors to explain the attitudes that exist in and among people regarding an issue” (p. 1).

Brown (2004) stated “Q methodology allows researchers to examine the subjective perceptions of individuals on any number of topics. It also helps to identify commonalities and differences in subjective perceptions across a sample group” (p. 1). Brown (2004) went on to discuss the practical application of the Q Methodology as an effective means of following up with participants or conducting further research based on the initial research findings. Brown (2004) further states, “Q methodology is a tool for uncovering perceptions” (p. 17). Rosser, et al., (2003) stated “fundamentally, evaluating leadership in organizations

is not about the attributes the leader has, but about what the leaders is perceived to do (and actually does) in the social context of his or her unit” (p. 17). As the purpose of the current study is to conceptualize perspectives concerning effective leadership indicators amongst executive female university leaders, the Q methodology appears the ideal method to utilize.

### **Q Methodology**

Q Methodology has five basic steps in which to follow to complete a study. Overarching the initial steps is the Q Piece. The Q piece involves developing the concourse, the Q sample, the P-set, and then the Q sort. The last task within Q Methodology is the data analysis which involves the correlations, factor analysis, and factor scores. The Q Methodology steps are described in detail below.

### **Q piece**

#### **Developing the Concourse**

There are two main segments for the Q-methodology, the first is the Q piece, the second, the factor analysis. Within the Q piece, the initial step is the development of the statements (concourse) which the researcher wants the participants to sort (Militello & Benham, 2010). The concourse is considered all possible thoughts or statements about a topic (van Exel & de Graaf, 2005). The researcher determines the concourse for a topic, deciding what is to be considered in the analysis determined by conducting interviews; participant observation (van Exel & de Graaf, 2005), pilot studies (Watts & Stenner, 2005) and focus groups (Brown, 2004). A review of popular literature or scientific literature (van Exel & de Graaf, 2005; Watts & Stenner, 2005) can also be utilized.

### **Q-Sample**

The second step consists of developing the Q-set or Q-Sample. The sample is considered the statements of the concourse. The researcher must then develop 40-50 statement on the topic(s) that is being explored. The goal of the Q-set is to have a broad range of statements for the participants to review (van Exel & de Graaf, 2005) or a “comprehensive, balanced, and representative set of survey items” (Brown, 2004, p. 4). Therefore, it is up to the researcher to select the Q-set which will be utilized in the research. The researcher can determine the statements in a variety of ways both structured and unstructured (McKeowan & Thomas, 1988). Structured Q-samples are when a researcher utilizes an “accepted set of published standards” (Militello & Benham, 2010, p. 624). Watts and Stenner (2005) persist that the research question for a study should be clearly defined prior to the study as the research question guides the Q set. The participants will be asked to read the Q sample statements in relation to the research question.

Statements are then randomly assigned a number by the researcher, for data entry tracking, with the number printed on separate cards (the Q deck) for sorting (when conducting a manual sort rather than a software utilized sort). A sample Q-set is shown in Figure 2.

Item #	In my opinion resource investments should be made in assisting with:
1	data policies
2	emerging privacy legislation
3	emerging security legislation
4	ethical use of software, technology, and data
5	changes in business related standard operating procedures
6	changes in IT related standard operating procedures
7	ADA requirements
8	data sharing
9	prototyping new software solutions
10	technical requirements definition
11	code inspections
12	test program reviews
13	screen design, format, and layout
14	disaster recovery
15	engineering documents
16	technical documentation
17	training investments
18	ROI strategies
19	quality assurance
20	risk management
21	estimating cost and schedule
22	communications and team building
23	visioning/strategic planning and goal alignment
24	contracting and outsourcing
25	auditing and post-mortems

**Figure 2. Sample Q-Set (Brown, 2004)**

### **P-Set**

In the third step, the researcher wants to select their P-Set, or respondents. A P-set is typically smaller than the Q-Set utilized. The goal is to have four to five statements reviewed by any one respondent (van Exel & Graaf, 2005; Brown, 2004). The P-Set should be carefully selected as to who the respondents should be. The researcher will want to gather together a group of respondents who will have a vested interest in the topic and be educated in the topic area based on their own subjectivity. The priority with the P-Set is the individuals in the group and who they are, rather than the number of total individuals. Watts



and Stenner (2005) imply that the number of participants in a Q study does not have to be high, as the goal is to gain perception from a specific group on the topic in question.

According to Stephenson (2009), a P-set is created by “seeking out individuals on the basis either of their importance or the likelihood that they will provide a perspective that differs from the perspective of other participants” (p. 222).

### **Q Sort**

Q sorting is the fourth step of the Q Methodology. According to Militello and Benham (2010), Q sorts are the “participate process of discerning actual actions, accomplishments, limitations, and beliefs” (p. 623). In addition, Brown (1996; 2007) describes Q sorting as a way for a participant in a study to rank-order statements based on the instructions given by the researcher (condition of instruction). With each card in the Q-set having 1 statement each, the P-set should be given instructions on the rankings the cards can be given. Since the Q Methodology is based on subjective purposes, the instructions should include a statement to indicate the P-set should utilize their own point of view and there is no right or wrong rankings. The P-set should rank the Q-set statements based on where the individual believes the statement should fall.

The ranking scale listed in the conditions of instruction is based on the researchers needs; however it should be a continuum from negative to positive. For instance, the rankings could be positive five to negative five or highly unlikely to highly likely. Figure 3, indicates an example of a score sheet in which a P-set may utilize to conduct the Q sort. Figure 4 indicates a Q sort for a specific respondent in relationship to the Q-sample responses.

RESPONDENT NUMBER: \_\_\_\_\_ NAME: \_\_\_\_\_

	← MOST DISAGREE								→ MOST AGREE
	1	2	3	4	5	6	7	8	9
	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>
	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>
		<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	
			<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	
				<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	
					<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	
						<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	
							<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	

DISAGREE COUNT: ____
NEUTRAL OR NOT RELEVANT COUNT: ____
AGREE COUNT: ____

**Figure 3. Sample Ranking Sheet for Q sorting (van Exel & de Graaf, 2005)**

-4	-3	-2	-1	0	+1	+2	+3	+4
5	15	9	19	3	7	2	17	1
6	25	10	22	4	21	14	23	28
	31	11	26	12	24	33	18	
		16	29	13	27	8		
			32	20	30			

**Figure 4. Q-sample Rankings from One Respondent (Brown, 2004)**

The distribution curve of the rankings can be deep in breadth or small, based on topic of interest. The distribution curve can also be determined by the researcher based on the condition of instructions as set forth by the researcher. In essence, a researcher could

determine if they would prefer to have a normal distribution curve, where all ranking categories are utilized; forcing the participants to place statements into each category (Brown, 1971). If the condition of instructions indicates a free sort; the participant is free to rank statements in as many or as few ranking columns as they deem necessary (Brown, 1971). Brown (1971) conducted a study which, by the end, concluded the forced or free sort technique may not matter; as the “factor types in Q-technique studies will be considerably more influenced by ordering preference than they will be by distribution preference” (p. 286). Watts and Stenner (2005) agreed with assessment that forced or free distribution would have little to no effect on factors and pointed out that forced distribution may create less work for the participant as well as the researcher when analyzing results.

van Exel and de Graaf (2005) suggested researchers may want to conduct the Q sort into two sections after shuffling the cards for distribution. The P-set may initially be instructed to take the cards and divide them into three stacks of positive, negative, and neutral thoughts. A pre-phase Q sort could help the P-set to organize their thoughts in a more constructive manner. Once the pre-phase Q sort is set, the P-set can take the three stacks of cards and place them in the Likert scale given to them by the researcher for the specific ranking.

After the rankings are completed by the P-set, van Exel and de Graaf (2005) as well as Watts and Stenner (2005) suggested conducting an interview with the Q set for follow up. Brown (2004) indicated utilizing the qualitative approach within the Q Methodology helps the researcher determine “how and why people think the way they do” (p. 1). The qualitative aspect of interviews could provide additional insight to the rankings which could assist with

the factor analysis which will be conducted. In addition, van Exel and de Graaf (2005) suggested conducting the rankings with the P-set face-to-face rather than by mail or other form.

### **Correlation, Factor Analysis, and Factor Scores**

Once the rankings are complete by the entire P-set, the analysis of the collected data can take place. According to Watts and Stenner (2005), a “by-person correction and factor analytic procedure” (p. 80) is utilized within Q methodology. A correlation matrix of all Q sorts is calculated to give the levels response category. The initial matrix “reflects the relationship of each (Q sort) configuration with every other (Q sort) configuration (not the relationship of each item with every other item)” (Watts and Stenner, 2005, p. 80). Brown (1993) indicated the correlation matrix is not utilized, other than a pathway to knowing which areas represent the factors. According to Woods (2011) the correlations brings about a “set of factors” (p. 325) related to the concourse of interest. For example, participants in the study who “load onto the same factor will have created very similar item configurations” (Watts and Stenner, 2005, p. 80).

The rankings are then utilized in a factor analysis by grouping the Q sorts by similarity to each other. Therefore, the information is based on the topic and the statements from the Q-set rather than the respondents themselves. The factors for the factor analyses represent clusters. Factor analysis then can describe commonalities concerning high and low priorities within the loadings.

In the factor analysis, the researcher can determine the factor score for each statement by reviewing the loadings for each Q sort. Q methodology utilized a rotation when

conducting a factor analysis. The varimax is the most common rotation utilized with the Q Methodology (McKeown & Thomas, 1988; Brown, 2004; Watts & Stenner, 2005).

“Rotation is only performed to shift the perspective from which the factors are viewed and analyzed” (DeWeese, 2012, p. 54). Once the rotation is utilized in the factor analysis, the researcher will continue as normal, checking the eigenvalues, variance, and residuals for the loadings. If more factors are needed, the analysis can be run again to allow more factors to be added into the rotation. As discussed by van Exel and deGraaf (2005), the “final factor represents a group of individual points of view that are highly correlated with each other and uncorrelated with others” (p. 9).

In order to interpret the factors, factor scores and difference scores should be calculated (van Exel & de Graaf, 2005). The factors are translated into z-scores. Once factor scores are determined, a final result can be deduced and described by the researcher. The researcher can interpret the factor scores for each Q-sample based on the research topic discussed. According to van Exel and de Graaf (2005), reviewing the factor scores can help a researcher find whether factors are significantly different. The researcher must look at the difference score, which is the “magnitude of difference between a statement’s score on any two factors” (van Exel & de Graaf, 2005, p. 9), to determine if the statement’s score is higher than the difference score (a distinguishing statement). When statements are “not distinguishing between any of the identified factors [it] is called a consensus statement” (van Exel & de Graaf, 2005, p. 10). van Exel and de Graaf (2005) continue to discuss factor scores and difference scores are the areas in which a researcher will want to focus on within the data interpretation. In addition, the distinguishing and consensus statements “can be used

to highlight the differences and similarities between factors” (van Exel & de Graaf, 2005, p. 10). Watts and Stenner (2005) warns researchers to not dismiss neutral areas as loadings which indicate neutrality could be significant when reviewing interview answers or individual comments.

### **Definitions for Q Methodology Terms**

*Concourse* – “A list of items serving as candidates for inclusion in the Q sort. It can take the form of questions, statements, pictures, etc.” (Brown, 2004, p. 18)

*Condition of Instruction* – instructions provided by the researcher given to the participants on how to consider the statements and complete the Q sort.

*Factor* – “The cluster of respondents whose Q sorts were statistically similar” (Brown, 2004, p. 18).

*Factor Loadings* – “Each respondent’s correlation with each of the identified clusters or factors.” (Brown, 2004, p. 18).

*P-Set or Sample* – “It is a structured sample of respondents who are theoretically relevant to the problem under consideration” (van Exel & de Graaf, 2005, p 6)

*Q-Set or Sample* – “is the collection of ‘heterogeneous items’ which the participants sort” (Watts & Stenner, 2005, p. 74).

*Q sort* - “Each respondent’s rank ordered set of perceptions.” (Brown, 2004, p. 18).

### **Q Methodology and Female Leaders in Higher Education**

Brown (1996) suggested the purpose of Q methodology was to “reveal subjective structures, attitudes, and perspectives from the standpoint of the person or persons being observed” (p. 3). Brown (2004) suggested Q methodology has been used to “identify

potential areas for research or action” and is a “tool for uncovering perceptions” as well as “offering insight” (p. 17). As female leadership in higher education has been a difficult topic to find scholarly research when trying to identify effective leadership traits; Q methodology would be extremely relevant to use in a starter study to determine the perception of what effective leadership traits are in females, by those in the area being studied. In addition, no research has been found to combine Q methodology with women in higher education, more specifically with regard to effective leadership. Therefore, a new perspective could be found to contribute to both the Q Methodology research as well as women’s leadership. While Q methodology “makes no claim to have identified viewpoints that are consistent within individuals across time” (Watts & Stenner, 2005, p. 85), Q methodology could be used as a guide to find greater insight to female leadership in higher education. A study to determine perception of effective leadership traits in executive female leaders in higher education could provide factors which are relevant to the group studied. In addition, a second Q study to determine if those same individuals utilize the very indicators they perceived as effective could provide even greater insight by merging the data and factors from both studies in the interpretation of results. The results from the consensus statements as well as the distinguishing factors could provide a springboard for future research on women leaders in higher education in areas related to leadership development, training and development, or mentoring of young professional females on a leadership track, just to name a few.

### **P-Set**

For purposes of the current study, female vice-presidents/chancellors employed by regionally accredited higher education institutions in North Carolina and Maryland during

the spring, summer, and fall 2013 semesters were included. As the researcher lives and is employed in North Carolina, the opportunity to begin the research study seem plausible. In addition, with the North Carolina public higher education system set up to have a President oversee all public 4 year institutions and individual Chancellors to oversee each institution, several layers of leadership to run each university was assumed. Maryland's higher education institutions were examined for a similar structure to the North Caroline system. Maryland's public 4-year higher education institutions have a Board of Regents who oversees the Chancellor who is responsible for the university system as a whole. In addition, each individual institution has a President. As North Carolina and Maryland appear to operate similarly, the depth of leadership is assumed to be similar, thus allowing the researcher to gain participants from both states.

In order to determine the females who would qualify to participate in the study, the researcher gathered information from school websites and academic bulletins. Information gathered included name, school, position title, type of school (public or private), email and phone number. The position titles were limited to those with "Vice-President" or "Vice-Chancellor" as the primary or first position in the title for consistency purposes. For example, those with titles such as "Provost and Vice-President/Chancellor" were not selected as potential participants as the "Vice" position is not viewed as the primary part of the position. Potential participant information was collected who were deemed female Vice-President/Chancellor from North Carolina (N = 70) and Maryland (N =47). Once all data has been collected and reviewed to ensure all possible participants have been listed, the researcher utilized the list randomizer located on [www.random.org](http://www.random.org). The list randomizer



allowed the researcher to copy and paste the list of names into the site and generate a random order by which the list can be utilized. The researcher generated a random list order separately for both private and public institution potential participants.

Once a finalized random list was organized, the first 10 potential participants from both the public and private lists in North Carolina were contacted via email. The initial contact email to the participants (Appendix E) explained the intent of the study and requested their participation. The email contained the link to the study which was explained could take 45 minutes to 1 hour to complete. As participants completed the study, the researcher monitored participation for two weeks. As more participants were needed, the researcher returned to the file in which data was saved from the North Carolina universities and randomly selected the next set of potential participants needed to fulfill the minimum P-set. The process repeated every 2 weeks, with 10 potential participants invited each round to take part. With second round invitations and beyond, a letter invitation was mailed out by United States Postal Service mail (Appendix F). Within 5 days of the invitation letter mailed, a follow up email was sent to the same participants (Appendix G).

Based on the previous discussion of the optimal Qsort to hold one perception for every four to five statements, the researchers aim was to enlist 15 participants based on the final Qset of 61 statements. Once the potential participants from North Carolina had been exhausted and the researcher had not yet recruited 15 participants, Maryland was the next optional choice in which state to derive participants.

The same system was arranged in determining the potential participant list and contact information via Maryland's private and public four year regionally accredited higher

education institutions. Again, the same system was utilized to contact the potential participants as with the North Carolina set. At the end of the requests for participation, the minimal number of participants had completed the study. With 35 private colleges and 15 public colleges with regional accreditations in North Carolina and 16 private/12 public in Maryland, the final sample size included 18 for the first qsort (Qsort1) and 15 for the second (Qsort2).

### **Instrumentation**

The FlashQ software was utilized in the current study through the website [www.qsortonline.com](http://www.qsortonline.com). “FlashQ is a user friendly Flash application for performing Q sorts online.” (<http://www.hackert.biz/flashq/faq/>). FlashQ is a complimentary tool which was utilized to input statements, enroll participants, and collect the data. The website in which the FlashQ study was located is <http://qsortonline.com/qsort/CELIAUFL/>.

The process to create the concourse began through a search of scholarly research articles to determine effective leadership indicators which include competencies, skills, traits, and behaviors of senior leaders in higher education (Mcdaniel, 2002; Leslie & Fleenor, 1998; Spendlove, 2007; Smith & Wolverton, 2010; Rosser, Johnsrud, & Heck, 2003). After reviewing the literature, a total number of 192 statements were determined to be applicable (Appendix C). Each article utilized also provided their own themes for which their resulting traits were staged. While each article utilized different titles or themes for these areas, the researcher subjectively combined themes to create a more uniform list of traits. The resulting final themes were based from the theoretical framework of the Complexity Leadership Theory; enabling, administrative, and adaptive leadership.

Once similar themes were established, statements were reviewed for duplication and removed if found. A final process was conducted on the statements to determine if any were redundant in nature and could thus be combined or removed from the list. A working concourse of 61 statements was deemed relevant and appropriate for the current study (Appendix D). In addition, a ranking sheet (Figure 5), using a Likert Scale of -5 to +5 was created for participants to force rank the statements. Participants were asked to complete two Qsorts. Qsort1 requested participants indicate the areas they perceived the statements to fall based on their observations, interactions, and assessments of university leaders they have worked with. Qsort2 requested participants indicate the areas they perceived the statements to fall based on their perception of their own leadership in higher education.

Least Effective Leadership Indicator (-5)			Neutral (0)				Most Effective Leadership Indicator (+5)			
-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5
3 cards										3 cards
	4 cards									4 cards
		5 cards								5 cards
			6 cards							6 cards
				8 cards						8 cards
					9 cards					

**Figure 5. Ranking Sheet**

## **Data Collection and Analysis**

The instrumentation, FlashQ, had the concourse statements uploaded to the website, [www.qsortonline.com](http://www.qsortonline.com). Once the final draft was prepared on the website with final instructions (Appendix H), the recruitment of participants began, as described earlier. When participants elected to partake in the study, they could access the instructions and complete the survey.

In addition to the survey instrument itself, additional information was collected from the participants. Participants were asked to provide information on gender, age, position title within their institution, institution type, number of years in the current position, number of years in higher education overall and the Carnegie classification of the institution in which the participants were employed (Appendix I). Participants were specifically instructed to record only their position title without naming the institution in which they were employed in the hopes of maintaining anonymity.

## **Summary**

The purpose of this chapter was to provide an introduction to the methodology of Q as well as the details as to how this study was constructed and delivered. The purpose of this study was to identify perceived effective leadership in vice-president female leaders by examining the indicators of effective leadership. Utilizing executive female leaders to understand their perception of what effective leadership is as well as their personal belief on traits that exemplify effective leadership is the first step in gaining a better grasp on this complex leadership topic. As Q Methodology does not require a large sample population to

participate and is equipped for handling perceptions and beliefs, this chapter further justified its use in the current study.

## CHAPTER 4

### Results

This chapter will include a presentation of the data to answer the research questions. To seek to answer the research questions, participants were asked to complete two Q sorts. The first Q sort had the participants sort the concourse items based on their perception of effective leadership indicators in others they have worked with in higher education, either male or female. During the second Q sort, participants were asked to rank the same statements again, however thinking of their own leadership indicators that guide them. Q methodology is used to garner common perceptions amongst groups and thus allows the researcher the latitude to articulate the themes which develop from the sorts. In addition, the Q sort conducted by the participants allow for individual judgment or perception in which a participant has on a given topic. The Q sort allows the participant the opportunity to conceptualize their perceptions on a topic in a rank order that follows a preset distribution. This chapter includes the pre-data analysis, a description of the participants demographic information gathered from post-sort questions, correlations between sorts, factory analysis details, specifically items ranked highest and lowest in each sort, factor arrays and factor interpretation. Once the factors were extracted, themes were developed based on the statements which ranked high and low for each factor. The themes were derived from the three areas discussed in the Complexity Leadership Theory: Adaptive; Enabling; and Administrative leadership.

### **Overview of Analysis**

The instrument, PQMethod (Schmolck, 2002), was utilized to analyze the data.

PQMethod software is designed to analyze data specifically for Q Methodology studies.

Data from the two sorts, as well as the rank data submitted by the participants were manually

entered into PQMethod. Once data was entered, analysis was conducted by the software

including the correlation matrix, factor analysis, calculation of factor scores, arrays and Z-

scores, distinguishing statements and rankings, as well as factor characteristics. The first step

in the analysis of the data is the correlation matrix. The correlation “provides a measure of

the nature and extent of the relationship between any two Q sorts and hence a measure of

their similarity or otherwise” (Watts & Stenner, 2012, p. 97). The next step, factor analysis,

“tells us how many different families (factors) there are” (Brown, 1991, p. 16) in the data.

The factor loadings that are derived from the factor analysis “indicate the extent to which

each Q sort is similar or dissimilar to the composite factor array” (Brown, 2004, p. 6).

According to Watts and Stenner (2012) a Centroid Factor Analysis is the preferred factor

extraction method for Q methodology and was performed on the current study to extract two

factors. Both Q sorts held a significance level ( $p < .01$ ) of  $\pm .33$  by utilizing the formula for

significant factor loadings,  $2.58 \times (1 / \sqrt{N})$ , where N is the number of statements in the Q set

(61) or  $2.58 \times .128$  as outlined by Stephen Brown (as cited in Watts & Stenner, 2012).

Originally, factors of three and four were tested; however two factors appeared to be the most

ideal to continue with based on the significant factor loadings.

The factor analysis included a varimax rotation, to providing a shift in the perspective

to “improve the interpretation by reducing some of the ambiguities” (Hair, Black, Babin,

Anderson, & Tatham, 2006, p. 126). Additional Hair, et al. (2006) explain varimax rotation as an option when “the research goal is data reduction to a ... small number of variables (p. 127). The varimax rotation is preferred over the quartimax rotation based on its ability to make better distinctions between the factors (Hair, et al., 2006). According to Watts and Stenner (2012), the varimax rotation ensures that each Q sort loads highly on one of the factors. The varimax rotation finds the best solution for each sort to be placed on each factor with reference to the variance as well. In addition, the varimax rotation looks for the “majority viewpoints of the group” (Watts & Stenner, 2012, p 125). Both Q sorts were analyzed using the varimax rotation.

The final step includes the calculation of factor scores and factor arrays. As the sorts are completed by participants with varying viewpoints, it is difficult to make a comparison of sort rankings when the perceptions are relative to only the statements the participant is interpreting. Therefore, the factor scores are transformed into z scores in order to standardize them. The z scores are then listed as a factor array for each Q sort. “A factor array is, no more or less than a single Q sort configured to represent the viewpoint of a particular factor” (Watts & Stenner, 2012, p. 140). The factor arrays help the researcher determine the interpretation of the Q sorts and the perception of the participants. The same data analysis steps were conducted for the first and second qsorts separately. Following the software analysis of the Q sorts, questions which were given post Q sort were analyzed to provide a stronger viewpoint of the factor loadings. Once factor groups were extracted for each sort, themes were developed based on the statement loadings for each factor groups. The



remainder of the current chapter will detail each step of the factor analysis, results, as well as themes which developed for both Qsort1 and Qsort2 separately.

### **P Set Demographics**

The participant set (n=18) for the first Q sort, based on effective leadership traits they have viewed in others they have worked with in higher education, included 15 (83.34%) who included demographic information. Of the 18 who completed the first Qsort, 17 (94.44%) completed it online and 1 (.06%) completed it via the traditional paper format. The ages of the participants ranged from 34-66 with the average age being 53.9 (sd = 9.33). The years employed in their current position ranged from 1 – 20 years, with the average position time being 5.93 years (sd = 5.60). The women worked in higher education overall for a minimum of 1 year and a maximum of 38 years, with the average employment being 17.21 years (sd = 12.68).

The titles of the executive female leaders who participated in the first Qsort are specified in Table 1. Often Campus Life, Student Life and Student Affairs are considered an equivalent area amongst many in higher education, therefore the participants with those titles are grouped together. As noted, two participants did not list their specific division within their title, but only “Vice President”. A range of leadership areas in higher education participated. The type of institution (private/public), as well as the Carnegie Classification of the institutions where the participants are employed is detailed in Table 2 and 3, respectively. The majority of participants (n = 10) work at private institutions while a smaller number (n = 7) work at public institutions. One participant did not disclose the type of institution they were employed by. The Carnegie Classification of the institutions where the

participants worked held a range of classifications, with Baccalaureate College – Arts and Sciences and Master’s Colleges and Universities (smaller programs) each having the largest number of participants (n = 4). Three participants did not disclose which classification their institution were categorized as.

Table 1

*Number and Percent of Participants for First Qsort by Position Title*

Title	Number	Percentage
VP of Human Resources	1	5.5%
VC Advancement	1	5.5%
VC for Research & Economic Development	1	5.5%
VC, Division of Information Technology	1	5.5%
VP	2	11.1%
VP for Business and Finance	1	5.5%
VP for Campus/Student Life/Affairs	4	22.2%
VP for College Programs	1	5.5%
VP for Federal Relations	1	5.5%
VP for University Affairs	1	5.5%
VP of Academic Affairs and Academic Dean	1	5.5%
Unknown	3	16.7%

Table 2

*Number and Percent of Participants for First Qsort by Employing Institution Type*

Institution Type	Number	Percentage
Private	10	55.56%
Public	7	38.39%
Unknown	1	0.06%

Table 3

*Number and Percent of Participants for First Qsort by Carnegie Classification of Employing Institution*

Carnegie Classification	Number	Percentage
Baccalaureate College – Arts & Sciences	4	22.22%
Baccalaureate Colleges – Diverse Fields	1	5.56%
Doctoral/Research Universities	1	5.56%
Master’s Colleges and Universities (larger programs)	2	11.11%
Master’s Colleges and Universities (medium programs)	1	5.56%
Master’s Colleges and Universities (smaller programs)	4	22.22%
Research Universities (high research activity)	2	11.11%
Unknown	3	16.70%

The participant set for the second Q sort (Qsort2) (N=15) completed the study based on effective leadership indicators they see in themselves. The participants completed the exact same sort; however were asked to consider the statements based on how each one would rank based on their own effective leadership, rather than others, which was previously considered. Of the 15 who completed Qsort2, 14 (93.33 %) completed it online and 1 (.07%) completed it via paper. The ages of the participants ranged from 34-66, with the average age being 53.93 (sd = 9.33). The years employed in their current position ranged from 1 – 20 years, with the average time being 5.93 years (sd = 5.60). The women worked in higher education overall for a minimum of one year and a maximum of 38 years, with an average of 17.21 years (sd = 12.68)

The titles of the executive female leaders who participated in Qsort2 are specified in Table 4. Campus Life, Student Life and Student Affairs were considered the equivalent areas amongst many in higher education; therefore the participants with those titles were grouped

together. As noted, two participants did not list their specific title, but only “Vice President”. A wide range of leadership areas in higher education participated. The type of institution (private/public), as well as the Carnegie Classification of the institutions where the participants from Qsort2 are employed is detailed in Table 5 and 6, respectively. The type of institution (private/public), as well as the Carnegie Classification of the institutions where the participants are employed is detailed in Table 2 and 3, respectively. The majority of participants (n = 9) work at private institutions while a smaller number (n = 6) work at public institutions. The Carnegie Classification of the institutions where the participants worked held a range of classifications, with Baccalaureate College – Arts and Sciences and Master’s Colleges and Universities (smaller programs) each having the largest number of participants (n = 4).

Of the 18 participants who completed the first Qsort, 15 completed the second. Several participants communicated with the researcher that time was a factor on completing the second Qsort or they thought they could save the study and return at a later time to complete the second Qsort. In addition, the three who did not complete the second Qsort, also did not complete the demographic questions.

Table 4

*Number and Percent of Participants for Second Qsort by Position Titles*

Title	Number	Percentage
VP for Campus/Student Life/Affairs	4	26.67%
VP	2	13.33%
VP of Human Resources	1	6.67%
VC Advancement	1	6.67%
VC for Research & Economic Development	1	6.67%
VC, Division of Information Technology	1	6.67%
VP for Business and Finance	1	6.67%
VP for College Programs	1	6.67%
VP for Federal Relations	1	6.67%
VP for University Affairs	1	6.67%
VP of Academic Affairs and Academic Dean	1	6.67%

Table 5

*Number and Percent of Participants for Second Qsort by Employing Institution Type*

Institution Type	Number	Percentage
Private	9	60%
Public	6	40%

Table 6

*Number and Percent of Participants for Second Qsort by Carnegie Classification of Employing Institution*

Carnegie Classification	Number	Percentage
Baccalaureate College – Arts & Sciences	4	26.67%
Master's Colleges and Universities (smaller programs)	4	26.67%
Research Universities (high research activity)	2	13.33%
Master's Colleges and Universities (larger programs)	2	13.13%
Baccalaureate Colleges – Diverse Fields	1	6.67%
Doctoral/Research Universities	1	6.67%
Master's Colleges and Universities (medium programs)	1	6.67%

## **Analysis for Perceptions of Effective Leadership Indicators in Others (Qsort1)**

### **Correlations Between Sorts: Qsort1**

The correlation matrix between sorts was produced to compare each individual Q sort to each of the other sorts in the study. Correlations of +1.00 have a perfect positive relationship while correlations of -1.00 have a perfect negative relationship. Sorts which have a correlation of near zero have little to no relationship to each other. As shown in Table 7, Qsort1 produced 153 correlations amongst each other with the strongest positive correlation at .58 between sorts 8 (32 year old with 34 years in higher education, 11 in their current position at a private institution) and 14 (60 year old with 15 years in both higher education and in their current position at a public institution); indicating these participants ranked statements in a more similar manner than any other combination of participants.

The strongest negative correlation produced by Qsort 1 was at -.23 between sorts 4 (did not respond to age and experience questions) and 13 (61 year old with only 1 year in both higher education and their current position at a public institution). The strongest negative correlation indicates these participants disagreed on the most statements as compared to any other combination of participants. Little to no relationship was found between sorts 9 and 13, 14, 15 (-.02, .01, and .01 respectively) as well as between sorts 4 and 7 (-.03) and 2 and 4 (-.03). Of note, sort 4 had a negative correlation with 15 out of the 17 sorts, meaning participant 4 disagreed with 15 other participants for the majority of the statement rankings.

**Factor Analysis: Factor Rotation Qsort1**

As previously mentioned, the factor analysis included a Centroid Factory Analysis extraction with a varimax rotation. As a result of the factor analysis, two factors were extracted. The two factors for Qsort1 explained the variance (35%) for 12 of the 18 sorts based on the significant loadings ( $p < .01 = \pm .33$ ) as previously calculated. Of the 18 sorts, 6 significantly loaded on each of the 2 factors. Group 1 included sorts 2, 5, 6, 10, 11, and 17 with a variance of 19%, and an eigenvalue of 3.42, while Group 2 included sorts 1, 3, 7, 8, 14, and 16 with a variance of 16% and an eigenvalue of 2.88. Of the six remaining sorts, four were confounded, or cross-loaded significantly loaded on both factors, and two were non-significant ( $p > .01 = \pm .33$ ). The sorts which were confounded or non-significant were not flagged to remain in the analysis. Table 8 indicated the loadings for each factor per sort.

Table 7

*Correlation Matrix of all Sorts for Qsort1Participants*

Sort	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	--	.21	.38	-.16	.33	.41	.36	.39	.23	.31	.32	.46	.56	.47	.33	.35	.26	.41
2		--	.29	-.03	.33	.49	.16	.31	.19	.26	.44	.28	.26	.27	.29	.32	.57	.38
3			--	.08	.26	.19	.30	.28	.10	.22	.29	.27	.22	.33	.30	.08	.18	.30
4				--	-.07	-.31	-.03	-.19	.18	-.07	-.08	-.10	-.23	-.12	-.08	.05	-.10	-.18
5					--	.43	.14	.36	-.13	.45	.45	.44	.31	.51	.24	.31	.33	.40
6						--	.30	.34	.24	.48	.56	.30	.38	.35	.39	.30	.55	.52
7							--	.30	.19	.28	.41	.21	.38	.38	.40	.09	.34	.34
8								--	.05	.20	.21	.34	.33	.58	.48	.47	.34	.54
9									--	.06	-.04	-.07	-.02	.01	.01	.19	.15	.09
10										--	.36	.36	.27	.29	.43	.21	.31	.41
11											--	.37	.47	.30	.33	.08	.34	.43
12												--	.35	.47	.29	.23	.24	.45
13													--	.44	.26	.28	.26	.49
14														--	.44	.47	.29	.46
15															--	.28	.34	.33
16																--	.22	.33
17																	--	.42
18																		--

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



Table 8

*Factor Loadings, Position Title, and Age for Qsort1 Participants*

Sort	Position Title	Age	Group 1	Group 2
6	VC- Student Affairs	59	.77	
11	Unknown	-	.62	
5	VC – Information Technology	64	.58	
18	VP – Student Life	43	.57*	.46*
17	VP – University Affairs	57	.56	
2	VP – Business & Finance	54	.54	
10	VC – Research and Economic Development	58	.52	
13	VP – Federal Relations	61	.44*	.41*
12	VP	50	.43*	.35*
15	VP	41	.35*	.46*
1	VP – Student Life	52		.67
14	VP – Human Resources	60		.67
8	VP – Academic Affairs and Academic Dean	66		.59
7	VP – College Programs	59		.49
16	Unknown	-		.46
3	VC – Advancement	34		.38
9	VP – Campus Life	47		.20 <sup>#</sup>
4	VC – Student Affairs	-		-.01 <sup>#</sup>

*Note.* \*Confounded (Cross-loaded) sorts; # non-significant factor loadings,  $p > \pm .33$

### **Factor Arrays for Perceptions of Effective Leadership Indicators in Others (Qsort1)**

The factor arrays were produced and thus allowed themes to be generated. Table 9 displays the factor arrays for both factors with all 61 statements. The anchor statements (those with a +5 or -5 placement) in the factor arrays indicate what is perceived as the most effective and least effective leadership indicators in others, according to the 18 participants. Participants from group 1 ranked statements 14 (*Demonstrates vision and long-range planning through objective analysis, thinking ahead, and planning*), 57 (*Demonstrates ability to diplomatically engage or negotiate controversial issues*), and 59 (*Listens and observes,*

using frameworks to analyze and ask right questions in complex situations, understanding the interconnectedness of issues and problems as well as emerging trends related to higher education) as the top effective leadership indicators they have perceived in others. On the contrary, participants from group 2 ranked their top three effective leadership indicators as 29 (*Acts with honesty*), 30 (*Treats individuals fairly and with respect*), and 22 (*Holding high expectations for self and others; pushing self and others to achieve at high levels*).

Statements ranked in the lower area of the least effective leadership indicators by group 1 were 13 (*Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk*), 46 (*Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression*), and 49 (*Building commitment by convincing others and winning them over to self-point of view*). Similarly, group 2 participants also ranked 13 and 46 in the same lower ranking, adding statement 36 (*Emphasizing the importance of making decisions independently; looking to self as the prime vehicle for decision making*) to the list. Between group 1 and group 2 participant rankings, four statements were given rankings that were separated by five or more categories.

Statement 14 (*Demonstrates vision and long-range planning through objective analysis, thinking ahead, and planning*) was ranked in the highest most category of +5 from group 1, while group 2 placed the statement in a neutral 0 ranking. Statement 47 (*Relates well with members of governing board and accrediting agencies*) was ranked in +3 from group 1 and -2 from group 2. Statement 16 (*Facilitates effective communication with those with multiple perspectives while collecting their input as part of the decision*) had a wider difference, +3 to -3 from group 1 to group 2. The largest difference of rankings was given to statement 22

(*Holding high expectations for self and others; pushing self and others to achieve at high levels*), -2 to +5 from group 1 to group 2.

Table 9

*Factor Arrays for Each Statement Ranked by Participants in Qsort1 Shown by Factor Groups*

Number	Statement	Group 1	Group 2
14.	Demonstrates vision and long-range planning through objective analysis, thinking ahead, and planning	5	0
57.	Demonstrates ability to diplomatically engage or negotiate controversial issues	5	3
59.	Listens and observes, using frameworks to analyze and ask right questions in complex situations, understanding the interconnectedness of issues and problems as well as emerging trends related to higher education	5	2
6.	Advances the unit's programs effectively by articulating the strategic goals of the unit	4	1
29.	Acts with honesty	4	5
55.	Makes decisions that are consistent with institutional goals	4	4
56.	Knows and applies principles of finance and budgeting; leveraging resources for maximum benefit	4	0
12.	Being willing to take risks and to consider new and untested approaches.	3	0
16.	Facilitates effective communication with those with multiple perspectives while collecting their input as part of the decision	3	-3
30.	Treats individuals fairly and with respect	3	5
47.	Relates well with members of governing board and accrediting agencies	3	-2
53.	Demonstrates understanding of issues related to academics, administration, and processes	3	-1
7.	Advances the unit's programs effectively communicating clearly the strategic goals of the unit	2	2
10.	Feeling comfortable in fast changing environments	2	-2

Table 9 Continued

15.	Stating clearly and maintaining a precise and constant flow of information based on needs and expectations; clearly expressing	2	2
28.	Acts consistent with core values	2	4
39.	Supports the leadership and professionalism of others	2	2
42.	Delegates work effectively	2	4
11.	Accurately assesses the costs and benefits of risk	1	-2
17.	Applies analytical thinking to enhance communication in complex situations	1	-1
25.	Demonstrates the understanding of legal issues related to higher education	1	-2
31.	Demonstrates leadership as service to something other than self	1	1
32.	Does not take self too seriously and recognizes the value of a sense of humor	1	1
40.	Enlisting the talent of others to help meet objectives by giving them important activities and sufficient autonomy to exercise	1	4
52.	Responds to emerging trends and their impact based on understanding of institutional culture: recognizes features of culture and where to find them; embraces institutional culture(s); evaluates strategies and processes for effective action within the cultural context	1	1
58.	Respects the ideas and opinions of people in authority and using them as resources for information, direction, and decisions	1	-1
8.	Understands the issues and needs of contemporary students	0	1
23.	Demonstrates the understanding of politics related to higher education	0	-4
24.	Demonstrates understanding of the elements of the national system of higher education, including institutions of varying types	0	-3
27.	Learns from self-reflection	0	-1
33.	Presents self professionally in order to be a role model	0	3
34.	Operating with a good deal of energy, intensity, and emotional expression; having a capacity to keep others enthusiastic and involved	0	3

Table 9 Continued

35.	Creates and contributes to building effective and efficient staff by recruiting new personnel and/or promotes recruitment skillfully	0	1
45.	Visible and accessible to faculty, staff, and students	0	0
50.	Insures that fair administrative procedures are followed	0	0
4.	Works to maintain academic credibility within the unit	-1	-1
9.	Responds appropriately to the issues and needs of contemporary students	-1	2
26.	Handles external accreditation reviews effectively	-1	-1
38.	Fosters the development of learning organizations and their capacity for creativity and change	-1	0
41.	Understands the value of advancement and pursues professional growth opportunities, refines knowledge over time	-1	0
44.	Adopts a systematic and organized approach to efficient project completion	-1	-3
51.	Tolerates ambiguity and responds appropriately	-1	-2
54.	Demonstrates understanding of departments which are outside of own area	-1	-1
1.	Emphasizes teaching excellence appropriately	-2	0
2.	Emphasizes research excellence appropriately	-2	-1
3.	Advocates appropriate curriculum offerings	-2	-2
18.	Demonstrates commitment to advancing and supporting equal employment opportunities, specifically in underrepresented groups.	-2	0
20.	Demonstrates strategies for inclusiveness in all environments	-2	3
22.	Holding high expectations for self and others; pushing self and others to achieve at high levels.	-2	5
5.	Works to maintain respect within the unit	-3	2
19.	Provides reasonable accommodation for persons with disabilities	-3	1
21.	Adopting a strong orientation toward achievement;	-3	3
37.	Contributes services to professional organizations or service projects	-3	-3
48.	Demonstrating an active concern for people and their needs by forming close, supporting and productive relationships with others	-3	1

Table 9 Continued

36.	Emphasizing the importance of making decisions independently; looking to self as the prime vehicle for decision making	-4	-5
43.	Emphasizing the production of immediate results by focusing on short-range, hands-on, practical strategies	-4	-4
60.	Seeking to exert influence by being in positions of authority, taking charge, and leading and directing the efforts of others	-4	-4
61.	Acts as a scholarly practitioner	-4	-4
13.	Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk	-5	-5
46.	Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression	-5	-5
49.	Building commitment by convincing others and winning them over to self-point of view	-5	-3

### Factor Characteristics Qsort1

Table 10 details the factor characteristics to include the number of defining variables, composite reliability, and standard error of factor scores. The number of defining variables was six for both factors; meaning six participants held perceptions which were significant to the respective factor in which they are placed. The composite reliability indicates a strong correlation ( $r = .96$ ) that the same participants would respond in the same manner should they be asked to participate in Qsort1 again.

Table 10

*Defining Factor Characteristics with the Composite Reliability and Standard Error of Factor Scores for Qsort1*

Characteristics	1	2
Number of Defining Variables	6	6
Composite Reliability	.96	.96
Standard Error of Factor Scores	.20	.20

Distinguishing statements were calculated by comparing z-scores through the software tool, PQMethod. Thirty-two statements were calculated which distinguished group 1 from group 2. Group 2 did not indicate any distinguishing statements, according to the PQMethod output. Table 11 showcases the distinguishing statements for group 1. The results as perceived by the participants factored into group 1 indicates effective leadership in others is perceived to encompass: *demonstrating vision and long term planning through objective analysis; listening/observing, using frameworks to understand and ask right questions in complex situations; and demonstrating the ability to diplomatically engage or negotiate*. On the other hand, group 1 did not perceive *building commitment by convincing others and winning them over to self-point of view* as a way for leaders to be effective. In addition, Tables 12 – 15 lists the highest and lowest ranked statements for each factor in Qsort1.

Table 11

*Distinguishing Statements, Rank, and Z- Score for Group 1 – Qsort1*

Number	Statement	Q-Rank	Z Score
14	Demonstrates vision and long-range planning through objective analysis, thinking ahead, and planning	5	2.05
59	Listens and observes, using frameworks to analyze and ask right questions in complex situations, understanding the interconnectedness of issues and problems as well as emerging trends related to higher education	5	1.96
57	Demonstrates ability to diplomatically engage or negotiate controversial issues	5	1.67
56	Knows and applies principles of finance and budgeting; leveraging resources for maximum benefit	4	1.26
6	Advances the unit's programs effectively by articulating the strategic goals of the unit	4	1.05
29	Acts with honesty	4	1.33*
16	Facilitates effective communication with those with multiple perspectives while collecting their input as part of the decision	3	1.00
53	Demonstrates understanding of issues related to academics, administration, and processes	3	0.98
12	Being willing to take risks and to consider new and untested approaches	3	0.97
30	Treats individuals fairly and with respect	3	0.94
47	Relates well with members of governing board and accrediting agencies	3	0.94
10	Feeling comfortable in fast changing environments	2	0.91
28	Acts consistent with core values	2	0.89
58	Respects the ideas and opinions of people in authority and using them as resources for information, direction, and decisions.	1	0.70
25	Demonstrates the understanding of legal issues related to higher education	1	0.62
17	Applies analytical thinking to enhance communication in complex situations	1	0.52
11	Accurately assesses the costs and benefits of risk	1	0.45
33	Presents self professionally in order to be a role model	0	0.20*
24	Demonstrates understanding of the elements of the national system of higher education, including institutions of varying types	0	0.02



Table 11 Continued

34	Operating with a good deal of energy, intensity, and emotional expression; having a capacity to keep others enthusiastic and involved	0	-0.01
23	Demonstrates the understanding of politics related to higher education	0	-0.10
9	Responds appropriately to the issues and needs of the contemporary	-1	-0.23
38	Fosters the development of learning organizations and their capacity for creativity and change	-1	-0.51*
20	Demonstrates strategies for inclusiveness in all environments	-2	-0.58
22	Holding high expectations for self and others; pushing self and others to achieve at high levels	-2	-0.68
18	Demonstrates commitment to advancing and supporting equal employment opportunities, specifically in underrepresented groups	-2	-0.68
1	Emphasizes teaching excellence appropriately	-2	-0.79
5	Works to maintain respect within the unit	-3	-0.88
48	Demonstrating an active concern for people and their needs by forming close, supporting and productive relationships with others	-3	-0.99
21	Adopting a strong orientation toward achievement	-3	-1.01
19	Provides reasonable accommodation for persons with disabilities	-3	-1.14
49	Building commitment by convincing others and winning them over to self point of view	-5	-1.91

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*Note.* Significant at  $p < .01$ ; \*  $p < .05$

Table 12

*Highest Rated Statements for Group 1 with Z-Score and Rank: Qsort1*

Number	Statement	Group 1 Z-Score (Q Rank)	Group 2 Z-Score (Q Rank)
14	Demonstrates vision and long-range planning through objective analysis, thinking ahead, and planning	2.05(+5)	
59	Listens and observes, using frameworks to analyze and ask right questions in complex situations, understanding the interconnectedness of issues and problems as well as emerging trends related to higher education	1.96(+5)	
57	Demonstrates ability to diplomatically engage or negotiate controversial issues	1.67(+5)	
29	Acts with honesty	1.33(+4)	1.99(+5)
56	Knows and applies principles of finance and budgeting; leveraging resources for maximum benefit	1.26(+4)	
6	Advances the unit's programs effectively by articulating the strategic goals of the unit	1.05(+4)	
55	Makes decisions that are consistent with institutional goals	1.35(+4)	1.07(+4)

Table 13

*Highest Rated Statements for Group 2 with Z-Score and Rank: Qsort1*

Number	Statement	Group 1 Z-Score (Q Rank)	Group 2 Z-Score (Q Rank)
29	Acts with honesty	1.33(+4)	1.99(+5)
30	Treats individuals fairly and with respect		1.88(+5)
22	Holding high expectations for self and others; pushing self and others to achieve at high levels		1.87(+5)
28	Acts consistent with core values		1.83(+4)
42	Delegates work effectively		1.23(+4)
40	Enlisting the talent of others to help meet objectives by giving them important activities and sufficient autonomy to exercise their own judgment		1.19(+4)
55	Makes decisions that are consistent with institutional goals	1.35(+4)	1.07(+4)

Table 14

*Lowest Rated Statements for Group 1 with Z-Score and Rank: Qsort I*

Number	Statement	Group 1 Z-Score (Q Rank)	Group 2 Z-Score (Q Rank)
46	Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression	-2.03(-5)	-2.16(-5)
13	Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk	-1.97(-5)	-2.28(-5)
49	Building commitment by convincing others and winning them over to self-point of view	-1.91(-5)	
36	Emphasizing the importance of making decisions independently; looking to self as the prime vehicle for decision making	-1.85(-4)	-1.94(-5)
43	Emphasizing the production of immediate results by focusing on short-range, hands-on, practical strategies	-1.49(-4)	-1.55(-4)
60	Seeking to exert influence by being in positions of authority, taking charge, and leading and directing the efforts of others	-1.43(-4)	-1.87(-4)
61	Acts as a scholarly practitioner	-1.49(-4)	-1.76(-4)

Table 15

*Lowest Rated Statements for Group 2 with Z-Score and Rank: Qsort1*

Number	Statement	Group 1 Z-Score (Q Rank)	Group 2 Z-Score (Q Rank)
13	Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk	-1.97(-5)	-2.28(-5)
46	Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression	-2.03(-5)	-2.16(-5)
36	Emphasizing the importance of making decisions independently; looking to self as the prime vehicle for decision making	-1.85(-4)	-1.94(-5)
60	Seeking to exert influence by being in positions of authority, taking charge, and leading and directing the efforts of others	-1.43(-4)	-1.87(-4)
61	Acts as a scholarly practitioner	-1.49(-4)	-1.76(-4)
43	Emphasizing the production of immediate results by focusing on short-range, hands-on, practical strategies	-1.49(-4)	-1.55(-4)
23	Demonstrates the understanding of politics related to higher education		-1.49(-4)

After a review of the analysis and the post-sort comments regarding placement of the highest and lowest statements sorted, two factor themes emerged. Both themes, adaptability leadership and enabling leadership, reside within the Complexity Leadership Theory as discussed earlier. Themes were constructed based from the Complexity Leadership Theory, which included enabling, administrative, and adaptability leadership. Each statement was reviewed to determine which leadership area it would primarily fit. For example, both statements 12 (*Being willing to take risks and to consider new and untested approaches*) and

43 (*Emphasizing the production of immediate results by focusing on short-range, hands-on, practical strategies*) appeared to best fit into the leadership area of adaptability. Conversely, statement 39 (*Supports the leadership and professionalism of others*) would best fit into the enabling leadership category.

Once the factors were extracted, statements were reviewed which were ranked in the two highest (+4 and +5) categories as well as the two lowest (-4 and -5) categories, to determine which leadership category each statement fit best. Once the statements were categorized, the final themes emerged based on the most statements which fell into a specific leadership category. While all groups had a mixture of statements from 1-3 leadership categories, the themes emerged based off the review of the total overarching idea the participants had perceived based on their ranks of each statement. Post sort comments regarding the highest and lowest ranked statements were also reviewed to garner more details about the direction of thought the participants held with the ranks and thus, which leadership theme the statements were meant to be placed in. Details regarding ranking, participant information, and post-sort comments as well as themes and definition of themes which emerged are discussed further.

#### **Group 1, Qsort1: Adaptive Leadership**

In Group 1, 6 (33.3%) of the 18 participants' loaded significantly at  $p < .01$  level to account for 19% of the variance. Of the 6 (33.3%), demographic information is available for 5 (27.8%), because the participant did not complete the demographic questions. Those who loaded significantly on group 1 have been in their employment positions for a range of 3 to 10 years, with the average length of tenure being 5 years ( $sd=2.91$ ), held their current

positions for 3 (n = 2), 4 (n =1), 5 (n=1), and 10 (n = 1) years. Two of the participants have worked in higher education for 30 and 38 years, while two others have only worked in higher education for 4 and 5 years. The other two individuals did not indicate the length of time they had worked in higher education. Of the 6 participants, three work in a public institution, two in a private institution and 1 is unknown. The Carnegie Classification of the schools in which the participant are employed breaks down as: two in High Research Activity, one Smaller Master's Colleges and Universities, one Doctoral/Research University, and one unknown. The ages of the participants who loaded significantly on group 1 ranged from 54 to 64, with an average age of 59.2 at the time they individually completed the survey.

When considering the factor arrays, distinguishing statements and post-sort comments regarding loadings, those participants who significantly loaded on group 1 appear to be congruent with their perception of effective leadership indicators in others to be summarized by the term Adaptive Leadership as discussed previously in Complexity Leadership Theory. Recall, adaptive leadership was defined by Uhl-Bien et al. (2007) as “Emergent change behaviors under conditions of interaction, interdependence, asymmetrical information, complex network dynamics, and tension. Adaptive leadership manifests in CAS (complex adaptive systems) and interactions among agents rather than in individuals, and is recognizable when it has significance and impact” (p. 309).

Considering the highest and lowest ranked statements as shown in Tables 12 -15, the statements listed for group 1, indicate a preference towards adaptive leadership in others to be an indicator for effective leadership. The high anchor statements (+5) for Qsort1, Group 1 (14 - *Demonstrates vision and long-range planning through objective analysis, thinking*

*ahead, and planning, 57 - Demonstrates ability to diplomatically engage or negotiate controversial issues, 59 - Listens and observes, using frameworks to analyze and ask right questions in complex situations, understanding the interconnectedness of issues and problems as well as emerging trends related to higher education), address issues of critical thinking, adaptability, and engaging in complex situations where a standardized solution may not be possible. Additionally, the anchor statements which were ranked as the lowest indicators of effective leadership for group 1 (13 - *Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk, 46 - Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression, 49 - Building commitment by convincing others and winning them over to self-point of view*) addressed areas where status quo, controlled emotional expressions, and being all about self were not perceived to be good qualities of a leaders. The lowest ranked statements indicate the participants perceived these to be the wrong way for a person to effectively lead; thus, allowing the assumption that the opposite of those areas would be ranked in the top tiers of effective leadership indicators.*

The adaptive leadership theme of group 1 is further justified based on contextual remarks posted by participants to further explain why they ranked the highest and lowest three statements in the sort. As stated in several post-sort comments, participants indicated the need for adaptability to guide effective leaders. Statement 14 (*Demonstrates vision and long-range planning through objective analysis, thinking ahead, and planning*) held the highest Z-score for group 1, qsort1 at 2.05 and specifically ranked as the most effective leadership indicator in others (+5) by two participants, a 63 year old with 4 years in higher



education, 3 in the current position as well as a 58 years old with 30 years in higher education, 4 in the current position. With regard to why they ranked statement 14 so high, the 63 year old participant stated: “Leaders have on their ‘360 degree’ radar at all times. They are capable of discerning shifts in trends and directions, distilling this info into what it means for their institution, assessing readiness for a change in direction, etc. Planning is what comes next as institutions react to shifts in strategy”. The 58 year old participant stated: “I believe that effective leaders are able to take the 40,000 foot level and articulate a plan for getting there” in regards to the high statement ranking.

A second distinguishing statement for group 1, with a rank score of +5, was statement 59 (*Listens and observes, using frameworks to analyze and ask right questions in complex situations, understanding the interconnectedness of issues and problems as well as emerging trends related to higher education*), by the 58 year old as well as a 57 year old with 5 years’ experience in both higher education and in their current position. Both justified their high rankings by detailing: “higher education is very complicated and more so now than at any other time. To be an effective leader in general and in higher education, important to be able to see the interrelatedness of the various issues so that effective solutions can be generated” and “a real strength in leadership is the ability to connect issues and problems within the larger context of higher education -- big picture ability”.

The final distinguishing statement to be ranked at +5 was number 57 (*Demonstrates ability to diplomatically engage or negotiate controversial issues*). The 57 year old supports the +5 ranking for statement 57 with more detail: “an ability to exercise diplomacy and tact when often working between a governing board and a business tract and a faculty employing

an academic perspective”. These three distinguishing statements at the +5 ranking for group 1 indicate the importance of adaptive leadership for effective leaders in which current leaders perceive in others. Statement loadings, ranks, and Z-scores for Group 1 are found in Table 16.

Conversely, statements 13, 46, and 49 (*Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk; Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression; and Building commitment by convincing others and winning them over to self-point of view*) were perceived to not be important factors for effective leadership as they were ranked at -5. The statements showcase an inflexible theme among them, indicating participants do not see inflexibility or lack of adaptability to be a strong indicator of an effective leader. To further the point, a 63 year old, with 4 years’ experience in higher education and 3 years in their current position, stated the reason she placed statement 13 (*Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk*) in the -5 ranking was “Leaders have to be forward thinking. Although history informs us, we tend to get mirred in the past. Leaders take calculated risk to move an agenda forward and recognize and adapt to change on a measured course”. In the same vein, the same participant ranked statement 46 (*Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression*) as a low anchor statement (-5) and stated: “Leaders need to be somewhat emotional to rally the team. ‘Passion for what you do’ inspires others especially if a leader has a coherent vision. A quiet demeanor often translates to being ‘aloof’ or ‘not engaged’”. Similarly, the 57 year old participant suggested statement 46

should also be in the -5 ranking because “a key quality of effective leadership involves interpersonal relationships - thus working to control emotional expression would seem to be counterproductive”.

Table 16

*All Statements, Rank and Z-Scores for Group 1 for Qsort1 Participants*

Number	Statement	Q Rank	Z-Score
14	Demonstrates vision and long-range planning through objective analysis, thinking ahead, and planning	5	2.05
59	Listens and observes, using frameworks to analyze and ask right questions in complex situations, understanding the interconnectedness of issues and problems as well as emerging trends related to higher education	5	1.96
57	Demonstrates ability to diplomatically engage or negotiate controversial issues	5	1.67
55	Makes decisions that are consistent with institutional goals	4	1.35
29	Acts with honesty	4	1.33
56	Knows and applies principles of finance and budgeting; leveraging resources for maximum benefit	4	1.26
6	Advances the unit's programs effectively by articulating the strategic goals of the unit	4	1.05
16	Facilitates effective communication with those with multiple perspectives while collecting their input as part of the decision	3	1.00
53	Demonstrates understanding of issues related to academics, administration, and processes	3	0.98
12	Being willing to take risks and to consider new and untested approaches	3	0.97
30	Treats individuals fairly and with respect	3	0.94
47	Relates well with members of governing board and accrediting agencies	3	0.94
10	Feeling comfortable in fast changing environments	2	0.91
28	Acts consistent with core values	2	0.89
39	Supports the leadership and professionalism of others	2	0.85

Table 16 Continued

15	Stating clearly and maintaining a precise and constant flow of information based on needs and expectations; clearly expressing	2	0.83
42	Delegates work effectively	2	0.81
7	Advances the unit's programs effectively communicating clearly the strategic goals of the unit	2	0.72
58	Respects the ideas and opinions of people in authority and using them as resources for information, direction, and decisions.	1	0.70
40	Enlisting the talent of others to help meet objectives by giving them important activities and sufficient autonomy to exercise their own judgment	1	0.68
25	Demonstrates the understanding of legal issues related to higher education	1	0.62
52	Responds to emerging trends and their impact based on understanding of institutional culture: recognizes features of culture and where to find them; embraces institutional culture(s); evaluates strategies and processes for effective action within the cultural context	1	0.61
17	Applies analytical thinking to enhance communication in complex situations	1	0.52
11	Accurately assesses the costs and benefits of risk	1	0.45
31	Demonstrates leadership as service to something other than self	1	0.29
32	Does not take self too seriously and recognizes the value of a sense of humor	1	0.28
33	Presents self professionally in order to be a role model	0	0.20
8	Understands the issues and needs of contemporary students	0	0.17
45	Visible and accessible to faculty, staff, and students	0	0.05
35	Creates and contributes to building effective and efficient staff by recruiting new personnel and/or promotes recruitment skillfully	0	0.04
24	Demonstrates understanding of the elements of the national system of higher education, including institutions of varying types	0	0.02
34	Operating with a good deal of energy, intensity, and emotional expression; having a capacity to keep others enthusiastic and involved	0	-0.01
27	Learns from self-reflection	0	-0.04

Table 16 Continued

50	Insures that fair administrative procedures are followed	0	-0.04
23	Demonstrates the understanding of politics related to higher education	0	-0.10
41	Understands the value of advancement and pursues professional growth opportunities, refines knowledge over time	-1	-0.18
9	Responds appropriately to the issues and needs of the contemporary	-1	-0.23
4	Works to maintain academic credibility within the unit	-1	-0.44
51	Tolerates ambiguity and responds appropriately	-1	-0.44
26	Handles external accreditation reviews effectively	-1	-0.46
38	Fosters the development of learning organizations and their capacity for creativity and change	-1	-0.51
44	Adopts a systematic and organized approach to efficient project completion	-1	-0.54
54	Demonstrates understanding of departments which are outside of own area	-1	-0.54
20	Demonstrates strategies for inclusiveness in all environments	-2	-0.58
2	Emphasizes research excellence appropriately	-2	-0.67
18	Demonstrates commitment to advancing and supporting equal employment opportunities, specifically in underrepresented groups	-2	-0.68
22	Holding high expectations for self and others; pushing self and others to achieve at high levels	-2	-0.68
3	Advocates appropriate curriculum offerings	-2	-0.73
1	Emphasizes teaching excellence appropriately	-2	-0.79
5	Works to maintain respect within the unit	-3	-0.88
48	Demonstrating an active concern for people and their needs by forming close, supporting and productive relationships with others	-3	-0.99
21	Adopting a strong orientation toward achievement	-3	-1.01
19	Provides reasonable accommodation for persons with disabilities	-3	-1.14
37	Contributes services to professional organizations or service projects	-3	-1.26
60	Seeking to exert influence by being in positions of authority, taking charge, and leading and directing the efforts of others	-4	-1.43

Table 16 Continued

43	Emphasizing the production of immediate results by focusing on short-range, hands-on, practical strategies	-4	-1.49
61	Acts as a scholarly practitioner	-4	-1.49
36	Emphasizing the importance of making decisions independently; looking to self as the prime vehicle for decision making	-4	-1.85
49	Building commitment by convincing others and winning them over to self-point of view	-5	-1.91
13	Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk	-5	-1.97
46	Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression	-5	-2.03

### **Group 2, Qsort1: Enabling/Adaptive Leadership**

In group 2, 6 (33.3%) of the 18 participants significantly loaded on this factor. This factor accounts for 16% of the variance. Of the 6 (33.3%), the demographics information is available for five, due to the sixth participant not completing the final set of demographic questions. The five who loaded significantly on group 2, who completed the post-sort questions have each held their current positions for 2, 6, 11, 15, and 20 years, with the average length of tenure being 10.8 years ( $sd=7.12$ ). Those who loaded significantly onto group 2 appear to have more higher education experience than those in group 1; working in higher education 10, 15, 30, 31, and 34 years individually, with the average length being 24 years ( $sd = 10.74$ ). Of the six, three work in private and two work in public institutions. The Carnegie Classification of the schools in which the participant are employed breaks down as three Smaller Master's Colleges and Universities; one Medium Master's Colleges and

Universities; and one Baccalaureate College- Diverse Fields. The ages of the participants who loaded significantly on group 1 ranged from 34 to 66, with an average age of 54.2 at the time they individually completed the survey.

Participants who significantly loaded on group 2 were similar in their perception of effective leadership in others with many of the statements appearing to fall under an Enabling Leadership as well as an Adaptive Leadership theme, within the Complexity Leadership Theory. As previously stated, Enabling leadership refers to “leadership that structures and enables conditions such that CAS [complex adaptive systems] are able to optimally address creative problem solving, adaptability, and learning” (Uhl-Bien, et al., p. 299). Marion (2008), discussed how enabling leaders allows for decision making when unexpected situations occur which generally may be out of the leaders control.

Considering the highest and lowest ranked statements for group 2, as shown in Table 13 and 15, indicate a preference towards enabling leadership to be an indicator for effective leadership in others. All three statements in the highest rank category, 22, 39, and 29, (*Holding high expectations for self and others; pushing self and others to achieve at high levels, Treats individuals fairly and with respect, Acts with honesty*) address areas that relate to interaction with others and providing opportunities to make decisions’ on their own with accurate and honest information. Additionally, the statements which were ranked at the lowest spectrum, 13, 46, and 36, (*Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk, Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression, Emphasizing the importance of making decisions independently; looking to self as the prime*

*vehicle for decision making*) inferred areas of inflexibility and selfish ideals were not indicative of effective leadership.

The enabling leadership theme of group 2 is further justified based on post-sort remarks given by participants to further explain why they ranked the highest and lowest three statements in each sort. A 52 years old with 30 years in higher education, including 6 in their current position, ranked statement 22 (*Holding high expectations for self and others; pushing self and others to achieve at high levels*) as a +5 and reasoned: “We lead best by example”. The other two statements (*Acts with honesty, Treats individuals fairly and with respect*) which were ranked as +5 in group 2, also revolve around the enabled leadership theme. Both statements allow for effective leaders to provide information to others in an honest, fair, and respectful manner in order to allow others to complete their duties in the best way with the most ideal information they can receive. Factor loadings for group 2 are listed in Table 17.

On the other hand, statements 13 (*Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk*), 46 (*Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression*), and 36 (*Emphasizing the importance of making decisions independently; looking to self as the prime vehicle for decision making*) were deemed the lowest perceived indicators of effective leadership in others from the viewpoints of those who loaded significantly on group 2. Comparatively, both group 1 and group 2 from Qsort1 also ranked statements 13 and 46 as -5 on the ranking scale. Two participants, a 52 year old with 30 years in higher education and 6 years in their current position and a 59 years old participant with 31 years in higher education and 20 years in their current position ranked statement 13 (*Studying*



*problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk*) as a -5 and stated: “Always move forward - not backwards – cannot re-do previous actions, events” and “Reinforcing the status quo should be at the bottom of our goals”.

Statement 46 (*Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression*) was also ranked a -5 by the same two participants. The participants justified their ranking by stating: “Have to illustrate, show energy! Colleagues need to "feel" your excitement and energy” and “Sounds flat--I prefer leaders who are passionate, charismatic, and articulate--not ones who hide behind inscrutable masks”.

Table 17

*All Statements, Rank and Z-Scores for Group 2 from Qsort1 Participants*

Number	Statement	Q Rank	Z-Score
29	Acts with honesty	5	1.99
30	treats individuals fairly and with respect	5	1.88
22	Holding high expectations for self and others; pushing self and others to achieve at high levels	5	1.87
28	Acts consistent with core values	4	1.83
42	Delegates work effectively	4	1.23
40	Enlisting the talent of others to help meet objectives by giving them important activities and sufficient autonomy to exercise their own judgment	4	1.19
55	Makes decisions that are consistent with institutional goals	4	1.07
20	Demonstrates strategies for inclusiveness in all environments	3	1.06
21	Adopting a strong orientation toward achievement	3	0.95
57	Demonstrates ability to diplomatically engage or negotiate controversial issues	3	0.87
33	Presents self professionally in order to be a role model	3	0.83
34	Operating with a good deal of energy, intensity, and emotional expression; having a capacity to keep others enthusiastic and involved	3	0.83
15	Stating clearly and maintaining a precise and constant flow of information based on needs and expectations; clearly expressing	2	0.79
39	Supports the leadership and professionalism of others	2	0.79
59	Listens and observes, using frameworks to analyze and ask right questions in complex situations, understanding the interconnectedness of issues and problems as well as emerging trends related to higher education	2	0.76
5	Works to maintain respect within the unit	2	0.70
7	Advances the unit's programs effectively communicating clearly the strategic goals of the unit	2	0.59
9	Responds appropriately to the issues and needs of the contemporary	2	0.59
35	Creates and contributes to building effective and efficient staff by recruiting new personnel and/or promotes recruitment skillfully	1	0.47
8	Understands the issues and needs of contemporary students	1	0.45

Table 17 Continued

31	Demonstrates leadership as service to something other than self	1	0.41
32	Does not take self too seriously and recognizes the value of a sense of humor	1	0.39
52	Responds to emerging trends and their impact based on understanding of institutional culture: recognizes features of culture and where to find them; embraces institutional culture(s); evaluates strategies and processes for effective action within the cultural context	1	0.29
48	Demonstrating an active concern for people and their needs by forming close, supporting and productive relationships with others	1	0.27
6	Advances the unit's programs effectively by articulating the strategic goals of the unit	1	0.24
19	Provides reasonable accommodation for persons with disabilities	1	0.23
50	Insures that fair administrative procedures are followed	0	0.23
12	Being willing to take risks and to consider new and untested approaches	0	0.21
56	Knows and applies principles of finance and budgeting; leveraging resources for maximum benefit	0	0.21
45	Visible and accessible to faculty, staff, and students	0	0.19
18	Demonstrates commitment to advancing and supporting equal employment opportunities, specifically in underrepresented groups	0	0.14
14	Demonstrates vision and long-range planning through objective analysis, thinking ahead, and planning	0	0.08
38	Fosters the development of learning organizations and their capacity for creativity and change	0	0.06
1	Emphasizes teaching excellence appropriately	0	-0.03
41	Understands the value of advancement and pursues professional growth opportunities, refines knowledge over time	0	-0.05
58	Respects the ideas and opinions of people in authority and using them as resources for information, direction, and decisions.	-1	-0.09
27	Learns from self-reflection	-1	-0.13
53	Demonstrates understanding of issues related to academics, administration, and processes	-1	-0.15
2	Emphasizes research excellence appropriately	-1	-0.27

Table 17 Continued

17	Applies analytical thinking to enhance communication in complex situations	-1	-0.28
4	Works to maintain academic credibility within the unit	-1	-0.29
26	Handles external accreditation reviews effectively	-1	-0.33
54	Demonstrates understanding of departments which are outside of own area	-1	-0.41
3	Advocates appropriate curriculum offerings	-2	-0.47
10	Feeling comfortable in fast changing environments	-2	-0.47
51	Tolerates ambiguity and responds appropriately	-2	-0.48
47	Relates well with members of governing board and accrediting agencies	-2	-0.55
11	Accurately assesses the costs and benefits of risk	-2	-0.56
25	Demonstrates the understanding of legal issues related to higher education	-2	-0.70
16	Facilitates effective communication with those with multiple perspectives while collecting their input as part of the decision	-3	-0.76
44	Adopts a systematic and organized approach to efficient project completion	-3	-0.88
49	Building commitment by convincing others and winning them over to self point of view	-3	-1.12
37	Contributes services to professional organizations or service projects	-3	-1.26
24	Demonstrates understanding of the elements of the national system of higher education, including institutions of varying types	-3	-1.36
23	Demonstrates the understanding of politics related to higher education	-4	-1.49
43	Emphasizing the production of immediate results by focusing on short-range, hands-on, practical strategies	-4	-1.55
61	Acts as a scholarly practitioner	-4	-1.76
60	Seeking to exert influence by being in positions of authority, taking charge, and leading and directing the efforts of others	-4	-1.87
36	Emphasizing the importance of making decisions independently; looking to self as the prime vehicle for decision making	-5	-1.94
46	Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression	-5	-2.16
13	Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk	-5	-2.28

## **Analysis for Perceptions of Effective Leadership Indicators in Self (Qsort2)**

### **Correlations Between Sorts: Qsort2**

The correlation matrix between sorts was produced to compare each individual Q sort to each of the other sorts in the study. Correlations of +1.00 have a perfect positive relationship while correlations of -1.00 have a perfect negative relationship. Sorts which have a correlation of near zero have little to no relationship to each other. As show in Table 18 Qsort2 produced 105 correlations amongst each other with the strongest positive correlation at .69 between sorts 5 (64 year old with 3 years in their current position, unknown higher education experience) and 14 (57 year old with 38 years' experience in higher education, 10 in their current position), which indicates they held the most common rankings for the statements in Qsort 2 out of all 15 participants.

The strongest negative correlation (while relatively weak compared to the negative correlations for Qsort1) at -.10 was found to be between sorts 7 (66 year old with 34 years' experience in higher education and 11 in their current position) and 9 (58 year old with 30 years in high education, 4 in their current position) to show they held the most disagreement amongst their rankings of the statements out of all 15 participants. Little to no relationship was found between sorts 4 and 2, 7, and 15 (-.03, .04, and -.06 respectively). Of note, only three correlations were found to have a negative relationship, sorts 2 and 4 (-.03), 7 and 9 (-.10), and 4 and 13 (-.06). The small number of negative relationship indicates that the participants were generally in agreement in their statements rankings more so than in disagreement.

Table 18

*Correlation Matrix for all Sorts for Qsort2 Participants*

Sorts	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	--	0.25	0.29	0.29	0.21	0.54	0.18	0.14	0.17	0.48	0.36	0.35	0.16	0.39	0.22
2		--	0.39	-0.03	0.15	0.23	0.17	0.22	0.15	0.11	0.19	0.49	0.42	0.35	0.42
3			--	0.28	0.28	0.23	0.07	0.29	0.23	0.40	0.29	0.37	0.17	0.34	0.42
4				--	0.46	0.23	0.04	0.22	0.30	0.56	0.39	0.29	-0.06	0.29	0.24
5					--	0.17	0.15	0.47	0.36	0.43	0.39	0.46	0.18	0.69	0.44
6						--	0.28	0.43	0.23	0.33	0.39	0.42	0.28	0.50	0.19
7							--	0.32	-0.10	0.20	0.12	0.27	0.31	0.27	0.19
8								--	0.22	0.29	0.38	0.35	0.25	0.44	0.45
9									--	0.36	0.19	0.34	0.36	0.36	0.16
10										--	0.59	0.44	0.25	0.51	0.39
11											--	0.34	0.15	0.38	0.50
12												--	0.59	0.53	0.48
13													--	0.36	0.24
14														--	0.41
15															--

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

**Factor Analysis: Factor Rotation Qsort2**

As previously mentioned, the factor analysis included a Centroid Factor Analysis with a varimax rotation to extract two factors. The two factors for Qsort2 explained the variance (39%) for 10 of the 15 sorts based on the significant loadings ( $p < .01 = \pm .33$ ) as previously calculated. Of the 15 sorts, 6 significantly loaded on group 1 and 4 significant loaded on group 2. Group 1 included sorts 1, 4, 5, 9, 10, and 11 with a variance of 22%, and an eigenvalue of 3.30, while Group 2 included sorts 2, 7, 13, and 15 with a variance of 17% and an eigenvalue of 2.55. Of the five remaining sorts, all were confounded (cross-loaded), or significantly loaded on both factors. The sorts which were confounded were not flagged to remain in the analysis. As compared to Qsort1 where two sorts were non-significant, no sorts in Qsort2 were found to be non-significant. Table 19 indicates the loadings for each factor per sort.

Table 19

*Factor Loading, Position Title, and Age for Qsort2 Participants*

Sort	Position Title	Age	Group 1	Group 2
10	VP	50	.76	
4	VC – Information Technology	63	.65	
14	VP – University Affairs	57	.64*	.44*
11	VP – Federal Relations	61	.56	
5	VC – Student Affairs	64	.55	
1	VP – Student Life	52	.53	
6	VP – College Programs	59	.46*	.35*
12	VP – Human Resources	60	.41*	.67*
9	VC – Research & Economic Development	58	.40	
8	VP – Campus Life	47	.40*	.42*
3	VC - Advancement	34	.36*	.38*
2	VP – Business & Finance	54		.67
13	VP	41		.56
15	VP – Student Life	43		.56
7	VP – Academic Affairs & Academic Dean	66		.35

*Note.* \*Confounded (Cross-loaded) sorts

### **Factor Arrays of Perceptions of Effective Leadership Indicators in Self (Qsort2)**

The factor arrays were produced and thus allowed themes to be generated. Table 20 displays the factor arrays for both factors with all 61 statements. The anchor statements (those with a +5 or -5 placement) in the factor arrays indicate what is perceived as the most effective and least effective leadership indicators in one's self, according to the 15 participants. Participants from group 1 ranked statements 14 (*Demonstrates vision and long-range planning through objective analysis, thinking ahead, and planning*), 40 (*Enlisting the talent of others to help meet objectives by giving them important activities and sufficient autonomy to exercise their own judgment*), and 52 (*Responds to emerging trends and their impact based on understanding of institutional culture: recognizes features of culture and*



*where to find them; embraces institutional culture(s); evaluates strategies and processes for effective action within the cultural context*) in the top three as the most effective leadership indicators (+5), while ranking statements 4 (*Works to maintain academic credibility within the unit*), 13 (*Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk*), and 46 (*Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression*) in the lowest category (-5).

Participants from group 2 ranked statements 35 (*Creates and contributes to building effective and efficient staff by recruiting new personnel and/or promotes recruitment skillfully*), 29 (*Acts with honesty*), and 31 (*Demonstrates leadership as service to something other than self*) in the top category (+5) and statements 1 (*Emphasizes teaching excellence appropriately*), 2 (*Emphasizes research excellence appropriately*), and 61 (*Acts as a scholarly practitioner*) in the lowest category (-5).

Statements 35, 13, and 46 all were ranked with a five category difference. Statement 35 (*Creates and contributes to building effective and efficient staff by recruiting new personnel and/or promotes recruitment skillfully*) was ranked at a neutral 0 and +5 by group 1 and 2, respectively. Statement 13 (*Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk*) and statement 46 (*Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression*) were both ranked by group 1 participants at a -5, indicating these statements were least likely to be involved in effective leadership, while group 2 participants ranked both at a neutral zero.

Comparing Qsort1 (others) to Qsort2 (self), Qsort2 held more statements with a larger difference of rankings (9) than Qsort1 (5) of five categories or more. This difference in category rankings for higher numbers of statements indicates the perception of effective leadership indicators in others is more similar than how participants view those same indicators in themselves. In other words, participants perceive a larger difference in how leadership indicators should be ranked when thinking in terms of their own self. Participants are not necessarily effectively leading the way they view others to be effectively leading.

Table 20

*Factor Arrays for Each Statement Ranked by Participants in Qsort2 Shown by Factor Groups*

Number	Statement	Group 1	Group 2
14	Demonstrates vision and long-range planning through objective analysis, thinking ahead, and planning	5	1
40	Enlisting the talent of others to help meet objectives by giving them important activities and sufficient autonomy to exercise their own judgment	5	1
52	Responds to emerging trends and their impact based on understanding of institutional culture: recognizes features of culture and where to find them; embraces institutional culture(s); evaluates strategies and processes for effective action within the cultural context	5	0
8	Understands the issues and needs of contemporary students	4	-4
12	Being willing to take risks and to consider new and untested approaches	4	-1
34	Operating with a good deal of energy, intensity, and emotional expression; having a capacity to keep others enthusiastic and involved	4	0

Table 20 Continued

59	Listens and observes, using frameworks to analyze and ask right questions in complex situations, understanding the interconnectedness of issues and problems as well as emerging trends related to higher education	4	2
9	Responds appropriately to the issues and needs of the contemporary	3	-3
30	treats individuals fairly and with respect	3	4
42	Delegates work effectively	3	-3
54	Demonstrates understanding of departments which are outside of own area	3	3
55	Makes decisions that are consistent with institutional goals	3	4
6	Advances the unit's programs effectively by articulating the strategic goals of the unit	2	0
15	Stating clearly and maintaining a precise and constant flow of information based on needs and expectations; clearly expressing	2	1
16	Facilitates effective communication with those with multiple perspectives while collecting their input as part of the decision	2	-1
22	Holding high expectations for self and others; pushing self and others to achieve at high levels	2	2
28	Acts consistent with core values	2	4
57	Demonstrates ability to diplomatically engage or negotiate controversial issues	2	2
10	Feeling comfortable in fast changing environments	1	2
21	Adopting a strong orientation toward achievement	1	-1
29	Acts with honesty	1	5
32	Does not take self too seriously and recognizes the value of a sense of humor	1	1
33	Presents self professionally in order to be a role model	1	0
39	Supports the leadership and professionalism of others	1	-1
45	Visible and accessible to faculty, staff, and students	1	3
49	Building commitment by convincing others and winning them over to self point of view	1	-1
7	Advances the unit's programs effectively communicating clearly the strategic goals of the unit	0	2
11	Accurately assesses the costs and benefits of risk	0	1

Table 20 Continued

17	Applies analytical thinking to enhance communication in complex situations	0	-1
20	Demonstrates strategies for inclusiveness in all environments	0	-2
27	Learns from self-reflection	0	3
35	Creates and contributes to building effective and efficient staff by recruiting new personnel and/or promotes recruitment skillfully	0	5
50	Insures that fair administrative procedures are followed	0	4
56	Knows and applies principles of finance and budgeting; leveraging resources for maximum benefit	0	2
58	Respects the ideas and opinions of people in authority and using them as resources for information, direction, and decisions.	0	0
5	Works to maintain respect within the unit	-1	3
18	Demonstrates commitment to advancing and supporting equal employment opportunities, specifically in underrepresented groups	-1	-2
38	Fosters the development of learning organizations and their capacity for creativity and change	-1	-2
41	Understands the value of advancement and pursues professional growth opportunities, refines knowledge over time	-1	-2
43	Emphasizing the production of immediate results by focusing on short-range, hands-on, practical strategies	-1	-1
44	Adopts a systematic and organized approach to efficient project completion	-1	3
48	Demonstrating an active concern for people and their needs by forming close, supporting and productive relationships with others	-1	1
53	Demonstrates understanding of issues related to academics, administration, and processes	-1	0
3	Advocates appropriate curriculum offerings	-2	-4
19	Provides reasonable accommodation for persons with disabilities	-2	-3
23	Demonstrates the understanding of politics related to higher education	-2	-1

Table 20 Continued

24	Demonstrates understanding of the elements of the national system of higher education, including institutions of varying types	-2	-2
31	Demonstrates leadership as service to something other than self	-2	5
47	Relates well with members of governing board and accrediting agencies	-2	-3
1	Emphasizes teaching excellence appropriately	-3	-5
2	Emphasizes research excellence appropriately	-3	-5
25	Demonstrates the understanding of legal issues related to higher education	-3	1
51	Tolerates ambiguity and responds appropriately	-3	1
60	Seeking to exert influence by being in positions of authority, taking charge, and leading and directing the efforts of others	-3	-3
26	Handles external accreditation reviews effectively	-4	0
36	Emphasizing the importance of making decisions independently; looking to self as the prime vehicle for decision making	-4	-2
37	Contributes services to professional organizations or service projects	-4	-4
61	Acts as a scholarly practitioner	-4	-5
4	Works to maintain academic credibility within the unit	-5	-4
13	Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk	-5	0
46	Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression	-5	0

### Factor Characteristics Qsort2

Table 21 details the factor characteristics to include the number of defining variables, composite reliability, and standard error of factor scores. The number of defining variables was six for group 1 and four for group 2; meaning six participants (for group 1) and four participants (for group 2) held perceptions which were significant to the respective factor in

which they are placed. The composite reliability indicates a strong correlation ( $r = .96$  and  $r = .94$ ) that the same participants would respond in the same manner should they be asked to participate in Qsort2 again.

Table 21

*Defining Factor Characteristics with the Composite Reliability and Standard Error of Factors Scores for Qsort2*

Characteristics	1	2
Number of Defining Variables	6	4
Composite Reliability	.96	.94
Standard Error of Factor Scores	.20	.24

Distinguishing statements were calculated by comparing z -scores through the software tool, PQMethod. Thirty-one statements were calculated which distinguished group 1 from group 2. Group 2 did not indicate any distinguishing statements, according to the PQMethod output. Table 22 showcases the distinguishing statements for group 1. Group 1 indicates effective leadership in oneself is perceived to encompass: *enlist the talents of others, respond to emerging trends, and demonstrate a vision and long range planning*. Group 1 did not perceive *maintaining a quiet interpersonal demeanor* or *using past practices to ensure predictability* as a way for their own self to be an effective leader. In addition, Tables 23-26 lists the highest and lowest ranked statements for each factor in Qsort2.

Table 22

*Distinguishing Statements, Rank, And Z-Score for Group 1 – Qsort2*

Number	Statement	Q-Rank	Z-Score
40	Enlisting the talent of others to help meet objectives by giving them important activities and sufficient autonomy to exercise their own judgment	5	1.68*
52	Responds to emerging trends and their impact based on understanding of institutional culture: recognizes features of culture and where to find them; embraces institutional culture(s); evaluates strategies and processes for effective action within the cultural context	5	1.62*
14	Demonstrates vision and long-range planning through objective analysis, thinking ahead, and planning	5	1.54*
34	Operating with a good deal of energy, intensity, and emotional expression; having a capacity to keep others enthusiastic and involved	4	1.53*
8	Understands the issues and needs of contemporary students	4	1.51*
59	Listens and observes, using frameworks to analyze and ask right questions in complex situations, understanding the interconnectedness of issues and problems as well as emerging trends related to higher education	4	1.49*
12	Being willing to take risks and to consider new and untested approaches	4	1.48*
42	Delegates work effectively	3	1.47*
9	Responds appropriately to the issues and needs of the contemporary	3	1.05*
6	Advances the unit's programs effectively by articulating the strategic goals of the unit	2	0.79*
28	Acts consistent with core values	2	0.73
16	Facilitates effective communication with those with multiple perspectives while collecting their input as part of the decision	2	0.68*
39	Supports the leadership and professionalism of others	1	0.54*
21	Adopting a strong orientation toward achievement	1	0.41

Table 22 Continued

49	Building commitment by convincing others and winning them over to self-point of view	1	0.26
29	Acts with honesty	1	0.36*
20	Demonstrates strategies for inclusiveness in all environments	0	0.14
50	Insures that fair administrative procedures are followed	0	0.12*
27	Learns from self-reflection	0	0.01
7	Advances the unit's programs effectively communicating clearly the strategic goals of the unit	0	-0.04
35	Creates and contributes to building effective and efficient staff by recruiting new personnel and/or promotes recruitment skillfully	0	-0.10*
5	Works to maintain respect within the unit	-1	-0.10*
48	Demonstrating an active concern for people and their needs by forming close, supporting and productive relationships with others	-1	-0.38*
44	Adopts a systematic and organized approach to efficient project completion	-1	-0.39*
31	Demonstrates leadership as service to something other than self	-2	-0.63*
25	Demonstrates the understanding of legal issues related to higher education	-3	-1.00*
51	Tolerates ambiguity and responds appropriately	-3	-1.20*
2	Emphasizes research excellence appropriately	-3	-1.21
26	Handles external accreditation reviews effectively	-4	-1.47*
13	Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk	-5	-1.94*
46	Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression	-5	-2.07*

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*Note.* Significant at  $p < .01$ ; \*  $p < .05$



Table 23

*Highest Rated Statements for Group 1 with Z-Score and Rank: Qsort2*

Number	Statement	Group 1 Z-Score (Q Rank)	Group 2 Z-Score (Q Rank)
40	Enlisting the talent of others to help meet objectives by giving them important activities and sufficient autonomy to exercise their own judgment	1.68(+5)	
52	Responds to emerging trends and their impact based on understanding of institutional culture: recognizes features of culture and where to find them; embraces institutional culture(s); evaluates strategies and processes for effective action within the cultural context	1.62(+5)	
14	Demonstrates vision and long-range planning through objective analysis, thinking ahead, and planning	1.54(+5)	
34	Operating with a good deal of energy, intensity, and emotional expression; having a capacity to keep others enthusiastic and involved	1.53(+4)	
8	Understands the issues and needs of contemporary students	1.51(+4)	
59	Listens and observes, using frameworks to analyze and ask right questions in complex situations, understanding the interconnectedness of issues and problems as well as emerging trends related to higher education	1.49(+4)	
12	Being willing to take risks and to consider new and untested approaches	1.48(+4)	

Table 24

*Highest Rated Statements for Group 2 with Z-Score and Rank: Qsort2*

Number	Statement	Group 1 Z-Score (Q Rank)	Group 2 Z-Score (Q Rank)
31	Demonstrates leadership as service to something other than self		2.40(+5)
29	Acts with honesty		2.33(+5)
35	Creates and contributes to building effective and efficient staff by recruiting new personnel and/or promotes recruitment skillfully		1.62(+5)
50	Insures that fair administrative procedures are followed		1.56(+4)
28	Acts consistent with core values		1.48(+4)
30	Treats individuals fairly and with respect		1.43(+4)
55	Makes decisions that are consistent with institutional goals		1.36(+4)

Table 25

*Lowest Rated Statements for Group 1 with Z-Score and Rank: Qsort2*

Number	Statement	Group 1 Z-Score (Q Rank)	Group 2 Z-Score (Q Rank)
46	Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression	-2.07(-5)	
13	Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk	-1.94(-5)	
4	Works to maintain academic credibility within the unit	-1.72(-5)	-1.38(-4)
61	Acts as a scholarly practitioner	-1.68(-4)	-2.21(-5)
37	Contributes services to professional organizations or service projects	-1.48(-4)	-1.56(-4)
26	Handles external accreditation reviews effectively	-1.47(-4)	
36	Emphasizing the importance of making decisions independently; looking to self as the prime vehicle for decision making	-1.34(-4)	

Table 26

*Lowest Rated Statements for Group 2 with Z-Score and Rank: Qsort2*

Number	Statement	Group 1 Z-Score (Q Rank)	Group 2 Z-Score (Q Rank)
61	Acts as a scholarly practitioner	-1.68(-4)	-2.21(-5)
2	Emphasizes research excellence appropriately		-1.95(-5)
1	Emphasizes teaching excellence appropriately		-1.83(-5)
37	Contributes services to professional organizations or service projects	-1.48(-4)	-1.56(-4)
3	Advocates appropriate curriculum offerings		-1.43(-4)
4	Works to maintain academic credibility within the unit	-1.72(-5)	-1.38(-4)
8	Understands the issues and needs of contemporary students		-1.37(-4)

As conducted with Qsort 1, after a review of the analysis and the post-sort comments regarding placement of the highest and lowest statements sorted, factor themes emerged. The theme of adaptability leadership as well as a combination of enabling/administrative leadership emerged. All themes, adaptability, enabling, and administrative leadership, reside within the Complexity Leadership Theory as discussed earlier. Themes were constructed based from the Complexity Leadership Theory, which included enabling, administrative, and adaptability leadership. Each statement was reviewed to determine which leadership area it would primarily fit. For example, both statements 12 (*Being willing to take risks and to consider new and untested approaches*) and 43 (*Emphasizing the production of immediate*

*results by focusing on short-range, hands-on, practical strategies*) appeared to best fit into the leadership area of adaptability. Conversely, statement 39 (*Supports the leadership and professionalism of others*) would best fit into the enabling leadership category.

Once the factors were extracted, statements were reviewed which were ranked in the two highest (+4 and +5) categories as well as the two lowest (-4 and -5) categories, to determine which leadership category each statement fit best. Once the statements were categorized, the final themes emerged based on the most statements which fell into a specific leadership category. While all groups had a mixture of statements from 1-3 leadership categories, the themes emerged based off the review of the total overarching idea the participants had perceived based on their ranks of each statement. Post sort comments regarding the highest and lowest ranked statements were also reviewed to garner more details about the direction of thought the participants held with the ranks and thus, which leadership theme the statements were meant to be placed in. Details regarding ranking, participant information, and post –sort comments as well as themes and definition of themes which emerged are discussed further.

### **Group 1, Qsort2: Adaptive Leadership**

Group 1 had six (40%) of the 15 participants' loadings significant at  $p < .01$  level to account for 22% of the variance. Those who loaded significantly on group 1 have held their current positions for 1 (n=1), 3 (n=3), 4 (n=1), and 6 (n=1) years, with the average tenure being 3.33 years (sd=1.63). Two of the participants have worked in higher education for 30 years, while the others have worked in higher education for 6, 4, and 1 year, with the sixth participant not indicating the length of time worked in higher education. The average time

participants have worked in higher education was 13.6 years (sd=15.01). Of the six individuals, four work at public institutions and two in private. The Carnegie Classification of the schools in which they participants are employed is: two High Research, one Doctoral/Research University, one larger programs Master's College and Universities, one smaller programs Master's College and Universities, and one Baccalaureate College. The ages of the participants who loaded significantly on group 1 ranged from 50 to 64, with the average age of 58 at the time they individually completed the survey.

When considering the factor arrays, distinguishing statements and post-sort comments regarding loadings, those participants who significantly loaded on group 1 appear to be congruent with their perception of effective leadership indicators in their own self to be similar to the constructs in Qsort1 Group 1 (effective leadership in others), summarized by the term Adaptive Leadership as discussed previously in Complexity Leadership Theory. Recall, adaptive leadership was defined by Uhl-Bien et al. (2007) as “emergent change behaviors under conditions of interaction, interdependence, asymmetrical information, complex network dynamics, and tension. Adaptive leadership manifests in CAS (complex adaptive systems) and interactions among agents rather than in individuals, and is recognizable when it has significance and impact” (p. 309).

Considering the highest and lowest ranked statements as shown in Table 23 and 25, respectively, the statements listed for group 1, indicate a preference towards adaptive leadership in their own selves to be an indicator for effective leadership. The anchor statements for Qsort2, Group 1, ranked in the +5 category include 14 (*Demonstrates vision and long-range planning through objective analysis, thinking ahead, and planning*), 40

(*Enlisting the talent of others to help meet objectives by giving them important activities and sufficient autonomy to exercise their own judgment*), 52 (*Responds to emerging trends and their impact based on understanding of institutional culture: recognizes features of culture and where to find them; embraces institutional culture(s); evaluates strategies and processes for effective action within the cultural context*) along with the statements ranked in the +4 category (59- *Listens and observes, using frameworks to analyze and ask right questions in complex situations, understanding the interconnectedness of issues and problems as well as emerging trends related to higher education*, 34 - *Operating with a good deal of energy, intensity, and emotional expression; having a capacity to keep others enthusiastic and involved*, 12 - *Being willing to take risks and to consider new and untested approaches*, 8 - *Understands the issues and needs of contemporary students*), consisted of six areas of adaptability, understanding how to proceed in complex situations, taking risks, and understanding contemporary issues.

Additionally, the statements with the lower anchors in the -5 category for group 1 (46 - *Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression*, 13 - *Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk*, 4 - *Works to maintain academic credibility within the unit*) as well as those in the -4 ranking (61 - *Acts as a scholarly practitioner*, 36 - *Emphasizing the importance of making decisions independently; looking to self as the prime vehicle for decision making*, 26 - *Handles external accreditation reviews effectively*, 37 - *Contributes services to professional organizations or service projects*) are reflective of areas which the participants did not perceive as important to their perceived

effectiveness as a leader. The lower ranked statements centered on areas of individuality, maintaining status quo, and controlling expressions; all areas which lend themselves to the opposite of showcasing adaptive leadership.

The adaptive leadership theme of group 1 is further justified based on contextual remarks posted by participants to further explain why they ranked the highest and lowest three statements in the sort. Statement 40 held the highest Z-score (1.68) for Group 1. Statement loadings for group 1 are found in Table 23. A 50 years old vice president with 3 years in both higher education and in her current position, selected statement 40 (*Enlisting the talent of others to help meet objectives by giving them important activities and sufficient autonomy to exercise their own judgment*) in the highest rank order (+5), justifying the ranking statement by stating:

“I have a talented team under my direction and each team member brings a particular strength to the department. I try to adopt a philosophy of taking responsibility for the department but giving away all of the credit to those on my team. I have high expectations for my team and allow them sufficient autonomy to accomplish projects. This approach has served me well and I believe team members feel respected and valued”

On the other hand, statements 4 (*Works to maintain academic credibility within the unit*), 13 (*Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk*), and 46 (*Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression*) were perceived to not be important indicators of effective leadership within one’s own self. Similarly to the lower

anchor statements in Qsort1, Group 1; the statements do not allow for flexibility and do not appear to be strong indicators of what the participants perceive to be important in their own effective leadership. Statements 13 and 46 were ranked in the same low anchor category (-5) for Qsort1, Group 1. The common low ranking indicates these two points are not necessary for leaders to focus on. Several post-sort comments reiterate the reasoning regarding the lower anchor statements for Group 1. Within group 1, qsort2, statement 46 held the lowest z-score at -2.07. A 52 years old participant with 30 years in higher education, 6 in the current position as well as a 43 year old with 17 years in higher education, 3 in the current position, ranked statement 46 (*Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression*) as a -5 and reasoned “no way - have to be energized!” as well as “Strong communication skills, a dynamic personality, confidence, and an enthusiasm for my institution has served me well in my role. I appreciate and value "low-key" staff members, but I feel they do not typically make the best leaders”.

The same 43 year old also placed statement 4 (*Works to maintain academic credibility within the unit*) as a low anchor (-5) due to “In my role, this is not an essential part of the job”. A 61 years old, with 1 year in both higher education and in their current position, perceived statement 13 (*Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk*) to be in the lower anchored statements (-5) with the justification that “We do not want to reinforce the status quo. Higher education is changing, students are changing, learning platforms are changing, teaching is changing, everything is changing and to keep the status quo would be to move backwards fast”; further rationalizing the need for adaptability in higher education leadership.



Table 27

*All Statements, Rank and Z-Scores for Group 1 for Qsort2 Participants*

Number	Statement	Q-Rank	Z-Scores
40	Enlisting the talent of others to help meet objectives by giving them important activities and sufficient autonomy to exercise their own judgment	5	1.68
52	Responds to emerging trends and their impact based on understanding of institutional culture: recognizes features of culture and where to find them; embraces institutional culture(s); evaluates strategies and processes for effective action within the cultural context	5	1.62
14	Demonstrates vision and long-range planning through objective analysis, thinking ahead, and planning	5	1.54
34	Operating with a good deal of energy, intensity, and emotional expression; having a capacity to keep others enthusiastic and involved	4	1.53
8	Understands the issues and needs of contemporary students	4	1.51
59	Listens and observes, using frameworks to analyze and ask right questions in complex situations, understanding the interconnectedness of issues and problems as well as emerging trends related to higher education	4	1.49
12	Being willing to take risks and to consider new and untested approaches	4	1.48
42	Delegates work effectively	3	1.47
54	Demonstrates understanding of departments which are outside of own area	3	1.14
9	Responds appropriately to the issues and needs of the contemporary	3	1.05
30	Treats individuals fairly and with respect	3	1.00
55	Makes decisions that are consistent with institutional goals	3	0.98

Table 27 Continued

22	Holding high expectations for self and others; pushing self and others to achieve at high levels	2	0.96
57	Demonstrates ability to diplomatically engage or negotiate controversial issues	2	0.85
6	Advances the unit's programs effectively by articulating the strategic goals of the unit	2	0.79
28	Acts consistent with core values	2	0.73
16	Facilitates effective communication with those with multiple perspectives while collecting their input as part of the decision	2	0.68
15	Stating clearly and maintaining a precise and constant flow of information based on needs and expectations; clearly expressing	2	0.64
45	Visible and accessible to faculty, staff, and students	1	0.61
39	Supports the leadership and professionalism of others	1	0.54
21	Adopting a strong orientation toward achievement	1	0.41
29	Acts with honesty	1	0.35
10	Feeling comfortable in fast changing environments	1	0.33
33	Presents self professionally in order to be a role model	1	0.30
32	Does not take self too seriously and recognizes the value of a sense of humor	1	0.27
49	Building commitment by convincing others and winning them over to self point of view	1	0.26
56	Knows and applies principles of finance and budgeting; leveraging resources for maximum benefit	0	0.17
20	Demonstrates strategies for inclusiveness in all environments	0	0.14
50	Insures that fair administrative procedures are followed	0	0.12

Table 27 Continued

17	Applies analytical thinking to enhance communication in complex situations	0	0.08
27	Learns from self-reflection	0	0.01
7	Advances the unit's programs effectively communicating clearly the strategic goals of the unit	0	-0.04
58	Respects the ideas and opinions of people in authority and using them as resources for information, direction, and decisions.	0	-0.06
11	Accurately assesses the costs and benefits of risk	0	-0.06
35	Creates and contributes to building effective and efficient staff by recruiting new personnel and/or promotes recruitment skillfully	0	-0.10
5	Works to maintain respect within the unit	-1	-0.10
18	Demonstrates commitment to advancing and supporting equal employment opportunities, specifically in underrepresented groups	-1	-0.12
41	Understands the value of advancement and pursues professional growth opportunities, refines knowledge over time	-1	-0.13
38	Fosters the development of learning organizations and their capacity for creativity and change	-1	-0.25
43	Emphasizing the production of immediate results by focusing on short-range, hands-on, practical strategies	-1	-0.35
48	Demonstrating an active concern for people and their needs by forming close, supporting and productive relationships with others	-1	-0.38
44	Adopts a systematic and organized approach to efficient project completion	-1	-0.39
53	Demonstrates understanding of issues related to academics, administration, and processes	-1	-0.41
31	Demonstrates leadership as service to something other than self	-2	-0.63

Table 27 Continued

23	Demonstrates the understanding of politics related to higher education	-2	-0.72
24	Demonstrates understanding of the elements of the national system of higher education, including institutions of varying types	-2	-0.77
19	Provides reasonable accommodation for persons with disabilities	-2	-0.84
47	Relates well with members of governing board and accrediting agencies	-2	-0.85
3	Advocates appropriate curriculum offerings	-2	-0.95
25	Demonstrates the understanding of legal issues related to higher education	-3	-1.00
60	Seeking to exert influence by being in positions of authority, taking charge, and leading and directing the efforts of others	-3	-1.18
51	Tolerates ambiguity and responds appropriately	-3	-1.20
2	Emphasizes research excellence appropriately	-3	-1.21
1	Emphasizes teaching excellence appropriately	-3	-1.32
36	Emphasizing the importance of making decisions independently; looking to self as the prime vehicle for decision making	-4	-1.34
26	Handles external accreditation reviews effectively	-4	-1.47
37	Contributes services to professional organizations or service projects	-4	-1.48
61	Acts as a scholarly practitioner	-4	-1.68
4	Works to maintain academic credibility within the unit	-5	-1.72
13	Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk	-5	-1.94
46	Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression	-5	-2.07

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### **Group 2, Qsort2: Enabling/Administrative Leadership**

Group 2 had 4 (26.67%) of the 15 participants' loadings significant at  $p < .01$  level to account for 17% of the variance. The four who loaded significantly on group 2 have held their current position for 2 ( $n=2$ ), 5 ( $n=1$ ), and 11 ( $n=1$ ) years with an average of 5 years ( $sd=4.24$ ). Collectively, those who loaded significantly on group 2 have more experience in higher education than those from group 1 with 5 ( $n=1$ ), 17 ( $n=2$ ), and 34 ( $n=1$ ) years individually, with an average of 18.25 years ( $sd=11.93$ ). In addition, all four participants from group 2 work at private institutions. Two of the women work at Carnegie Classified Baccalaureate Colleges (Arts and Sciences), while two others work at a Baccalaureate College (Diverse Fields) and one at a Larger Programs Master's College and University. The ages of the participants who loaded significantly on group 2 ranged from 41 to 66, with an average age of 51.

Participants who significantly loaded on group 2 were similar in their perception of effective leadership in self with many of the statements appearing to fall under an Enabling Leadership theme, also relative to the Complexity Leadership Theory, as well as Administrative Leadership. As previously stated, enabling leadership refers to "leadership that structures and enables conditions such that CAS [complex adaptive systems] are able to optimally address creative problem solving, adaptability, and learning" (Uhl-Bien, et al., p. 299). Marion (2008), discussed how enabling leaders allows for decision making when unexpected situations occur which generally may be out of the leaders control.

Recall that according to Uhl-Bien, et al. (2007), administrative leadership refers to "leadership grounded in traditional, bureaucratic notions of hierarchy, alignment, and

control” (p. 299). Therefore, the authors viewed the administrative leadership as the “formal act that serves to coordinate and structure organizational activities” (p. 300). Within Complexity Leadership Theory, administrative leadership is advised by Uhl-Bien, et al. (2007), to “exercise its authority with consideration of the firm’s need for creativity, learning, and adaptability” (p. 306).

Referring to the highest and lowest ranked statements as shown in Tables 24 and 26, the statements listed for group 2 indicate a preference towards a combination of enabling and administrative leadership when looking at one’s own style of effective leadership. In a review of the high anchor statements (29 - *Acts with honesty*, 31 - *Demonstrates leadership as service to something other than self*, 35- *Creates and contributes to building effective and efficient staff by recruiting new personnel and/or promotes recruitment skillfully*), all three address areas which could fall under enabling leadership. A broader view of the high ranking statements to include rankings +4, showcase a combination of administrative and enabling leadership themes which participants perceive as part of their own effective leadership.

On the opposite end of the spectrum, anchor statements for the -5 area (1 - *Emphasizes teaching excellence appropriately*, 2 - *Emphasizes research excellence appropriately*, 61 - *Acts as a scholarly practitioner*) as well as the statements in the -4 category (3 - *Advocates appropriate curriculum offerings*, 4 - *Works to maintain academic credibility within the unit*, 8 - *Understands the issues and needs of contemporary students*, 37 - *Contributes services to professional organizations or service projects*) focus on area of research/teaching, professional organization focus, and understanding needs of contemporary

issues. All of the lower end statements are a range of areas and not consistent with any given theme. The factor loadings for group 2, Qsort2 are listed in Table 28.

Post sort comments were not completed for three of the four participants who significantly loaded onto group 2. The lack of post sort comments does not hinder the results; however does not allow the rankings to be further explained by those who participated in the sorts. A 54 year old, working in higher education and in current position for 5 years), ranked statement 29 (*Acts with honesty*) in the +5 category because “acting with honesty and integrity are at the core of my position”. Additionally, the same participant ranked statements 1 (*Emphasizes teaching excellence appropriately*) and 2 (*Emphasizes research excellence appropriately*) in the -5 category stating: “area does not apply to my department”.

Table 28

*All Statements, Rank and Z-scores for Group 2 for Qsort2 Participants*

Number	Statement	Q-Rank	Z-Score
31	Demonstrates leadership as service to something other than self	5	2.40
29	Acts with honesty	5	2.33
35	Creates and contributes to building effective and efficient staff by recruiting new personnel and/or promotes recruitment skillfully	5	1.62
50	Insures that fair administrative procedures are followed	4	1.56
28	Acts consistent with core values	4	1.48
30	Treats individuals fairly and with respect	4	1.43
55	Makes decisions that are consistent with institutional goals	4	1.36

Table 28 Continued

5	Works to maintain respect within the unit	3	1.17
44	Adopts a systematic and organized approach to efficient project completion	3	1.09
45	Visible and accessible to faculty, staff, and students	3	1.05
54	Demonstrates understanding of departments which are outside of own area	3	1.04
27	Learns from self-reflection	3	0.78
56	Knows and applies principles of finance and budgeting; leveraging resources for maximum benefit	2	0.77
10	Feeling comfortable in fast changing environments	2	0.71
22	Holding high expectations for self and others; pushing self and others to achieve at high levels	2	0.66
57	Demonstrates ability to diplomatically engage or negotiate controversial issues	2	0.66
7	Advances the unit's programs effectively communicating clearly the strategic goals of the unit	2	0.65
59	Listens and observes, using frameworks to analyze and ask right questions in complex situations, understanding the interconnectedness of issues and problems as well as emerging trends related to higher education	2	0.59
32	Does not take self too seriously and recognizes the value of a sense of humor	1	0.51
48	Demonstrating an active concern for people and their needs by forming close, supporting and productive relationships with others	1	0.47
11	Accurately assesses the costs and benefits of risk	1	0.39
51	Tolerates ambiguity and responds appropriately	1	0.33
15	Stating clearly and maintaining a precise and constant flow of information based on needs and expectations; clearly expressing	1	0.27



Table 28 Continued

40	Enlisting the talent of others to help meet objectives by giving them important activities and sufficient autonomy to exercise their own judgment	1	0.26
25	Demonstrates the understanding of legal issues related to higher education	1	0.21
14	Demonstrates vision and long-range planning through objective analysis, thinking ahead, and planning	1	0.19
34	Operating with a good deal of energy, intensity, and emotional expression; having a capacity to keep others enthusiastic and involved	0	0.12
52	Responds to emerging trends and their impact based on understanding of institutional culture: recognizes features of culture and where to find them; embraces institutional culture(s); evaluates strategies and processes for effective action within the cultural context	0	0.07
33	Presents self professionally in order to be a role model	0	0.07
53	Demonstrates understanding of issues related to academics, administration, and processes	0	0.07
58	Respects the ideas and opinions of people in authority and using them as resources for information, direction, and decisions.	0	-0.07
46	Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression	0	-0.07
6	Advances the unit's programs effectively by articulating the strategic goals of the unit	0	-0.13
13	Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk	0	-0.20
26	Handles external accreditation reviews effectively	0	-0.21
39	Supports the leadership and professionalism of others	-1	-0.32
17	Applies analytical thinking to enhance communication in complex situations	-1	-0.32

Table 28 Continued

21	Adopting a strong orientation toward achievement	-1	-0.32
43	Emphasizing the production of immediate results by focusing on short-range, hands-on, practical strategies	-1	-0.39
49	Building commitment by convincing others and winning them over to self-point of view	-1	-0.46
23	Demonstrates the understanding of politics related to higher education	-1	-0.51
12	Being willing to take risks and to consider new and untested approaches	-1	-0.51
16	Facilitates effective communication with those with multiple perspectives while collecting their input as part of the decision	-1	-0.57
38	Fosters the development of learning organizations and their capacity for creativity and change	-2	-0.64
20	Demonstrates strategies for inclusiveness in all environments	-2	-0.65
41	Understands the value of advancement and pursues professional growth opportunities, refines knowledge over time	-2	-0.65
24	Demonstrates understanding of the elements of the national system of higher education, including institutions of varying types	-2	-0.71
18	Demonstrates commitment to advancing and supporting equal employment opportunities, specifically in underrepresented groups	-2	-0.71
36	Emphasizing the importance of making decisions independently; looking to self as the prime vehicle for decision making	-2	-0.77
42	Delegates work effectively	-3	-0.78
47	Relates well with members of governing board and accrediting agencies	-3	-0.79
19	Provides reasonable accommodation for persons with disabilities	-3	-0.84

Table 28 Continued

60	Seeking to exert influence by being in positions of authority, taking charge, and leading and directing the efforts of others	-3	-0.91
9	Responds appropriately to the issues and needs of the contemporary	-3	-1.05
8	Understands the issues and needs of contemporary students	-4	-1.37
4	Works to maintain academic credibility within the unit	-4	-1.37
3	Advocates appropriate curriculum offerings	-4	-1.43
37	Contributes services to professional organizations or service projects	-4	-1.56
1	Emphasizes teaching excellence appropriately	-5	-1.83
2	Emphasizes research excellence appropriately	-5	-1.95
61	Acts as a scholarly practitioner	-5	-2.21

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### Summary

The results presented for this study included the correlation of individual sorts, factor analysis, factor arrays, and z-scores for two viewpoints regarding effective leadership indicators. The viewpoints allowed participants to construct their perception of effective leadership indicators in those they have worked with in higher education as well as in themselves. Using the instrument, PQMethod software to analyze the data, two factors emerged from both Qsorts. In Qsort1, the factor themes with regard to effective leadership indicators in others were Adaptive and Enabling/Adaptive Leadership. In Qsort2, the factor themes with regard to effective leadership indicators in oneself were Adaptive and Enabling/Administrative Leadership. In all four factors, participant demographics,

distinguishing statements, anchor statements, as well as post-sort comments were utilized to piece together the themes.

A distinguishing statement which applied to both Qsort1 and Qsort2 was *Demonstrates vision and long-range planning through objective analysis, thinking ahead, and planning*. The other top distinguishing statements for Qsort 1 included: *Listens and observes, using frameworks to analyze and ask right questions in complex situations, understanding the interconnectedness of issues and problems as well as emerging trends related to higher education*; and *Demonstrates ability to diplomatically engage or negotiate controversial issue*. Qsort2 held two other top distinguishing statements: *Enlisting the talent of others to help meet objectives by giving them important activities and sufficient autonomy to exercise their own judgment* and *Responds to emerging trends and their impact based on understanding of institutional culture: recognizes features of culture and where to find them; embraces institutional culture(s); evaluates strategies and processes for effective action within the cultural context*. The distinguishing statements pull together the theme of adaptive leadership as strong indicator of effective leadership in higher education.

In the overall rankings, statement 14 ranked highest in group 1, qsort1 and third highest in group 1, qsort2. Statement 59 (*Listens and observes, using frameworks to analyze and ask right questions in complex situations, understanding the interconnectedness of issues and problems as well as emerging trends related to higher education*) was ranked +5 (group1, qsort1) and +4 (factor1, qsort2), deepening the need for flexibility in leadership. Three other key statements also repeated themselves in the importance levels within each of

the factors: 30) *Treats individuals fairly and with respect*; 28) *Acts consistent with core values*; and 55) *Makes decisions that are consistent with institutional goals*.

Comparing Qsort1 (others) to Qsort2 (self), Qsort2 held more statements (9) with a larger difference of rankings than Qsort1 (5) of five categories or more. This difference in category rankings for higher numbers of statements indicates the perception of effective leadership indicators in others is more similar than how participants view those same indicators in themselves. In other words, participants perceive a larger difference in how leadership indicators should be ranked when thinking in terms of their own self. Participants are not necessarily effectively leading the way they view others to be effectively leading.

Further information regarding the distinguishing statements, high and low ranked statements, and factor arrays will be reviewed in the next chapter. Also, the following chapter will include the implications of the findings as well as future recommendations for research regarding leadership in higher education. Responses to the research questions will also be answered and discussed.

## CHAPTER 5

### Introduction

This study sought to conceptualize effective leadership indicators by executive female leaders within higher education by asking executive female leaders to rank effective leadership indicators based on perception of self and others. Few studies have been conducted to narrow down best practices or indicators of effective leaders in higher education at the executive leadership area – such as vice-president/chancellor level. Studies have been conducted on leadership in the areas of dean or president but the upper level leadership, presidents/chancellors cabinet, has been ignored. In addition, female leadership that has been studied appears to have been based on a theoretical concept of leadership, rather than empirical data provided. The combination of the lack of research on women in higher education, effective leadership, and executive leaders combined, provides an avenue for the current research to be added. The current study sought to answer three specific research questions:

1. When considering others, what leadership indicators do executive female leaders in higher education perceive as effective?
2. When considering self, what leadership indicators do executive female leaders in higher education perceive as effective?
3. What are the highest and lowest rated perceived indicators of effective leaders in higher education items for each factor?

The results can be used in female leadership development in providing clearer goals for individuals to aim, compared to very little information available prior to the study. Human

resource development personnel would be wise to utilize the areas indicated in the study in the evaluation and training of leaders in higher education. Overall the current study can be utilized to build better, more effective leaders in higher education, just by individuals focusing on building up on the lead statements deemed as necessary for leaders. The current study provides a foundation by which standards can be set for senior leaders in 4-year higher education institutions to adhere to during yearly performance evaluations.

The study began by reviewing literature which was relevant to higher education leadership and specifically, research which had worked towards defining leadership competencies within higher education. As discussed in Chapter 2, the four primary references which had attempted to define higher education leadership were utilized, based on their results of leadership competencies, traits, and behaviors, to help develop the concourse of statements. These areas were grouped together as statements and redundancies removed. The final set of leadership indicators to utilize for the study was set to 61. In addition, Complexity Leadership Theory was discussed in Chapter 2 as relevant to the field of higher education. As higher education is an evolving entity and the complex nature of the day to day operations are administered, the Complexity Leadership Theory molded into the current study with ease. Within the framework of Complexity Leadership Theory are three defined levels of leadership: adaptive, enabling, and administrative. The final results of the qsorts for the current study were wrapped into the three areas as a way to categorize the factor loadings.

Q methodology was utilized for the current study to gain the perception of the specific individuals by which the study was designed for. Chapter 3 further describes the method, justification of the method, research design as well as the data collection, analysis

and interpretation of the data. The software tools utilized for the study (Flash Q and PQMethod) are described as well.

An analysis of the results is detailed in Chapter 4. The analysis includes correlation data, factor scores, and arrays as well as distinguishing statements for each sort. In addition, post-sort comments were utilized to gain a broader understanding of factor rankings at a more personal level. Two factors, grouped together based on viewpoints, were derived from each qsort entailing: Adaptive Leadership (Group 1, Qsort1 and Group 1, Qsort2); a combination of Enabling/Adaptive Leadership (Group 2, Qsort2); and Enabling/Administrative Leadership (Group 2, Qsort2). Based on the factor themes and results, implications and suggestions for future research are discussed further.

Further information regarding the distinguishing statements, high and low ranked statements, and factor arrays will be reviewed in the final chapter. In addition, the final chapter explores implications for practice and suggestions for future research regarding leadership in higher education. Responses to the research questions will also be answered and discussed. The final chapter provides insights and discussion regarding the current study.

## **Conclusion**

Previously discussed were the types of challenges higher education faces with the area of leadership development. With the number of executive leaders and presidents on the path of retirement, the next generation of leaders is rising up to take the reins. However, institutions are struggling to find the right leaders to assist with the progression of their institution due to the lack of leadership training and development for those in the pipeline to take over. In addition, the lack of women in the leadership pathway creates a concern and a



challenge within higher education to gravitate towards an equal gender standpoint and role models for future female leaders. The continued lack of consistency regarding what effective leadership is within higher education creates an uncertainty and a rocky path by which any aspiring leader may wish to pursue. The perceptions obtained from the current study can play a role in helping clarify and define not only effective leadership indicators, but a pathway for future female university leaders to guide them along their journey to a more advanced career. Additionally, those who guide the training and development programs for women could utilize the information to better inform their agendas at the current time. It should be said, that leadership has been seen as an evolving course of action. Therefore, the results from the current study should be used as only markers, or guidelines, to update and create leadership development programs.

Yukl (2011) stated that “research needs to pay more attention to the overall pattern of leadership behavior rather than examining each type of behavior separately” (p. 297). Yukl (2011) also acknowledged “it is important to consider the possibility that more than one pattern of behavior may be effective in the same situation (p. 297). The current study provides results to back up Yukl’s statement with the factors which allow for a combination of effective leadership to take place. As each factor theme is not to be utilized in a vacuum, the combination of points to consider are those which are overarching each factor in addition to high /low ranking statements. A combination of statements which are ranked high could be the path for a specific person to follow in order to increase their leadership capability. The overarching theme to all factor loadings was the need for adaptive leadership to play a large role in higher education. This could be related to the complex nature of higher education as

an evolving entity. With new generations of learners enrolling, in addition to the variety of learning – adult, online, hybrid, traditional, and others, one may need to be open minded to new priorities, process, and goals. Therefore, it should be no surprise that adaptive leadership was prevalent in the current study. In addition, with several statements finding commonality in their factor rankings, it is clear that some areas warrant more attention and development than other areas. This appears to be true, regardless of how the statements were ranked in perception of other or by self, as common priorities developed through the study.

In response to research question one (When considering others, what leadership indicators do executive female leaders in higher education perceive as effective?) the overarching themes from the highest ranking statements delved into the area of adaptive and enabling leadership. As shown in Tables 29 and 30, the highest ranked statements do focus on specific areas of adaptive and enabling leadership. Participants took the approach that to be an effective leader, one must be involved and part of the work, not just lead from afar as well as be flexible and adaptive to the changing needs in higher education. For instance, statements such as *Holding high expectations for self and others; pushing self and others to achieve at high levels* and *Demonstrates vision and long-range planning through objective analysis, thinking ahead, and planning demonstrate* the need for effective leaders to work with others, but not set oneself above the frame. Effective leaders need to be in the trenches with those looking at them for guidance. Effective leaders need to be able to plan and involve others.

In response to research question two (When considering self, what leadership indicators do executive female leaders in higher education perceive as effective?), the

overarching theme again was adaptive leadership, but mixed with both enabling and administrative leadership. In essence, when looking at how they personally lead others, the participants felt they were effective by being adaptive, flexible and inclusive of others, but also by handling their processes and procedures in an effective manner. Participants may have felt it was important to have a handle on the administrative leadership side of their position in order to enable their staff and others to better perform or take ownership of their areas.

In response to research question 3, the highest and lowest perceived effective leadership indicators are detailed in Tables 29-32:

Table 29

*Qsort1, Group 1 – Effective Leadership Indicators in Others, High/Low Rankings*

High		Low	
14	Demonstrates vision and long-range planning through objective analysis, thinking ahead, and planning	46	Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression
59	Listens and observes, using frameworks to analyze and ask right questions in complex situations, understanding the interconnectedness of issues and problems as well as emerging trends related to higher education	13	Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk
57	Demonstrates ability to diplomatically engage or negotiate controversial issues	49	Building commitment by convincing others and winning them over to self-point of view

Table 30

*Qsort1, Group 2 – Effective Leadership Indicators in Others, High/Low Rankings*

	High		Low
29	Acts with honesty	13	Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk
30	Treats individuals fairly and with respect	46	Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression
22	Holding high expectations for self and others; pushing self and others to achieve at high levels	36	Emphasizing the importance of making decisions independently; looking to self as the prime vehicle for decision making

Table 31

*Qsort2, Group 1 – Effective Leadership Indicators in Self, High/Low Rankings*

	High		Low
40	Enlisting the talent of others to help meet objectives by giving them important activities and sufficient autonomy to exercise their own judgment	46	Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression
52	Responds to emerging trends and their impact based on understanding of institutional culture: recognizes features of culture and where to find them; embraces institutional culture(s); evaluates strategies and processes for effective action within the cultural context	13	Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk
14	Demonstrates vision and long-range planning through objective analysis, thinking ahead, and planning	44	Works to maintain academic credibility within the unit

Table 32

*Qsort2, Group 2 – Effective Leadership Indicators in Self, High/Low Rankings*

High		Low	
31	Demonstrates leadership as service to something other than self	61	Acts as a scholarly practitioner
29	Acts with honesty	2	Emphasizes research excellence appropriately
35	Creates and contributes to building effective and efficient staff by recruiting new personnel and/or promotes recruitment skillfully	1	Emphasizes teaching excellence appropriately

Adaptive leadership was showcased in Group 1, Qsort1 as well as Qsort2. Enabling Leadership was the second theme to emerge from the factor loadings, specifically in Group 2 in both Qsort1 and Qsort2. The most common statement with regard to each factor was statement 14: *Demonstrates vision and long-range planning through objective analysis, thinking ahead, and planning*. Statement 14 ranked highest in Group 1, qsort1 and third highest in Group 1, Qsort2. Statement 59 (*Listens and observes, using frameworks to analyze and ask right questions in complex situations, understanding the interconnectedness of issues and problems as well as emerging trends related to higher education*) was ranked +5 (Group 1, Qsort1) and +4 (Group 1, Qsort2), deepening the need for flexibility in leadership. Three other key statements also repeated themselves in the importance levels within each of the factors through both sorts: 30) *Treats individuals fairly and with respect*; 28) *Acts consistent with core values*; and 55) *Makes decisions that are consistent with institutional goals*. The statements which were found to be ranked high on all or most groups, clustered by view

points, indicate a need for focused attention by those who wish to be better leaders, or those who would like to evaluate leaders for their effectiveness. The statements listed above are indicators of what is important to be effective leaders and thus should be reviewed together, as effective leadership does not occur in a silo.

Based on the results from the study, administrative leadership is the least type of leadership for females to focus on for development or career advancement. This could be due to the belief that administrative leadership areas are more about control, policies, and processes. As the statements that ranked high in effective leadership indicators focused more on flexibility, adapting to circumstances, and helping others learn their roles and be self-sufficient, administrative leadership appears far removed from the area of needed focus. Females who want to focus on effective leadership should focus more on the development of the top ranked statements.

In comparison to the previous studies which attempted to extract and define effective leadership traits, the current study most closely aligned with Spendlove (2007). Spendlove (2007) found competencies needed for effective leadership in higher education to be *openness, honesty, need to consult others, ability to listen, ability to negotiate or persuade others, and to be able to think broadly or strategically*. The current study has several statements which mimicked the results from Spendlove (2007): *acts with honesty, demonstrating vision and long term planning, and listens and observes*. While the other studies used to initially extract leadership statements for the current study (McDaniel, 2002; Smith & Wolverton, 2010; and Rosser et al., 2003) all had “*communication*” as a top need for effective leaders to have. Surprisingly, the top statements in the current study were not

specifically related to communication, nor were the lowest ranked statement. It would appear to the participants of the current study, communication is a neutral indicator of effective leadership.

Q Methodology has not previously been utilized to study leadership in higher education. The current study showcases an example of how Q methodology can be utilized in the field of both higher education and leadership. As the definition of leadership, and more specifically, effective leadership, has not been clearly defined nor consistent in higher education or other fields, Q methodology has provided a start to better defining these areas. The current study has contributed information to not only the field of leadership but to the methodology of Q. Many in the Q methodology community share information and resources, utilizing similar concourse statements or to replicate a study to add to the literature. The current study has contributed valuable information for leadership, female leaders, and Q methodology research areas.

### **Limitations**

The current study was designed to conceptualize effective leadership indicators in executive female leaders in higher education. The study focused exclusively on executive female leaders in higher education who held a vice-president or vice-chancellor role in their university. While, the participants were narrowed down to the scope of the specific title, the results may not be generalized to all levels of executive leadership in higher education. A broader range of participants may have yielded larger factor loadings if those with an assistant vice-president/chancellor title had been invited to participate. In addition, it was determined that those who hold an executive leadership role are entrenched with their daily

jobs of overseeing, planning, and providing guidance to their areas and their schedules do not allow for the time to participate in a study. The lack of participation initially, led the researcher to seek out other avenues to gain the minimum number of participants needed for the qsorts. This involved selecting a state with a similar higher education hierarchy as North Carolina, Maryland. If seeking to replicate the study in the future, a more ideal option would be to select subjects from any state, rather than being selective regarding state selection.

Another limitation to the study was the number of statements (concourse) along with the study design incorporating two separate sorts. Several potential participants declined to complete the study online due to the length of time it was taking them to get through Qsort1. Knowing they would have to complete a second sort, they declined to finish due to time constraints. In addition, three potential participants indicated they were unable to complete the sorts online due to lack of understanding in instructions or lack of software compatibility with the Flash Q and their own device. While instructions stated at the beginning of the sort which software was compatible, some participants did not read the instructions completely prior to beginning the sort. As the initial study has now been conducted to narrow down rankings of statements, future studies could utilize a reduced statement concourse to decrease the time needed for participants to complete the study.

Lastly, the study was designed with two Qsorts to be completed. However, it is difficult to compare different factors within the same sort as well as the factors between sorts. Had there been more groups within each sort, the difficulty to analyze the data would have been even more complex.



**Implications**

It is important to remember that while effective leadership is one avenue to success, individuals may also need to review their educational qualifications as well as employment history. Ideally, improving upon leadership practices should allow more opportunities, lacking in other areas may derail the path to perceived success. Overall, the need for adaptability in higher education should be made a priority for any future female leader. In addition, it appears administrative leadership is the lowest priority to develop based on the study results. This could be due to administrative tasks can generally be learned or passed down from other employees and may not show dig into the leadership as much as the other themes. Additionally, the broad areas from which the participants were employed did not necessarily lend themselves to purely administrative leadership such as finance or business segments of the universities. The majority of the participants led divisions which are student centered and thus provide leadership to not only staff but also to areas which engage with students and in essence, affect students in various ways.

As Rosser, et al. (2003) pointedly noted “Providing a clear understanding of the specific responsibilities, skills, and evaluation goals for performance within the institution cannot only aid in the hiring and selection process, but can lead to more effective evaluations of leadership performance” (p. 20). Therefore, as potential leaders in higher education start their path to career advancement, they may wish to seek out the opportunities which will help build their leadership profile. These areas could include projects which are outside their normal work structure and learn from complex situation (showcase adaptability) and pursuing development for staff and opportunities for them to grow (enabling). In addition,

those responsible for leadership development programs can focus on similar topics in order to enhance the leadership pipeline throughout their institution. Many institutions ask for nominations and recommendations for staff and faculty to enter leadership programs within the institutions, but do they really focus on leadership behaviors that will be relevant to them in their own departments. Development through the course of standardized formatting could help streamline the focus of these leadership programs and help human resources personnel contribute to the retention and the development of the employees.

### **Recommendations for Future Research**

As the current study has started a framework for discussion, there are many areas in which future research can move forward to expand upon effective leadership in higher education. As previously discussed, setting up minimum leadership standards for yearly performance evaluations would help higher education institutions gain a broader understanding of how well the senior leadership is doing. Another research endeavor could include comparisons of gender, both in gender perspectives of effective leadership, as well as leading different genders. Carnegie Classifications of the institutions should be narrowed down for future studies to compare results of those with similar classification to determine if those within the same category carry the same viewpoint of how effective leadership should be carried out. Other areas to include for future research is specific departments in higher education only, Student Life, Undergraduate Admissions, Athletics, and others. Comparing similar departments may reveal effective leadership indicators that are relevant to that field, rather than higher education as whole. Lastly, future research should take the current study to expand and develop a leadership model for higher education to utilize.

In order to truly understand successful leadership, a 360 degree approach would be more conclusive. This approach is often utilized by human resource departments for yearly evaluations of individuals. In reference to the current study, understanding perceptions of what leaders believe of their own leadership style to be is a start. However, allowing those who report to the same leaders to complete the study with same competencies on the leader would provide greater feedback regarding if the leadership style is actually effective. This would solidify which competencies would actually utilized, effective, and had a negative impact.

What remains to be seen is if male executive leaders in higher education would rank statements in a similar manner. Future studies could also provide meaningful results if a comparison of men and women were made to showcase effective leadership indicators. The perspectives may be different, in which case, women may wish to modify their leadership development based on the direction they wish to seek. On the other hand, if the results were similar, women would better understand which areas to pursue to be better leaders, regardless of the gender of the evaluator.

A third type of study to consider in the future would be a comparison of leadership effectiveness perceived by those from different Carnegie Classified institutions. Leaders who are employed by high research institution may place different priorities in effective leadership than those with small baccalaureate classifications. For instance, statement 2 *“Emphasizes research excellence appropriately”* may load differently.

Studies could be conducted to focus on only specific areas of executive leadership in higher education. For instance, the current study allowed any executive female leader at an

institution with the “title” as indicated in the study. Focusing on just one area, such as Student Life, to determine the effective leadership indicators would help develop a concentrated effort on real life priorities for potential leaders in that specific area. For individuals wanting to grown and progress in specific areas of higher education, a field specific guide to effective leadership could prove to be highly useful in their success.

In addition, Madsen (2011) indicated that “HRD, higher education, and leadership scholars and practitioners agree there is still more work to be done and progress to be made in preparing women in academia for positions of influence and leadership” (p. 135).

Therefore, utilizing the current study as a spring board to develop a leadership model through structural equation modeling could provide more in depth practical application of the leadership which would benefit potential and current female leaders in higher education.

### **Recommendations for Future Q-Studies**

The current study has several challenges which, in hindsight, can now be seen as items that others should address prior to using the Q methodology in the future, particularly with online studies. First, the current study sought out to seek differences in self and in others through executive female leader perceptions in order to compare the two areas. Experience has now shown that separating the two areas created essential two Q studies in one. This made the analysis and write more difficult in maintaining separate analysis. Secondly, conducting a qsort with an online option appeared to be more efficient and could easily be completed; however challenges exist when online studies are conducted. For instance, several potential participants indicated difficulty getting into the study. While instructions were provided to the potential participants, along with screenshots, to remove

pop up blockers and to not use a mobile device, issues still remained. It is hard to explain if the potential participants had less technology skills and were just unfamiliar with the process or if their computers had issues which caused their lack of participation.

Another challenge with the qsort conducted, again had to do with the two into one study sequence. Participants essentially completed the same study twice, thus taking twice as long to complete the study. Narrowing the study down to a singular unit would have allowed for participants to plan for the time to complete the study. As it was, several potential participants did not complete the second portion due to time constraints.

A last challenge to note, which could be based on the population the study sought to incorporate, was the timing of the request for participants. The original requests began in July and continued throughout November in order to recruit the minimum number of participants needed to complete the study. The population of executive leaders in higher education have tight schedules with all of the responsibilities they hold. Typically higher education institutions change fiscal years early to mid-summers and executive level leaders are preparing final reports or beginning projects for the upcoming year. While there may be no “good” time to recruit participants at this list in higher education, shortening the study time length as well as selecting a recruitment period before or after summer could have increased the participation level at a quicker speed.

### **Summary**

The current study used Q methodology to determine the perception of effective leadership indicators through the lens of the executive female leader in 4-year higher education institutions. The study was broken down into two parts, effective leadership

indicators in others and effective leadership indicators in self. In order to complete the research study, 18 participants (15 for the self study) were asked to rank 61 statements in reference to the statement being an indicator of effective leadership in others as well as in their own selves. Both sorts developed two factor groups each who were similar in their rankings amongst each other. After a review of the ranking data as well as post-sort comments, it was determined that the primary group for both sorts fell into the theme of Adaptive Leadership. A second group theme developed was determined to be an Enabling Leadership theme which fell second to the primary Adaptive Leadership theme. A small number of participants ranked several statements as effective leadership indicators which fell into the Administrative Leadership area; however this area was deemed to be low in the level of importance for effective leadership.

The current study implies strategies for females to utilize to move forward with career advancement in higher education. In addition, mentors could utilize these strategies as they guide other in their career paths. Finally, universities could use the current results to help guide a performance evaluation, based on effective leadership traits of individuals incorporated with other performance areas. This study demonstrates the top indicators of effective leadership as perceived by executive females in education. If higher education is going to be successful in recruiting leaders for advanced positions; training and making a pathway for female leaders is crucial. In order for females to be on the career track for advanced leadership in education it is critical that they adopt leadership styles which will emerge them in the direct path for effective engagement with the areas they wish to lead.

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**APPENDICES**

## Appendix A. Timeline

Written Comprehensive Exams Passed	November 1, 2012
Completed Proposal for Chair	March 17, 2013
Sent Proposal to Committee	March 27, 2013
Dissertation Proposal	April 10, 2013
IRB Submission	May 6, 2013
IRB Approval #3279	May 11, 2013
IRB Revision Document	May 31, 2013
Email Invitation to Potential Participants	July 5, 2013
IRB Revision Document Submitted	September 8, 2013
IRB Approval	
Mailed Invitations to Potential Participants	October 10 – November 25, 2013
Invited Maryland Participants	December 2013
Data Collection	December 2013-January 16, 2014
Analyze Data/Write Chapter 4	January 17 – February 14, 2014
Write Chapter 5	February 15, 2014
Dissertation Defense Passed	April 21, 2014

## Appendix B. Budget

Flash Q website set up	\$140
Additional website months	\$80
Postage	\$60
Envelopes (business size)	\$6
Envelopes (10 x 13)	\$10
Envelopes (6 x 9)	\$6
Folders	\$25
Card Stock	\$15
Return Address Labels	\$10
2 x 4 Mailing Labels	\$10
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Total	\$442



## Appendix C. Initial Concourse

1. Demonstrates understanding of the elements of the national system of higher education, including institutions of varying types and missions, forms of governance, and cultures; and associations
2. Demonstrates understanding of the complexity and interconnectedness of issues and problems
3. Identifies emerging trends and their potential impact and responds appropriately. Responds based on understanding of institutional culture: recognizes features of culture and where to find them; embraces institutional culture(s); evaluates strategies and processes for effective action within the cultural context
4. Relates well with members of governing board and accrediting agencies.
5. Develops partnerships with business , community organizations, and K-12 education
6. Sustains productive relationships and networks of colleagues
7. Applies skills to affect decision-making processes in state and federal contexts
8. Works effectively with the media
9. Demonstrates understanding of issues of academic administration
10. Demonstrates understanding of issues in technology
11. Demonstrates understanding of student affairs
12. Demonstrates understanding of development and institutional advancement
13. Demonstrates understanding of athletics
14. Knows and applies principles of finance and budgeting
15. Knows and applies language, concepts, and frameworks for planning
16. Leverages institutional resources for maximum benefit
17. Fosters the development of learning organizations and their capacity for creativity and change
18. Demonstrates the understanding of legal issues
19. Demonstrates understanding of issues of diversity (gender, ethnicity, handicap, sexual orientation) in national, institutional, and personal contexts.
20. Applies process, political, and public relations skills to crises and conflicts as they rise.
21. Demonstrates leadership as service to something other than self
22. Acts consistent with core values and integrity and in good faith
23. Demonstrates understanding of leadership and its characteristics, tasks, and contexts
24. Seeks to understand self and others in social and political roles
25. Learns from self-reflection
26. Learns from others
27. Understands impact on others
28. Tolerates ambiguity and responds appropriately
29. Recognizes the value of a sense of humor
30. Does not take self too seriously
31. Learns from mistakes as well as successes

32. Demonstrates skills of negotiation
33. Makes decisions that are consistent with institutional goals
34. Demonstrates courage and wisdom about taking risks
35. Assesses the costs and benefits of risks accurately
36. Demonstrates strategies for inclusiveness in all environments
37. Creates and contributes to effective teams
38. Supports the leadership of others
39. Amplifies and refines knowledge over time
40. Knows where to locate information, resources, people for possible solutions
41. Understands and responds appropriately to the issues and needs of contemporary students
42. Develops human potential and champions continued professional development
43. Responds appropriately to change
44. Facilitates the change process
45. Engages multiple perspectives, disciplines, and voices in decision making
46. Facilitates effective communication among people with different perspectives
47. Listens and observes, using frameworks to analyze and ask right questions in complex situations.
48. Communicates and interacts effectively with faculty, staff, and students and other constituencies in one-to-one and in small and large group settings, in writing and electronically
49. Expresses views articulately orally and in writing
50. Engages in civil dialogue on controversial issues
51. Articulates and communicates a vision
52. Presents self well as a leader
53. Studying problem in light of past practices to ensure predictability, reinforce the status quo, and minimize risk.
54. Feeling comfortable in fast changing environments; being willing to take risks and to consider new and untested approaches.
55. Acquiring & maintaining in-depth knowledge in your field or area of focus; using your expertise and specialized knowledge to study issues and draw conclusions.
56. Emphasizing the importance of making decisions independently; looking to yourself as the prime vehicle for decision making.
57. Taking a long-range, broad approach to problem solving and decision making through objective analysis, thinking ahead, and planning.
58. Building commitment by convincing others and winning them over to your point of view.
59. Acting in an extroverted, friendly, and informal manner; showing a capacity to quickly establish free and easy interpersonal relationships.
60. Operating with a good deal of energy, intensity, and emotional expression; having a capacity to keep others enthusiastic and involved.

61. Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control your emotional expression.
62. Adopting a systematic and organized approach, preferring to work in a precise, methodical manner; developing and utilizing guidelines and procedures.
63. Emphasizing the production of immediate results by focusing on short-range, hands-on, practical strategies.
64. Stating clearly what you want and expect from others; clearly expressing your thoughts and ideas; maintaining a precise and constant flow of information.
65. Enlisting the talent of others to help meet objectives by giving them important activities and sufficient autonomy to exercise their own judgment.
66. Adopting an approach in which you take nothing for granted, set deadlines for certain actions, and is persistent in monitoring the progress of activities to ensure that they are completed on schedule.
67. Letting others know in a straightforward manner what you think of them, how well they have performed, and if they have met your needs and expectations.
68. Seeking to exert influence by being in positions of authority, taking charge, and leading and directing the efforts of others.
69. Pushing vigorously to achieve results through an approach that is forceful, assertive, and competitive.
70. Adopting a strong orientation toward achievement; holding high expectations for yourself and others; pushing yourself and others to achieve at high levels.
71. Accommodating the needs and interests of others by being willing to defer performances on your own objectives in order to assist colleagues with theirs.
72. Value the ideas and opinions of others and collecting their input as part of your decision-making process.
73. Respecting the ideas and opinions of people in authority and using them as resources for information, direction, and decisions.
74. Demonstrating an active concern for people and their needs by forming close and supporting relationships with others.
75. Self-aware
76. Flexible
77. Open
78. Honest
79. Discrete
80. Visible, outgoing
81. Willing to be wrong/accept
82. Advice/support
83. Sensitive to the views of others
84. Knowledge of university life
85. Understand how the university
86. System works

87. Understand academic processes
88. Work to maintain academic
89. Credibility/respect
90. Act as role models
91. Think broadly/strategically
92. Engage with people
93. Listen to others
94. Consult with others
95. Negotiate
96. Communicate clearly
97. Delegate
98. Motivate others
99. Act as mentors
100. Build teams
101. Fosters the development and creativity of learning organizations
102. Demonstrates understanding of academics
103. Engages multiple perspectives in decision making
104. Learns from self-reflection
105. Tolerates ambiguity
106. Sustains productive relationships with networks of colleagues
107. Applies analytical thinking to enhance communication in complex situations
108. Facilitates the change process
109. Demonstrates resourcefulness
110. Demonstrates ability to diplomatically engage in controversial issues
111. Demonstrates negotiation skills
112. Seeks to understand human behavior in multiple contexts
113. Accurately assesses the costs and benefits of risk taking
114. Facilitates effective communication among people with different perspectives
115. Demonstrates understanding of complex issues related to higher education
116. Responds appropriately to change
117. Presents self professionally as a leader
118. Communicates vision effectively
119. Communicates effectively
120. Expresses views articulately in multiple forms of communication
121. Communicates effectively with multiple constituent groups in multiple contexts
122. Responds to issues and needs of contemporary students
123. Is attentive to emerging trends in higher education
124. Demonstrates understanding of student affairs
125. Demonstrates understanding of legal issues
126. Recognizes the value of a sense of humor
127. Supports leadership of others

128. Demonstrates unselfish leadership
129. Learns from others
130. Does not take self too seriously
131. Relates well with governing boards
132. Applies skills to affect decisions in government contexts
133. Demonstrates understanding of advancement
134. Demonstrates understanding of athletics
135. Works effectively with the media
136. Articulates clearly the strategic goals of the unit
137. Encourages ideas and creativity
138. Creates an atmosphere conducive to high faculty performance
139. Demonstrates vision and long-range planning
140. Emphasizes teaching excellence appropriately
141. Emphasizes research excellence appropriately
142. Emphasizes service excellence appropriately
143. Advocates for resources needed by the unit
144. Encourages faculty development
145. Encourages curriculum/program development
146. Provides leadership for the unit/subunit level initiatives
147. Overall rating of Vision and Goal Setting
148. Insures that fair administrative procedures are followed
149. Exercises fair and reasonable judgment in the allocation of resources
150. Manages change constructively
151. Delegates work effectively
152. Handles administrative tasks in a timely manner
153. Effective problem solver
154. Demonstrates knowledge of departments and programs within the unit
155. Maintains an effective and efficient staff
156. Overall rating of Management skills
157. Demonstrates understanding of the needs and concerns of unit members.
158. Treats individuals fairly and with respect
159. Maintains positive and productive relationships within the unit
160. Maintains positive and productive relationships external to the unit
161. Demonstrates awareness of the quality of professional work of unit members
162. Demonstrates sensitivity to career and mentoring needs of unit members
163. Accessible to faculty and staff within the unit
164. Demonstrates understanding of the needs and concerns of students
165. Accessible to students
166. Overall rating of Interpersonal Relationship skills
167. Listens to and communicates with unit members
168. Listens to and communicates with external constituencies

169. Effectively represents the unit and its members to the rest of the university
170. Effectively communicates the unit's priorities to the upper level administration
171. Effectively communicates the upper level administration priorities to chairs
172. Effectively represents the unit and its members to the rest of the university
173. Produces clear reports and correspondence
174. Overall rating of Communication Skills
175. Maintains an active research/scholarly agenda
176. Pursues professional growth opportunities
177. Engages in effective teaching
178. Contributes his/her services to professional organizations
179. Contributes his/her services to community and campus projects
180. Overall rating of Endeavors.
181. Advances the unit's undergraduate programs effectively
182. Advances the unit's graduate programs effectively
183. Advocates appropriate curriculum offerings
184. Handles external accreditation reviews effectively
185. Recruits new personnel and/or promotes recruitment skillfully
186. Demonstrates a commitment to ensuring a fair tenure and promotion process
187. Overall rating of Quality of Education
188. Demonstrates commitment to advancing and supporting equal employment opportunities
189. Demonstrates commitment to mentoring of women and faculty from underrepresented groups
190. Provides reasonable accommodation for persons with disabilities
191. Ensures that staff are educated in EEO/AA concerns
192. Overall rating of Support for Institutional Diversity

## Appendix D. Concourse

1. Emphasizes teaching excellence appropriately (Ross, Johnsrud, & Heck, 2003)
2. Emphasizes research excellence appropriately (Ross, Johnsrud, & Heck, 2003)
3. Advocates appropriate curriculum offerings (Ross, Johnsrud, & Heck, 2003)
4. Works to maintain academic credibility within the unit (Spendlove, 2007)
5. Works to maintain respect within the unit (Spendlove, 2007)
6. Advances the unit's programs effectively by articulating the strategic goals of the unit (Ross, Johnsrud, & Heck, 2003)
7. Advances the unit's programs effectively communicating clearly the strategic goals of the unit (Ross, Johnsrud, & Heck, 2003; Smith & Wolverton, 2010;
8. Understands the issues and needs of contemporary students (McDaniel, 2002)
9. Responds appropriately to the issues and needs of contemporary students (McDaniel, 2002)
10. Feeling comfortable in fast changing environments (Leslie & Fleenor, 1998)
11. Accurately assesses the costs and benefits of risk (Leslie & Fleenor, 1998)
12. Being willing to take risks and to consider new and untested approaches (Leslie & Fleenor, 1998)
13. Studying problems in light of past practices to ensure predictability, reinforce the status quo, and minimize risk (Leslie & Fleenor, 1998)
14. Demonstrates vision and long-range planning through objective analysis, thinking ahead, and planning (Leslie & Fleenor, 1998)
15. Stating clearly and maintaining a precise and constant flow of information based on needs and expectations; clearly expressing thoughts and ideas (Leslie & Fleenor, 1998)
16. Facilitates effective communication with those with multiple perspectives while collecting their input as part of the decision making process (McDaniel, 2002)
17. Applies analytical thinking to enhance communication in complex situations (McDaniel, 2002; Smith & Wolverton, 2010)
18. Demonstrates commitment to advancing and supporting equal employment opportunities, specifically in underrepresented groups (Ross, Johnsrud, & Heck, 2003)
19. Provides reasonable accommodation for persons with disabilities (Ross, Johnsrud, & Heck, 2003)
20. Demonstrates strategies for inclusiveness in all environments (McDaniel, 2002)
21. Adopting a strong orientation toward achievement (Leslie & Fleenor, 1998)
22. Holding high expectations for self and others; pushing self and others to achieve at high levels (Leslie & Fleenor, 1998)
23. Demonstrates the understanding of politics related to higher education (McDaniel, 2002)
24. Demonstrates understanding of the elements of the national system of higher education, including institutions of varying types and missions, forms of governance, and cultures; and associations (McDaniel, 2002)
25. Demonstrates the understanding of legal issues related to higher education (McDaniel,

- 2002)
26. Handles external accreditation reviews effectively (Ross, Johnsrud, & Heck, 2003)
  27. Learns from self-reflection (McDaniel, 2002)
  28. Acts consistent with core values (Ross, Johnsrud, & Heck, 2003)
  29. Acts with honesty (Ross, Johnsrud, & Heck, 2003)
  30. Treats individuals fairly and with respect (Ross, Johnsrud, & Heck, 2003)
  31. Demonstrates leadership as service to something other than self (McDaniel, 2002)
  32. Does not take self too seriously and recognizes the value of a sense of humor (McDaniel, 2002)
  33. Presents self professionally in order to be a role model (McDaniel, 2002)
  34. Operating with a good deal of energy, intensity, and emotional expression; having a capacity to keep others enthusiastic and involved (Leslie & Fleenor, 1998)
  35. Creates and contributes to building effective and efficient staff by recruiting new personnel and/or promotes recruitment skillfully (Ross, Johnsrud, & Heck, 2003)
  36. Emphasizing the importance of making decisions independently; looking to self as the prime vehicle for decision making (Leslie & Fleenor, 1998)
  37. Contributes services to professional organizations or service projects (Ross, Johnsrud, & Heck, 2003)
  38. Fosters the development of learning organizations and their capacity for creativity and change (McDaniel, 2002)
  39. Supports the leadership and professionalism of others (McDaniel, 2002)
  40. Enlisting the talent of others to help meet objectives by giving them important activities and sufficient autonomy to exercise their own judgment (Leslie & Fleenor, 1998)
  41. Understands the value of advancement and pursues professional growth opportunities, refines knowledge over time (Ross, Johnsrud, & Heck, 2003)
  42. Delegates work effectively (Ross, Johnsrud, & Heck, 2003)
  43. Emphasizing the production of immediate results by focusing on short-range, hands-on, practical strategies (Leslie & Fleenor, 1998)
  44. Adopts a systematic and organized approach to efficient project completion (Spendlove, 2007)
  45. Visible and accessible to faculty, staff, and students (Ross, Johnsrud, & Heck, 2003)
  46. Maintaining a low-key, understated, and quiet interpersonal demeanor by working to control emotional expression (Leslie & Fleenor, 1998)
  47. Relates well with members of governing board and accrediting agencies (McDaniel, 2002; Smith & Wolverton, 2010)
  48. Demonstrating an active concern for people and their needs by forming close, supporting and productive relationships with others (Leslie & Fleenor, 1998)
  49. Building commitment by convincing others and winning them over to self point of view (Leslie & Fleenor, 1998)
  50. Insures that fair administrative procedures are followed (Ross, Johnsrud, & Heck, 2003)
  51. Tolerates ambiguity and responds appropriately (McDaniel, 2002; Smith & Wolverton,



2010)

52. Responds to emerging trends and their impact based on understanding of institutional culture: recognizes features of culture and where to find them; embraces institutional culture(s); evaluates strategies and processes for effective action within the cultural context (McDaniel, 2002)
53. Demonstrates understanding of issues related to academics, administration, and processes (McDaniel, 2002; Smith & Wolverton, 2002)
54. Demonstrates understanding of departments which are outside of own area (Ross, Johnsrud, & Heck, 2003)
55. Makes decisions that are consistent with institutional goals (McDaniel, 2002)
56. Knows and applies principles of finance and budgeting; leveraging resources for maximum benefit (McDaniel, 2002)
57. Demonstrates ability to diplomatically engage or negotiate controversial issues (McDaniel, 2002; Smith & Wolverton, 2002)
58. Respects the ideas and opinions of people in authority and using them as resources for information, direction, and decisions (Leslie & Fleenor, 1998)
59. Listens and observes, using frameworks to analyze and ask right questions in complex situations, understanding the interconnectedness of issues and problems as well as emerging trends related to higher education (McDaniel, 2002)
60. Seeking to exert influence by being in positions of authority, taking charge, and leading and directing the efforts of others (Leslie & Fleenor, 1998)
61. Acts as a scholarly practitioner (Ross, Johnsrud, & Heck, 2003)

## Appendix E. Invitation Email To Participants

Dear Participant <Name>:

As you may know, leadership is difficult to define as well as measure, effective leadership even more so. With inconsistent and variable ways in which higher education leaders are evaluated, a consistent way to define effective leadership would serve the industry well in regards to professional develop as well as effective evaluation measure by which to appraise those in senior leadership roles. For this reason, I am contacting you to request your participation in a research study construction to conceptualize effective leadership indicators among university female leaders. You have been identified as a potential participant for the study due to your position within the university setting.

The results of this study will aim to improve measures by which effective leaders can be evaluated as well as potential ways to center professional development money, time, and focus.

This study is being conducted by Tracy L. Collum, a doctoral student at North Carolina State University, under the supervision of Dr. James E. Bartlett II, Associate Professor of Leadership, Policy and Adult Higher Education at North Carolina State University.

Your participation in this study will require you to complete a ranking of statements encompassing the many opinions concerning effective leadership indicators followed by the completion of a brief questionnaire. It is estimated that this study can take 45 minutes to 1.5 hours. The questionnaires will be presented online through a link provided \_\_\_\_\_.

The research team will do everything possible to ensure your privacy. Your final statement sorting and questionnaire responses will be kept confidentially. Your identity will not be revealed in any publication that may follow this study.

Please contact me at txxxx@gmail.com or call me at 336.xxx.xxxx for any questions or concerns that you may have. In addition, you are may contact the research supervisor, Dr. James E. Bartlett II, at james\_bartlett@ncsu.edu.

Thank you for your time and consideration.

Sincerely,

Tracy L. Collum

## Appendix F. Letter Invitation to Participants

Dear {Participant Name}

I am contacting you to request your participation in a research study for my dissertation, which aims to conceptualize effective leadership indicators among university female leaders. **You have been identified as a potential participant for the study due to your position within the university setting.** This study is being conducted by Tracy L. Collum, a doctoral student at North Carolina State University, under the supervision of Dr. James E. Bartlett II, Associate Professor of Leadership, Policy and Adult Higher Education at North Carolina State University.

Your participation in this study will require you to complete a ranking of statements encompassing the many opinions concerning effective leadership indicators followed by the completion of a brief questionnaire. It is estimated that this study can take up to 45 minutes to complete. The study is available at <http://qsortonline.com/qsort/CELIAUFL/>. In a few days, you will receive an email with the link. If you consent to participate, the link will take you to the beginning of the study.

As you may know, leadership is difficult to define as well as measure, effective leadership even more so. With inconsistent and variable ways in which higher education leaders are evaluated, a consistent way to define *effective leadership* would serve the industry well in regards to professional development as well as effective evaluation measure by which to appraise those in senior leadership roles. The results of this study will aim to improve measures by which effective leaders can be evaluated as well as potential ways to center professional development money, time, and focus.

The research team will do everything possible to ensure your privacy. Your final statement sorting and questionnaire responses will be kept confidentially. Your identity will not be revealed in any publication that may follow this study. Please contact me at [txxxxxxx@gmail.com](mailto:txxxxxxx@gmail.com) or call me at 336.xxx.xxxx for any questions or concerns that you may have. In addition, you may contact the research supervisor, Dr. James E. Bartlett II, at [james\\_bartlett@ncsu.edu](mailto:james_bartlett@ncsu.edu).

I understand time is valuable for a leader such as you and I thank you in advance for your time and consideration.

Thank you for your time and consideration.

Sincerely,

Tracy L. Collum

## Appendix G. Follow Up Email to Participants

Good Afternoon!

Earlier in the week, I notified you of a dissertation study which aims to conceptualize effective leadership indicators among university female leader. **You have been identified as a potential participant for the study due to your position within the university setting.** The results of this study will aim to improve measures by which effective leaders can be evaluated as well as potential ways to center professional development money, time, and focus.

I would be greatly appreciative if you would be willing to participate in the study which is estimated to take up to 45 minutes. Your participation in this study will require you to complete a ranking of statements encompassing the many opinions concerning effective leadership indicators followed by the completion of a brief questionnaire. **The questionnaires are presented [online through this link.](#)**

This study is being conducted by Tracy L. Collum, a doctoral student at North Carolina State University, under the supervision of Dr. James E. Bartlett II, Associate Professor of Leadership, Policy and Adult Higher Education at North Carolina State University. The research team will do everything possible to ensure your privacy. Your final statement sorting and questionnaire responses will be kept confidentially. Your identity will not be revealed in any publication that may follow this study.

Please contact me at txxxxxxx@gmail.com or call me at 336.xxx.xxxx for any questions or concerns that you may have. In addition, you are may contact the research supervisor, Dr. James E. Bartlett II, at james\_bartlett@ncsu.edu.

Thank you for your time and consideration.

Sincerely,

Tracy L. Collum  
North Carolina State University  
Doctoral Candidate

## Appendix H. Q sort Instructions

### *Q sort Guidelines*

*Sort the cards on a range of +5 to -5 from the statements which you perceive as most indicative of effective leadership (+5) to those statements which you perceive as least indicative of effective leadership (-5).*

Instructions for completing the online sort:

1. When you are ready to begin the online statement sort, click the active link found within the invitation email.
2. Once you have arrived at [www.qsortonline.com](http://www.qsortonline.com) you will take part in a series of steps which ask you to place virtual cards (statements) in various boxes based on your perception of indicators of effective leadership.
3. There are 3 parts to the study. Part I is a card sort based on your perception of effective leadership indicators you have observed in the higher education setting. Part II is a card sort based on your own perceived effective leadership indicators. Part III is a demographic questionnaire.
3. Begin by reading all of the 50 statements provided in order to become familiar with the statements.
4. When ready, drag each card to one of three virtual boxes at the bottom of the screen until all cards have been placed. These virtual boxes can be defined as:
  - a. **Category 1:** (*right hand side*): Statements you believe are indicators of effective leadership.
  - b. **Category 2:** (*left hand side*): Statements you do not believe are indicators of effective leadership.
  - c. **Category 3:** (*middle*): Statements that you are unsure about.
5. Once all cards have been placed into one of three categories, you will be automatically taken to the next webpage where you will continue to rank the statements even further.
6. Begin step 2 by taking the statements from **Category 1** and place the top three cards that you believe are best indicators of effective leadership and place them in any order under the far right position (+5) as seen below.

7. Next, take three cards from **Category 2** and place them in any order under the far left position (-5).

8. Return to **Category 1** and choose three statements that represent the next most important indicators of effective leadership and place them in any order under position (+4). Continue this process by performing the exact same steps for **Category 2** but position them under (-4).

9. You should continue this process of moving towards the middle of the diagram. Once you exhaust the cards from **Category 1** and **Category 2**, you may then begin to place cards from the **Category 3** pile.

10. Upon completing the sorting process, you should have the following number of cards under each designated position:

- a) 3 cards under positions +5 and -5
- b) 4 Cards under positions +4 and -4
- c) 5 cards under positions +3 and -3.
- d) 6 cards under positions +2 and -2.
- e) 8 cards under positions +1 and -1.
- f) 9 cards under position 0.

11. You are allowed to move the cards around during the sorting process until you are completely satisfied with your final layout.

12. Once you are satisfied with your final sort, you will then be asked to confirm your decisions by clicking the link that is automatically displayed upon the placement of the final statement.

13. Upon completion of the online card sort, you will be asked to answer a series of questions that will assist the researcher in understanding the influencing factors regarding each card sort.

## Appendix I. Additional Q sort Questions

1. Gender: M    F
2. Age:
3. Title of current position (do NOT include institution name)
4. Years in current position
5. Years in higher education
6. Type of institution currently employed:        private        public
7. Carnegie classification of institution currently employed
  - RU/VH: Research Universities (very high research activity)
  - RU/H: Research Universities (high research activity)
  - DRU: Doctoral/Research Universities
  - Master's/L: Master's Colleges and Universities (larger programs)
  - Master's/M: Master's Colleges and Universities (medium programs)
  - Master's/S: Master's Colleges and Universities (smaller programs)
  - Bac/A&S: Baccalaureate Colleges—Arts & Sciences
  - Bac/Diverse: Baccalaureate Colleges—Diverse Fields
  - Bac/Assoc: Baccalaureate/Associate's Colleges
  - Spec/Faith: Theological seminaries, Bible colleges, and other faith-related institutions
  - Spec/Medical: Medical schools and medical centers
  - Spec/Health: Other health profession schools
  - Spec/Engg: Schools of engineering
  - Spec/Tech: Other technology-related schools
  - Spec/Bus: Schools of business and management
  - Spec/Arts: Schools of art, music, and design
  - Spec/Law: Schools of law
  - Spec/Other: Other special-focus institutions
  - Unsure