

## **ABSTRACT**

Michael Severy, VALIDATION OF THE SOCIALLY RESPONSIBLE LEADERSHIP SCALE WITH LEADERSHIP EDUCATORS (Under the direction of Dr. Crystal Chambers).  
Department of Educational Leadership, May 2017.

The Socially Responsible Leadership Scale (SRLS) was designed by Tyree to measure leadership in college students as espoused by the Social Change Model of Leadership Development (SCM). The purpose of this quantitative study was to validate the SRLS for use with a non-college student population, specifically leadership educators. A leadership educator is a faculty or staff member who seeks to develop or improve the knowledge and practice of others by providing high quality leadership education informed by credible leadership literature and practice.

Respondents included leadership educators from universities which participated in either of the last two iterations of an international study focused on college student leadership. Five hundred thirty potential respondents were identified from 115 universities. Of the 530, 199 engaged the survey, with 173 as viable for data analysis. The respondents identified as 113 females and 60 males; four Asian, twenty-one black or African American; one Native Hawaiian or other Pacific islander, and 149 white. The respondents were highly educated, as all but fifteen attained a master's degree or higher. Of the other fifteen, two completed high school and thirteen completed their bachelor's degree. One hundred and fifty-nine self-identified as leadership educators.

Preliminary screening was conducted to confirm and address any issues with the following: accuracy of data, missing data, univariate outliers and normality, and multivariate outliers and normality. Reliability was examined using Cronbach's alpha. The eight SCM constructs yielded Cronbach's alphas above .70 indicating respectable alpha scores. Four in

particular had very good Cronbach's alphas greater than .80. Validity was examined using Principal Component Analysis. The results support the reliability and construct validity of the SRLS with leadership educators. This scale will be referred to as the SRLS-LE.

Implications for leadership educators and recommendations for future research are also discussed. Ultimately, this study will begin the use and measurement of the Social Change Model of Leadership Development beyond college student populations and inform professional development agendas for leadership educators.



VALIDATION OF  
THE SOCIALLY RESPONSIBLE LEADERSHIP SCALE  
WITH LEADERSHIP EDUCATORS

A Dissertation

Presented to

The Faculty of the Department of Educational Leadership  
East Carolina University

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Education in Educational Leadership

by

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May, 2017

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WITH LEADERSHIP EDUCATORS

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## **DEDICATION**

For Madeline and Emma. May this work help leadership educators keep pace with what you are already hard-wired to do.

## ACKNOWLEDGEMENTS

This was a long (er than hoped), and unexpected, part of my development as a student affairs professional and leadership educator. Thank you to the East Carolina University faculty who had the entrepreneurial foresight to start an off-site, face-to-face doctoral program, and the patience to see me through. You shattered my excuses – I didn't want to commute nor pursue an online doctorate. I've driven to Greenville and the triangle enough to understand, at least, the drive time sacrifices you've made for this program. Drs. Chambers (belief and patience), Siegel (begrudgingly better writing, cheers), McFadden (permission to be ambitious), and Pooch (a student affairs lens) have each left their unique indelible mark on me as they pushed me to become a more scholarly professional. Thanks as well to Drs. McCunney and King for their time serving on my committee. Collectively, you have provided the necessary challenge and support to help me improve my understanding of, appreciation for, and praxis in higher education and leadership development.

My greatest support network has always been my family. My parents from the start have been education advocates, and this process was no exception. Even from a distance they were in the stands as my staunchest cheerleaders. I'm grateful for all the patience and understanding that Madeline and Emma could muster. You both did more than your fair share. You two are the 'why' and I hope I can re-pay you both for the time you lost with me. And lastly to Angie: taxi driver, cook, (too often) single parent, editor, counselor, and ass-kicker. Thanks for listening, championing, and getting me through my road blocks. You've always made me better and this is no exception. We've always talked about how getting this done will open doors. One of those open doors belongs to you, it's your turn now – I might even fold the laundry.



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## CHAPTER 1: INTRODUCTION

Having just completed the election of George H.W. Bush in 1988, the general public, per national polls, had lost faith in public entities and the leaders who ran them – marking the late eighties as the beginning of a crisis in leadership (Astin, 1996). This crisis of leadership was a function of changing demographics, economic issues, and foreign affairs. Specifically, the U.S. population was beginning a shift further south away from traditional industrial areas. Economically, this population shift contributed to a manufacturing related recession putting pressure on the government to provide for communities in this time of resource transition. Governmental pressures were felt internationally as well. The late eighties included the fall of the Berlin Wall, concluding the end of the proverbial Cold War, as well as the U.S. government removing from power Panamanian Dictator Manuel Noriega, who was also a CIA intelligence source. In response to these crises of leadership, Helen and Alexander Astin, two scholars at UCLA's Higher Education Research Institute, begin the task of developing a college-based leadership program to train and develop the next generation of leaders who could impact positive change. This next generation of leaders would be equipped with the leadership capacity to lead communities that would act more effectively and humanely towards the common, collective purpose of the citizenry. In 1993, with the support of a grant from the Eisenhower Leadership Development Program of the U.S. Department of Education, the Astins convened a 'working ensemble' of student affairs practitioners and faculty to develop what became known as the Social Change Model of Leadership Development (SCM), released in 1996.

Higher education's growing interest in the Social Change Model of Leadership Development specifically, and higher education's focus on student leadership development in general, coincided with this author's entrée into the professional world of student affairs when I

began Appalachian State University's master's program in the fall of 1998. Working in the Center for Student Involvement and Leadership (CSIL) my workdays nurtured my interest in student leadership development. My graduate school years also coincided with the 100<sup>th</sup> anniversary of the university and, under the direction of then vice chancellor of student affairs Greg Blimling, the university hosted several leading student affairs scholars for day-long symposia. The symposia were coordinated by Lee Williams, a CSIL staff member. In addition to attending the symposia, Dr. Williams offered me the opportunity to pick up each speaker at the airport, affording 3-4 hours of one on one time with the 'stars' of the profession. One particular scholar was Susan Komives, a member of the Astins' working ensemble. My synthesis as a leadership educator was edified during my job search at ACPA's 2000 annual convention, aptly themed, for me, "2000 and Beyond: Capitalizing on Leadership, Scholarship and Citizenship." In addition to a plethora of jobs focused on the growing interest in student leadership development, the convention offered a wealth of sessions focused on student leadership development and the evolving use of the Social Change Model of Leadership Development.

The year 2016 marked the 20<sup>th</sup> anniversary of the Social Change Model of Leadership Development. In celebration of the model's 20<sup>th</sup> anniversary, two leading student affairs leadership educator professional development experiences, the national leadership symposium and the leadership educators' institute, both focused on the model. Additionally, over the course of those 20 years, I have come to self-define as a leadership educator with a professional career intertwined with the Social Change Model of Leadership Development. The Model has served as a framework for my leadership world-view, my work with students and staff alike, and two institutions at which I've served have participated in the Multi-institutional Study of Leadership, originally designed to focus on the model and which uses the socially responsible leadership



scale as a measure of leadership. Serendipitously, at the time of this manuscript the Multi-institutional Study of Leadership was in the data analysis phase of their most recent cycle – aligning well with the spring 2017 conference season to re-emphasize the impact and role of the Social Change Model of Leadership Development on college campuses.

Leadership educators, are higher education faculty and staff members who seek to develop or improve the knowledge and practice of others by providing high quality leadership education informed by credible leadership literature and practice (Association of Leadership Educators [ALE], 2016); they serve as one of a multitude of conduits for student leadership education. More specifically, for the purpose of this study leadership educators will be affiliated with student affairs offices responsible for leadership education on their campuses.

One model of leadership development - the Social Change Model of Leadership Development (SCM) - approaches leadership as a purposeful, collaborative, values-based process that results in positive social change. The SCM is espoused as the most used leadership model on college campuses, is widely researched at the student level, and is measured by the Socially Responsible Leadership Scale (SRLS) (Higher Education Research Institute [HERI], 1996; National Clearinghouse for Leadership Programs [NCLP], 2012; Owen, 2012). There appears to be no study in the academic press that explores the capacity for socially responsible leadership as described in the SCM beyond college student populations. This lack of research is of particular concern in the case of leadership educators who serve on the front line working to build college student leadership capacity. This study validated the SRLS for use with leadership educators.

## **Purpose and Significance of the Study**

College students find it difficult to lead until they have experienced effective leadership as part of their education and are not likely to be committed to social change unless their institutions, and the faculty and staff within those institutions, have been trained to display a similar commitment (Astin & Astin, 2000). Behaviorally, leadership educators regularly model implicit forms of leadership from which students generate leadership notions and conceptions (Astin & Astin, 2000). Included in this behavior modeling is the use of specific leadership language. Ultimately, students are impacted as much by what leadership educators do as what they say, and, if students are to develop their socially responsible leadership capacity, the more consistent adoption of SCM constructs by leadership educators in their work may enhance the context in which students learn and practice leadership (Astin & Astin, 2000). Increasing the fundamental understanding of how one views and practices leadership, as measured by a valid scale, can provide a baseline from which leadership educators can shape their personal and professional development in support of their leadership practice.

To develop a more nuanced and consistent application of the SCM constructs, we should establish a baseline understanding of the degree to which leadership educators practice, understand, and utilize the language of the SCM constructs. The instrument to measure these constructs is the Socially Responsible Leadership Scale. Four iterations of this scale have been validated for use with college student populations. High scores on the SRLS may be an indicator of alignment between the model's values (consciousness of self, commitment, congruence, common purpose, collaboration, controversy with civility, and change) and students' values and perceptions of leadership (Dugan, 2006). Before any similar connections can be made linking leadership educators' practice, understanding, and language utilization to their values and

perceptions of leadership, we must first develop a valid and reliable version of the Socially Responsible Leadership Scale for use with leadership educators.

Validity depends on the context in which an instrument is used and the contextual fit of the SRLS is with only college students (Jaeger, 1993). The purpose of this quantitative study is to validate the Socially Responsible Leadership Scale for use with a non-college student population, specifically leadership educators. Validating this scale for a new population will begin the use and measurement of the Social Change Model of Leadership Development beyond college student populations and inform professional development agendas for leadership educators.

### **Research Question**

The study is guided by the following research question:

1. Does the Socially Responsible Leadership Scale fit as a valid and reliable instrument for populations beyond college students, specifically leadership educators?

### **Leadership Approach**

The Social Change Model of Leadership Development will serve as the approach to leadership for this study. Developed by a working ensemble convened by Helen and Alexander Astin in 1993, the Social Change Model approaches leadership as a purposeful, collaborative, values-based process that results in positive social change (HERI, 1996). Espoused by the National Clearinghouse for Leadership Programs (2012) as the most widely used college student leadership model in the United States, the model was built with the assumption that leadership is socially responsible, impacting change on behalf of others; collaborative; a process, not a position; inclusive and accessible to all people; values-based; and practiced by community

involvement and service (Dugan & Owen, 2007; NCLP, 2012). The model is reviewed in greater detail in chapter 2.

### **Sampling Frame**

The Social Change Model of Leadership Development espouses leadership as a process, not a position, and proposes that leadership is inclusive and accessible to all people. As such, this study, focusing on respondent behaviors rather than titles, will refer to respondents as leadership educators regardless of their formal titles or roles within their respective universities.

Respondents will include leadership educators from universities at which the Multi-institutional Study of Leadership was administered during the 2015 and 2012 data collection cycles. More specifically, upon review of institutional websites by the researcher, respondents were identified who were affiliated with a student affairs office most likely responsible for leadership education and development.

### **Instrumentation**

The Socially Responsible Leadership Scale was designed by Tyree (1998) to measure leadership in college students. While the SRLS has since been further revised for use with college students, the 104-item scale version of the SRLS will be the foundational starting point of this study. This version was selected, as opposed to more recent data reduced versions, so as to provide the broadest perspective about leadership educators views.

### **Data Analysis**

Data analysis will be completed using SPSS. SPSS will support the statistical analysis needs of this study. Reliability will be examined using Cronbach's alpha, the most common measure of scale reliability. Validity will be examined through the use of principal component

analysis (PCA) and correlations. These analyses mimic the process used by Tyree (1998) in her original study. Additional details are provided in chapter 3.

### **Assumptions**

Assumptions are ideas that are generally accepted as true or certain to happen without requiring proof of such. This research study assumes the following:

1. Respondents are representative of leadership educators.
2. Respondents will answer truthfully.

The Socially Responsible Leadership Scale was originally validated for use with college students in 1998. As such, respondents may have been exposed to the Social Change Model of Leadership Development and/or the Socially Responsible Leadership Scale as students and/or as a leadership educators. Thus some respondents may be further along developmentally with respect to their self-knowledge and their ability to facilitate positive social change, the two primary goals of the Social Change Model of Leadership Development (HERI, 1996). To reduce response bias that may occur because of this prior knowledge, email communications will reference the development of a professional development assessment scale for higher education professionals rather than the validation of the socially responsible leadership scale. A thank you, debriefing email will be sent to respondents upon the completion of the survey outlining the Social Change Model of Leadership Development and the validation of the socially responsible leadership scale.

With respect to respondent honesty and the population representation, anonymity and confidentiality were maintained throughout the study. Beyond the initial contact information obtained from publicly available web pages, all personally identifiable data that may have been collected by Qualtrics was deleted from the data set before analysis, and when group level data

was collected that might identify an individual (i.e. gender, race, education, etc.), data was only used in the aggregate. Further incentive to answer truthfully was the professional development value that participation may provide through the development of a professional development tool to measure leadership in leadership educators. Data using the Crowne-Marlow Social Desirability Scale was collected but not analyzed. Analysis of this data was beyond the scope of this study but will be made available for future studies that may wish to explore data reduction. SRLS items that correlate significantly with the Crowne-Marlow Social Desirability Scale could be considered for removal as they may indicate an orientation towards social desirability rather than truthful responses.

### **Limitations**

Limitations of this study include this research study's contextual bounds. The context is leadership educators in the higher education setting. As such, the findings may not be generalized to other non-student populations or leadership educators outside the higher education context. Second, while leadership has evolved from industrial to post-industrial models, the data from this study is but a snapshot in time, bound to the current understanding of leadership education literature. Third, the study is limited to the degree to which leadership educators can accurately self-assess their leadership using the Socially Responsible Leadership Scale.

### **Definitions**

This study will use the following operational definitions.

*Leadership educators:* An higher education faculty or staff member who seeks to develop or improve the knowledge and practice of others by providing high quality leadership education informed by credible leadership literature and practice (ALE, 2016).

*Leadership*: A purposeful, collaborative, values-based process that results in positive social change (HERI, 1996).

*Social Change Model of Leadership Development*: A model of leadership development that approaches leadership as a purposeful, collaborative, values-based process that results in positive social change. The Model was built upon the following assumptions:

- “Leadership” is concerned with effecting change on behalf of others and society
- Leadership is collaborative
- Leadership is a process rather than a position
- Leadership should be value-based
- All students (not just those that hold formal leadership positions) are potential leaders
- Service is a powerful vehicle for developing students’ leadership skills (HERI, 1996).

*Socially Responsible Leadership Scale (SRLS)*: A set of statistically valid and reliable scales designed to measure the eight values of the Social Change Model of Leadership Development (NCLP, n.d.).

### **Organization of Remaining Chapters**

Chapter 2 begins with an overview of the evolution of leadership from the industrial to post-industrial views. This review of leadership includes an overview of the Social Change Model of Leadership Development. The chapter continues with a review of studies exploring the measurement of leadership. The chapter concludes with a review of the literature examining the development and refinement of the Socially Responsible Leadership Scale.

Chapter 3 outlines the methodology for the study including a description of study participant identification, instrumentation, and data collection, preparation, and analysis.

Chapter 4 describes the results of this study and the various analyses employed.

Chapter 5 draws conclusions that can be gleaned from the data analysis and outlines opportunities for future research to either further refine the SRLS or use the SRLS with non-student populations.



## **CHAPTER 2: REVIEW OF LITERATURE**

In the context of higher education, leadership is perhaps one of the most widely studied topics with studies focused on boards of trustees, presidents, chief academic officers/provosts, chief students affairs officers, and students (Dugan & Komives, 2007; Hassan, Dellow, & Jackson, 2010; Katherine, 2011). The studies have spanned a variety of demographic variables including but not limited to institutional control, geographic location, enrollment, Carnegie classification, and a spectrum of individual demographic characteristics including race, gender, sexual orientation, and ethnicity. These studies focus on a wide range of leadership concepts, capacities, and practices using industrial based personality inventories, managerial styles, and other non-theoretical approaches (Brown, 1997; Goldstein, 2007; Hays, 1991; Held, 1994; Kinnick & Bollheimer, 1984; Katherine, 2011; McDaniel, 2002; Murphy, 2006; Oliver, 2001; Rozeboom, 2008; Venema, 1989). However, as found by Kellerman (2012), even with the wide ranging understanding of leadership driven by these inventories, styles, and approaches, there is a gap between leadership knowledge and leadership practice. The purpose of the present study is to validate the Socially Responsible Leadership Scale as a measure of leadership knowledge espoused by the Social Change Model of Leadership Development. The hope is to work towards the refinement of a tool that will enable leadership educators to better self-assess in support of their professional development and work that supports student leadership development.

This chapter begins with a brief overview of the evolution of leadership from industrial to post-industrial approaches. The chapter continues with an overview of the Social Change Model of Leadership Development. The chapter then moves into an overview of the measurement of leadership concluding with an overview of the development and use of the socially responsible leadership scale, the foundation for this research study.

## **Evolution of Leadership Theory**

While there is no unifying theory of leadership, there does exist a categorical evolution of how scholars and practitioners have studied leadership (Northouse, 2013). Using both quantitative and qualitative methods, studies have explored leadership from the following perspectives: trait-based, styles, situational, contingency, transactional, and transformational (Northouse, 2013). Burns (1978; 2003), having explored thousands of studies, books, and monographs for his seminal book *Leadership*, notes that leadership both draws from and illuminates work in political science, history, sociology, philosophy, theology, literature, business, and psychology. This breadth of influence is perhaps why, while the concept of leadership has existed for centuries, there exists no unifying theory of leadership, exposing the young nature of the field of leadership studies (Burns, 2003).

While not articulating central theory, Northouse (2013) does share four central components of leadership in his discussion of leadership theory. First, Northouse states that leadership is a process. Second, this process involves influence. Third, the influence occurs within the context of groups. And finally, the focus of the group process is on goal attainment. Of note about Northouse's central components is the concept of assigned versus emergent leadership. Assigned leadership is leadership that has been assigned based on one's position within an organization. A formal role is not necessary to practice leadership according to Northouse's central components. Northouse (2013) goes on to point out that a person with assigned leadership does not necessarily become the leader to which others look for direction in every setting. Leadership afforded based on one's behaviors, and not tied to one's formal role, is emergent leadership. Emergent leaders tend to be more dominant and more intelligent with greater self-efficacy (Northouse, 2013).

## **Social Change Model of Leadership Development**

One model of leadership development, the *Social Change Model (SCM) of Leadership Development*, has been espoused as the most widely used leadership model on college campuses (NCLP, 2012). With national calls to position leadership as a core outcome of a college education, an emphasis on leadership as a core competency espoused by the two major generalist student affairs professional organizations, and the expanding focus on the *Social Change Model of Leadership Development* on college campuses, college leadership educators would be well served to practice continued personal and professional development around leadership (Astin & Astin, 2000; Keeping, 2004; Dugan & Owen, 2007; Owen, 2012).

With funding from the Eisenhower Leadership Program of the U.S. Department of Education the *Social Change Model of Leadership Development* was developed by a working ensemble of eleven members convened by Helen and Alexander Astin in 1994. Members of the ensemble, a group of leadership specialists and student affairs professionals, were selected in collaboration with heads of key national student affairs organizations (HERI, 1996). In a series of six two-day work sessions, the ensemble discussed the knowledge, values, and skills college students needed to develop in order to participate in effective leadership focused on social change (Wagner, 2006). Wagner states, that upon completion of these sessions, the ensemble shared their results with two groups for feedback, a group of student affairs professionals and a group of undergraduate students. After incorporating feedback from these groups, the ensemble presented the model at a variety of pre-conference workshops in the spring of 1995. The current format of the model was informed by feedback from sessions at the National Leadership Symposium and the national conventions of NASPA: Student Affairs Administrators in Higher

Education, ACPA: College Student Educators International, National Association for Campus Activities, and American Association of Higher Education (Wagner, 2006).

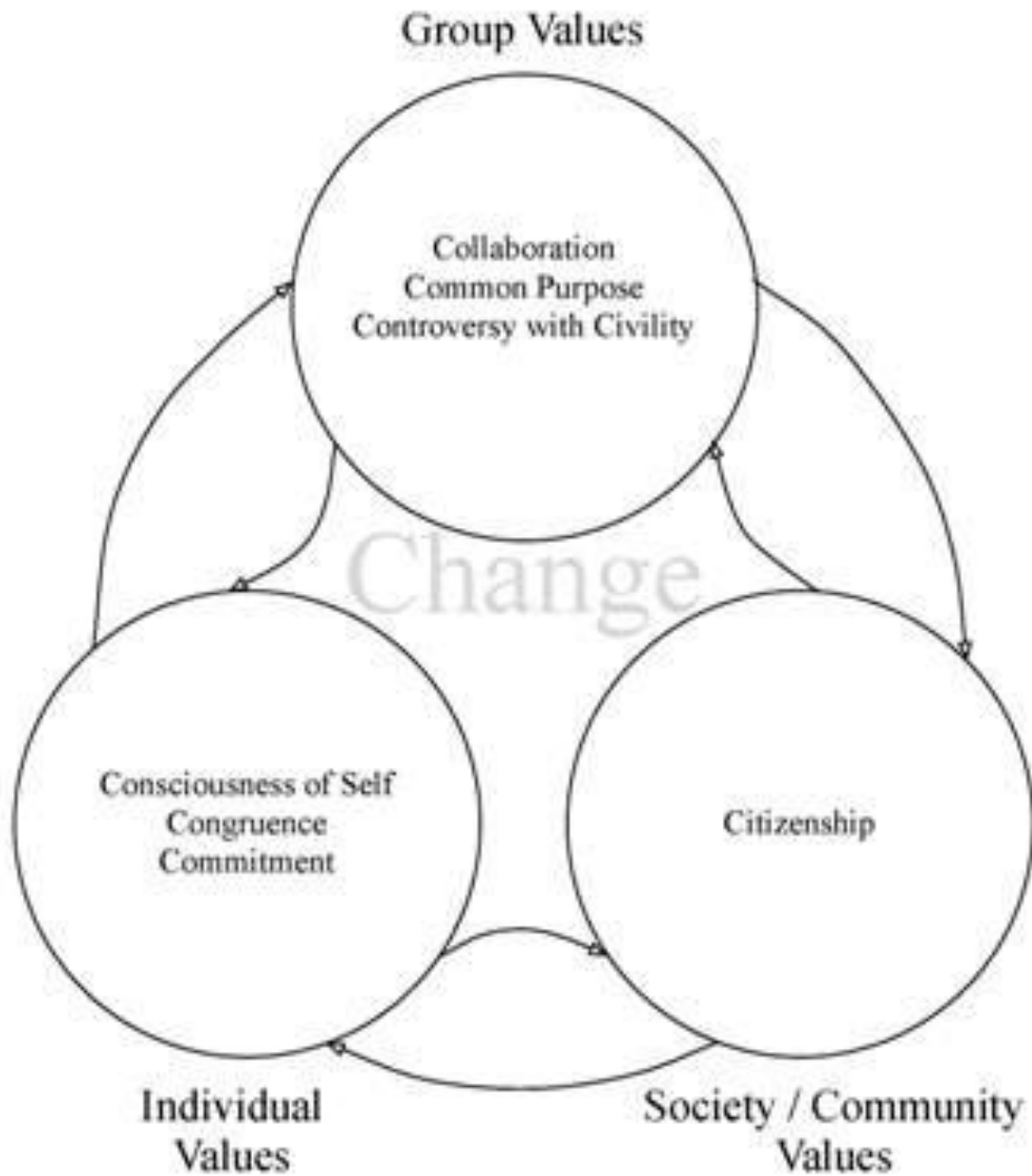
The working ensemble conceptually grounded the development of the Social Change Model using Astin and Leland's (1991) study of 77 successful leaders entitled *Women of Influence, Women of Vision: A Cross-Generational Study of Leaders and Social Change*. The study established empowerment and collective action as key factors affecting social change. Additionally, the leadership concepts emphasized a non-hierarchical approach supported by leadership behaviors that were embedded in the women's values. These values focused on trust, integrity, and a commitment to social justice. As a result of these insights the working ensemble included the following concepts within the Social Model of Leadership Development: values clarification, development of self-awareness, trust, listening, service to others, collaboration, and change for the common good.

A second conceptual base for the Social Change Model of Leadership Development is Astin's (1993) *What Matters in College?* The key foundational concept from this research was the identification of peer groups as the single most influential factor effecting leadership development among college students. This idea is manifested in the Social Change Model of Leadership Development through the use of volunteer activities and group work as vehicles to enhance leadership skills.

The Social Change Model of Leadership Development approaches "leadership as a purposeful, collaborative, values-based process that results in positive social change" (HERI, 1996). The model was built with the assumption that leadership is socially responsible, impacting change on behalf of others; collaborative; a process, not a position; inclusive and accessible to all people; values-based; and that community involvement and service are powerful

vehicles for leadership (Dugan & Owen, 2007; NCLP, 2012). Leadership educators using the Social Change Model of Leadership in their work are focused on two primary goals of the Model (HERI, 1996). The first goal is to develop greater self-knowledge and leadership competence among those participating in the leadership process (HERI, 1996). Self-knowledge includes enhanced understanding of one's talents, values, and interests; leadership competence is the capacity to serve and work collaboratively (HERI, 1996). The second goal is to facilitate positive social change by taking actions that will assist society in functioning more effectively and humanely (HERI, 1996).

The Social Change Model of Leadership Development has three dimensions (individual, group, and societal), eight values (consciousness of self, congruence, commitment, common purpose, collaboration, controversy with civility, citizenship and change), and the relationship between these dimensions and values is represented in Figure 1. Definitions of each dimension and value can be found in Table 1. The individual dimension consists of three values: consciousness of self, congruence, and commitment. These model values are focused on an individual's self-awareness and how one presents oneself in the leadership process. The group dimension also consists of three values: common purpose, collaboration, and controversy with civility. These model values focus on how a group works together to achieve a common goal while managing the inevitable conflict that arises when working with others. The third dimension, societal, includes the citizenship value, which address the collective community in which leadership occurs. Each dimension influences, and is influenced by, the other dimensions - as indicated by the arrows in Figure 1. Ultimately, these dimensions work symbiotically to affect positive change, which resides at the center of the model, the ultimate goal of the leadership process (HERI, 1996).



*Note.* This figure illustrates the relationship among the three dimensions of leadership: individual, group, and societal (with their corresponding values). All are focused on social change.

*Figure 1.* Social change model of leadership development (adapted from HERI, 1996).

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Table 1

*Social Change Model of Leadership Development Value Definitions (HERI, 1996)*

Dimension	Value	Definition
Individual	Consciousness of Self	Being aware of the beliefs, values, attitudes, and emotions that motivate one to take action.
	Congruence	Thinking, feeling, and behaving with consistency, genuineness, authenticity, and honesty towards others. Congruent persons are those whose actions are consistent with their most deeply-held beliefs and convictions.
	Commitment	Psychic energy that motivates the individual to serve and that drives the collective effort. Commitment implies passion, intensity, and duration. It is directed towards both the group activity as well as its intended outcomes.
Group	Common Purpose	Working with shared aims and values. It facilitates the group's ability to engage in collective analysis of the issues at hand and the task to be undertaken. Common purpose is best achieved when all of the members in the group share in the vision and participate actively in articulating the purpose and goals of the leadership development activity.
	Collaboration	Working with others in a common effort. It constitutes the cornerstone value of the group leadership effort because it empowers self and others through trust. Collaboration multiplies group effectiveness by capitalizing on the multiple talents and perspectives of each group member and on the power of that diversity to generate creative solutions and actions. Collaboration empowers each individual best when there is a clear-cut "division of labor."
	Controversy with Civility	Recognizes two fundamental realities of any creative group effort: that differences in viewpoint are inevitable, and that such difference must be aired openly but with civility. Civility implies respect for others, a willingness to hear each other's views, and the exercise of restraint in criticizing the views and actions of others.
Societal	Citizenship	Process whereby the individual and the collaborative group become responsibly connected to the community and the society through the leadership development activity.
	Change	The ultimate goal of the creative process of leadership - to make a better world and a better society for self and others.

The model's focus on a collaboratively developed, non-hierarchical approach to leadership can place leadership educators with perceived power in a difficult space when they attempt to espouse concepts of inclusion, consensus, and reciprocity (HERI, 1996). The Model's authors (1996) suggest that this juxtaposition be acknowledged up front letting others know the intent is for all participants to be equal partners in a group process where the 'leader' will need to empower others to have an equal say in how the process proceeds. This will additionally require the 'leader' to serve as a catalyst for leadership development by modeling the Model and reflecting on one's ability to align one's beliefs, actions, and knowledge (HERI, 1996).

### **Measurement of Leadership**

There are a variety of leadership scales available in the literature. Northouse (2013) identifies thirteen different approaches to leadership, and accompanying instruments, in his book on leadership theory and practice. These instruments measure the following approaches to leadership: trait, skills, style, situational, contingency, path-goal, leader-member exchange, transformational, servant, authentic, team, psychodynamic, women, cultural, and ethical. The Social Change Model of Leadership defines leadership as a purposeful, collaborative, values-based process that results in positive social change (HERI, 1996). This definition is consistent with contemporary, post-industrial leadership approaches, which rely less on management, production, command, and control and more on relationships, processes, and social justice (Dugan, *in press*; Northouse, 2013). Based on a review of the literature, the leadership approaches noted by Northouse that most closely espouse this approach to leadership include leader-member exchange, transformational, and servant. Four personal development tools that are frequently used in the higher education setting are also briefly discussed.



Leader-Member Exchange (LMX) Theory conceptualizes leadership as a process that focuses on the interactions that occur in the dyadic relationship between leaders and followers (Northouse, 2013). Northouse notes that there are several assessment tools available to study LMX theory. Graen and Uhl-Bien (1995) indicate that as research has continued on LMX theory, assessment tools have included 2-, 4-, 5-, 7-, 10-, and 14-item scales. With the plethora of options, the LMX-7 has been identified as the “most appropriate and recommended measure of LMX” (Graen & Uhl-Bien, 1995, p. 236). The LMX-7 was developed as a part of a study on job satisfaction and productivity (Graen, Novak, & Sommerkamp, 1982). Participants were primarily female, high school graduates, over the age of 40 who worked at a large government installation in the Midwest. Psychometric data for the LMX-7 was not available for the literature review.

Transformational leadership is “the process by which a person engages with others and creates a connection that raises the level of motivation and morality in both the leader and the follower” (Northouse, 2013, p. 186). The Multi-factor Leadership Questionnaire (MLQ) was developed by Bass (1985) based on information gleaned from interviews of 70 South African business leaders. Antonakis, Avolio, and Sivasubramaniam (2003) assessed the psychometric properties of the MLQ in their development of a short form version known as the MLQ (form 5X). Their study, using a homogenous business sample, found a valid nine-factor model of transformational leadership, though there were concerns that assessment results may be affected by the observational context (Antonakis et al., 2003). Another measure of transformational leadership is the Transformational Leadership Questionnaire (TLQ-LGV). Developed in response to some negative construct validity concerns relating to the MLQ, and a desire to assess middle and lower level managers, the TLQ-LGV was derived from a sample of over 1400 United Kingdom managers at a government office and the National Health Service (Alimo-Metcalf &

Alban-Metcalf, 2001). The sample was divided into two random sub-samples and analyzed using exploratory principal component analyses with items loading at or above .30 being judged as statistically significant. Items that loaded significantly on more than one factor were eliminated. Factor analysis led to alpha coefficients for nine factors ranging from .85 to .97, all in excess of the minimum of .70.

Servant leadership is focused on the service-oriented relationship leaders have towards their followers (Northouse, 2013). Northouse identifies the Servant Leadership Questionnaire (SLQ), a 28-item scale measuring seven dimensions. In phase one of development, with a 285 member college student population, researchers used exploratory factor analysis to reduce an 85-item scale to 28 items (Liden, Wayne, Zhao, & Henderson, 2008). Items that loaded on to one of seven factors with a value of .4 or greater, and not on another factor with a value of .3 or greater, were considered for inclusion. This yielded 54 items across the seven factors: emotional healing (9 items); creating value for the community (7 items); conceptual skills (9 items); empowering (6 items); helping subordinates grow and succeed (8 items); putting subordinates first (4 items); and behaving ethically (11 items). To keep the scale manageable the researchers selected the top four loading items for each factor for inclusion in the 28-item scale. In phase two, with 189 employees from a Midwestern production and distribution company serving as respondents, researchers validated the 28-item scale using confirmatory factor analysis techniques (Liden et al., 2008). The confirmatory factor analysis results were evaluated using standards provided by Hu and Bentler (1999). Specifically, the standards of goodness of model fit provided were:  $CFI \geq .96$ , and  $SRMR \leq .10$ ; or  $RMSEA \leq .06$  and  $SRMR \leq .10$  (Liden et al., 2008). Results indicated a good overall fit ( $CFI = .98$ ;  $RMSEA = .06$ ;  $SRMR = .05$ ).

From a personal development perspective, there also exists a plethora of tools that are discussed as leadership development tools. This includes StrengthsQuest, DiSC, True Colors, and the Leadership Practices Inventory. StrengthsQuest is a Gallup supported personal assessment tool that includes 34 talents within four domains (Gallup, 2017). Upon completion of the StrengthsQuest assessment respondents are provided with their top five themes that, through development, can evolve into strengths. Gallup states that individuals focused on their strengths are more highly engaged at work. DiSC is a personality profile that provides a common language that can help individuals and teams facilitate better teamwork (Personality Profile Solutions LLC, 2015). Upon completion of the DiSC assessment respondents receive insight into four behaviors (dominance, influence, steadiness, and conscientiousness) that can help them become more self-knowledgeable, well rounded, and effective as leaders. True Colors is similar to DiSC in that it is a personality profile focused on four personality components (True Colors Intl, 2016). Upon completion of the True Colors assessment respondents receive a report detailing their behavioral tendencies when interacting with others. There is also a 360-degree component so respondents can see how others view them. A fourth personal development tool, the Leadership Practices Inventory, also has a 360-degree component. The Leadership Practices Inventory is based on the Five Exemplary Practices of Leadership (Wiley, 2017). Upon completion of the Leadership Practices Inventory respondents are provided with insight on five leadership practices (Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, Encourage the Heart) that can serve as a starting point towards development of one's personal leadership best. The Leadership Practices Inventory also has a student version.

## **The Socially Responsible Leadership Scale**

The Social Change Model of Leadership is measured by the Socially Responsible Leadership Scale (SRLS). The SRLS was originally designed by Tyree (1998) through a three-phase process. Phase one was a rater exercise where leadership experts sorted 291 items into the eight dimensions of the Social Change Model of Leadership Development (consciousness of self, congruence, commitment, collaboration, common purpose, controversy with civility, citizenship and change). This exercise addressed content validity and reduced the 291 items to 202. Tyree's second phase involved a pilot study with 101 undergraduate college students to address test, re-test reliability. Tyree administered the study twice, four weeks apart, yielding 104 reliable items. Tyree's third phase involved 342 randomly selected undergraduate students with the goal of establishing internal consistency reliability. Tests of internal consistency reliability resulted in seven of eight constructs being able to yield accurate results. The Cronbach alpha for the eighth construct indicated that the construct is minimally likely to yield reliable results. Tyree determined that her 104-item scale would be valued in future research and assessment.

At the conclusion of Tyree's development, the instrument became property of the National Clearinghouse for Leadership Programs (NCLP). In 2005 and 2006, Appel, Silbaugh, and Dugan, respectively, revised Tyree's original scale for use with the Multi-Institutional Study of Leadership. This revision, referred to as SRLS-R2, was achieved through standard data reduction techniques reducing the original 104 item scale to 68 items (Dugan, Komives, & Segar, 2008). The revised scales consisted of between six and eleven self-report items designed to measure knowledge, attitudes, and skills affiliated with one of the eight dimensions of the Social Change Model of Leadership Development. Reliability and validity continued to remain strong for the SRLS-R2 as evidenced by Cronbach alphas ranging from a high of .83 to a low of

.76. In comparison, Tyree's study had a Cronbach alpha range of .92 to .71 (Dugan et al., 2008). Dugan et al. (2008) added that institutional and demographic variable alphas were calculated yielding consistent reliabilities that did not deviate by more than .12. Among the scales in the SRLS-R2, the instrument demonstrated lower reliability on the citizenship scale (Dugan, 2015). To address this concern it was recommended that a 71-item scale be used for research purposes (Dugan, 2015).

For the 2015 iteration of the Multi-Institutional Study of Leadership (MSL) Dugan (2015), again using standard data reduction techniques, further refined the SRLS-R2 to improve psychometric rigor. In part, Dugan conducted qualitative interviews with pilot student respondents to confirm clarity, comprehension, and ease of response. Dugan also reaffirmed the content validity through the use of an expert panel. The panel review affirmed that the SRLS did measure leadership capacity versus efficacy, motivation, or behaviors. The panel review also led to the removal of the SRLS change scale in the MSL study. While the change scale item-construct measurements aligned, they did not align well with the theoretical conceptualization. The issue was that the items addressed one's overall skill and comfort with transition rather than one's ability to engage in change processes. With respect to structural validity, the author affirmed the validation of the original conceptual model, removed the common purpose scale, and reduced the number of overall items. Common purpose was removed due to conceptual redundancy with collaboration. The resultant scale consists of 34 items reflecting six scales (consciousness of self, congruence, commitment, collaboration, controversy with civility, and citizenship). Item reduction was achieved by removing negative response items. The scale continues to fit the data well as measured by goodness of fit measures, maintains five to six items for all factors representing good reliability with all alphas greater than or equal to .80, and has

minimal issues relating to inter-correlations. Dugan's expectation is that the reduction of the original SRLS 104-item scale to a 34-item scale will support broader use of the SRLS. Again, this data reduction was completed using college student data sets.

### **Research Studies Using the Social Responsible Leadership Scale**

Two national studies use the Socially Responsible Leadership Scale as their foundation for leadership assessment. As part of a comprehensive assessment of student outcomes affiliated with a liberal arts education, the Wabash College Center of Inquiry conducted the Wabash National Study using the SRLS version II, the 68 item version (Center of Inquiry, 2016). The most prominent study is the longitudinal, Multi-Institutional Study of Leadership (MSL).

**Multi-institutional study of leadership.** The Multi-Institutional Study of Leadership is focused on developing evidenced based practice around the concepts of socially responsible leadership and other leadership related outcomes in college students (Multi-institutional Study of Leadership (MSL, n.d.). The MSL was started in 1996 to improve the theory, research, and practice cycle by studying over 600 college students across 52 institutions. Data collection was repeated in 2009, 2010, 2011, 2012, and 2015 with plans to shift to a three-year data collection format beginning in 2015. The five iterations of the MSL data collection have netted over 300,000 college student respondents from approximately 250 institutions. The MSL survey includes more than 400 variables, scales, and composite measures (MSL, n.d.). At the core of the MSL survey is the Socially Responsible Leadership Scale (SRLS). As stated previously, to ease data collection in the Multi-Institutional Study of Leadership, Dugan further revised the SRLS-R to a 68-item instrument known as SRLS-R2 (NCLP, 2012). Reliability levels for all 8 Cs (consciousness of self, congruence, commitment, collaboration, common purpose, controversy with civility, citizenship and change) have been consistent. In the 2006 MSL study, Cronbach

alphas were calculated by categories in each major student sub-population (i.e. race, gender, sexual orientation) and were consistent across all scales with deviation no greater than .12 (MSL, n.d.).

**Other studies using the SRLS.** Buschlen and Dvorak (2011) used the SRLS as a pre/post-test measure of leadership using 260 college students as respondents. Respondents included 108 students enrolled in a leadership course and 152 enrolled in a psychology course. Results indicated a significant difference between the two groups - leadership class versus psychology class - as measured by the SRLS. Lane and Chapman (2011) used the SRLS to connect Social Change Model of Leadership Development individual values to respondents' belief in the StrengthsQuest talents. With a response group consisting of undergraduate students from a private, mid-sized, Midwestern, urban institution, the researchers found that 73% of the variability among the individual values of the Social Change Model could be explained by the respondents' strengths, self-efficacy, hope, and engagement. Ricketts, Bruce, and Ewing (2008), using SRLS data from 791 undergraduate students enrolled in a college of agricultural sciences at a large land grant university, found that the respondents were comfortable with diversity and conflict but were less willing to contribute to civically responsible initiatives.

### **Summary**

This chapter provided a brief overview of the measurement of some post-industrial leadership approaches most similar to the Social Change Model of Leadership Development. The leadership approaches noted by Northouse (2013) that most closely align with the SCM include leader-member exchange, transformational, and servant. None of these approaches were developed in the context of higher education and none used leadership educators as a respondent population. The Socially Responsible Leadership Scale was developed in the context of higher

education. The SRLS has been used in a variety of studies including longitudinal studies and those exploring self-efficacy, classroom teaching as a treatment, and connections to other models of leadership and personal development. All of these SCM studies have used only college students as the research population.



## **CHAPTER 3: METHODOLOGY**

As the preceding literature review indicated there are a variety of leadership measurement instruments. None, however, target leadership educators as a research audience. With national calls to position leadership as a core outcome of a college education, an increasing use of the Social Change Model of Leadership Development, and an emphasis on leadership as a professional core competency espoused by two major generalist student affairs professional organizations, the validation of the Socially Responsible Leadership Scale for use with leadership educators is an opportunity worth exploring. This study validated the Socially Responsible Leadership Scale beyond the college student level.

### **Methods**

This study determined the fit of the Socially Responsible Leadership Scale as an instrument to measure the degree to which leadership educators understand the leadership values presented by the Social Change Model of Leadership Development. This chapter outlines the research methodology that was employed.

### **Research Question**

The study was guided by the following research question.

1. Does the Socially Responsible Leadership Scale fit as a valid and reliable instrument for populations beyond college students, specifically leadership educators?

### **Threats to Validity**

Threats to validity reduce the likelihood that data collection and analysis accurately reflects what is really occurring with regard to the studied phenomena. Of particular concern with this study was hypothesis guessing. As participants are leadership educators who may have at least a rudimentary understanding of the Social Change Model of Leadership there was

concern that participants would answer questions in a manner that would over generalize their understanding and practice of socially responsible leadership as measured by the Socially Responsible Leadership Scale.

### **Participants**

This study focused on leadership educators. A leadership educator is a faculty or staff member who seeks to develop or improve the knowledge and practice of others by providing high quality leadership education informed by credible leadership literature and practice (ALE, 2016). That the Social Change Model of Leadership Development espouses leadership as a process, not a position, which is inclusive and accessible to all people, this study refers to respondents as leadership educators regardless of their formal titles or roles within their respective universities. Respondents included leadership educators from universities which participated in either of the last two iterations of an international study focused on college student leadership and who were affiliated with the student affairs office most likely responsible for student leadership development.

Respondents were identified by searching university websites for the student affairs office responsible for student leadership development. Most often this was achieved by a website search for 'student leadership'. For universities with unclear search results, the researcher visited the student affairs division page to ascertain options for consideration. For offices that were clearly identifiable, names and email addresses for staff within the office were copied into an Excel spreadsheet to be uploaded as a Qualtrics panel. When universities did not have email addresses readily available on office webpages, or when no office was clearly identifiable as responsible for student leadership, respondents were not included from those universities. Thirty-one of 146 potential universities were not included because of these factors. The remaining 115

universities yielded 530 potential respondents. While the researcher was eligible, I was not included as a respondent. Of the 530, 199 engaged the survey, with 173 as viable for data analysis. The respondents identified as 113 females and 60 males; four Asian, twenty-one black or African American; one Native Hawaiian or other Pacific islander, and 149 white. The respondents were highly educated as all but fifteen attained a master's degree or higher. Of the other fifteen, two completed high school and thirteen completed their bachelor's degree. One hundred and fifty-nine identified as leadership educators. Kline (2011) suggests a best practice sample size-to-parameters ratio of 20:1 (160 cases for this study). As the number of self-identified leadership educators was not above 160, the 173 viable cases will be used for data analysis and not just those who self-identified as leadership educators.

### **Data Collection and Preparation**

Data was collected via a web-based survey using the Qualtrics Research Suite. The researcher used Qualtrics regularly as part of work related assessment and data collection responsibilities and this familiarity will support effective use. In addition, Qualtrics allowed for survey sharing (with the project's chair in advance of survey distribution), real-time reporting, anonymous data collection, and direct export capability for data analysis (Qualtrics, 2017). SPSS was the data analysis software that was used in this study and is described in detail in the following section.

Web-based surveys are not difficult to administer and are low cost alternatives to mailed surveys (Monroe & Adams, 2012). The survey was accessible for four weeks giving participants ample time to respond. To improve response rates Dillman et al. (2009) espouse personalized, repeated contact including the use of participant names in the contact email and the use of personalized links to track incomplete responses (Monroe & Adams, 2012). Contact with

respondents began with a pre-survey communication sent by email. This pre-survey communication has been shown to increase response rates (Dillman et al., 2009). Follow up and completion contact was made in the same manner at the beginning of weeks two and three, and upon successful completion of the survey. Two days prior to the close of the survey, those with incomplete responses were sent a final follow up email message inquiring about response completion. All email correspondence can be found in Appendices E through J.

Prior to the close of the survey a follow up email was sent to participants who had partially complete responses. Some partial responses existed in the data after the close of the survey. The twenty-six who did not complete the survey were removed from analysis. Missing random data was replaced with the item mean (Sauro, 2015).

### **Instrumentation**

The original 104-item Socially Responsible Leadership Scale – designed by Tyree (1998) to measure leadership in college students - was used as the starting point in the development of a valid and reliable SRLS scale for leadership educators. While there are more recent iterations of the SRLS available as starting points, the original full scale ensured the broadest understanding of leadership educators perspectives on leadership and allowed for a greater degree of specificity and clarity (Dugan, 2015). The 2006, 2008, and 2015 SRLS revisions can be used as contextual reference points in the refinement of the SRLS for non-student populations. In addition to the 104-item SRLS scale, data was collected using a revised version of Strahan and Gerbasi's (1972) short form Marlow-Crowne Social Desirability Scale (SDS). While beyond the scope of this study, the SDS data can be used to control for socially desirable response tendencies during future data reduction processes (Fischer & Fick, 1993). This revised short form is a 10-item, true-false scale consisting of culturally approved behaviors with a low probability of occurrence.

The initial SRLS scale, SDS scale, and demographic questions for this study can be found in Appendices B, C, and D respectively.

### **Data Analysis**

While the original SRLS has been revised for use with college students, the 104-item scale version of the SRLS will be the foundational starting point of this study. The broader starting point allowed for better construct clarity and specificity (Dugan, 2015). Data analysis was completed using SPSS. SPSS supported the statistical analysis required of this study.

Reliability was examined using Cronbach's alpha, the most common measure of scale reliability. Validity was examined through the use of principal component analysis (PCA) and correlations. These analyses mimicked the process used by Tyree (1998) in her original study. PCA extracts factors from the data to explore validity.

### **Summary**

This study determined the fit of the socially responsible leadership scale as an instrument to measure the degree to which leadership educators practice the leadership values presented by the *Social Change Model of Leadership Development*. Respondents will include leadership educators from universities at which the Multi-institutional Study of Leadership was administered during the 2015 and 2012 data collection cycles. The use of Qualtrics will aid in data collection and preparation. SPSS will provide effective data analysis necessary to address the research question.

## **CHAPTER 4: RESULTS**

The findings of this study are reported in this chapter. The preliminary analyses provide an overview of the data collected. The chapter concludes with the results of the reliability and validity analyses. No scale revisions are planned as part of this study so analyses were only performed to support reliability and validity. Based on these analyses it appears the socially responsible leadership scale is reliable and valid for use with leadership educators.

### **Sampling Frame**

Respondents included leadership educators from universities which participated in either of the last two iterations of an international study focused on college student leadership and who are affiliated with the student affairs office most likely responsible for student leadership development.

Of the 530 potential respondents who were sent the survey, 199 engaged the survey, with 173 as viable for data analysis. Justification for removal of some respondents is presented below. One hundred and fifty-nine respondents identified as leadership educators. Kline (2011) suggests a best practice sample size-to-parameters ratio of 20:1 (160 cases for this study). As the number of self-identified leadership educators was not above 160, the 173 viable cases will be used for data analysis and not just those who self-identified as leadership educators.

### **Preliminary Analyses**

Preliminary screening was conducted to confirm and address any issues with the following before proceeding with the principal component analysis: accuracy of data, missing data, univariate outliers and normality, and multivariate outliers and normality (Kline, 2011).

## **Accuracy of Data Entry**

Respondent data was collected through the use of the online survey software Qualtrics. The data was downloaded from Qualtrics for analysis in SPSS 23 (IBM Corp., 2015). The download and transition of data from Qualtrics to SPSS presented no issues. Any individually identifying information carried over from the use of Qualtrics' panel feature was deleted and the data set was saved over the top of the original download file.

## **Missing Data**

The researcher's version of SPSS did not have the SPSS Missing Values add on feature. Data were copied from SPSS to Microsoft Excel to identify missing data. One hundred ninety nine individuals began the survey. One did not consent to participate and one did not answer the consent question. As such, both were removed from the study. Of the remaining 197 respondents, 24 completed fifty-five percent or less of the survey. Their incomplete data was not random as none of them reached the end of the survey and their finish status was coded as 'FALSE'. These 24 respondents were removed from the study by the researcher. Among the remaining 173 respondents, 48 randomly occurring missing values were identified via Excel. Missing values were replaced using the respective variable's mean. This clean data was then returned to SPSS 23 for analysis. As mentioned in chapter 3, 159 respondents identified as leadership educators. Kline (2011) suggests a best practice sample size-to-parameters ratio of 20:1 (160 cases for this study). As the number of self-identified leadership educators was not above 160, the 173 viable cases will be used for data analysis and not just those who self-identified as leadership educators.

## **Reverse Scoring of Items**

The Socially Responsible Leadership Scale (SRLS) contains items that require reverse scoring (items 2, 6, 12, 14, 16, 17, 21, 22, 27, 35, 39, 45, 46, 52, 57, 58, 64, 68, 83, 84, 86, 88, and 96). New variables were computed for each of the reverse scored items. Item numbers and text, and the mean and standard deviation data, reflecting non-reversed response data, can be found in Appendix K. All analyses use the reverse scored variables.

As a reminder, this study mimicked the analysis conducted in Tyree's (1998) final study. While social desirability data was collected using the Marlowe-Crowne Social Desirability Scale, social desirability was not included in the final phase of Tyree's (1998) research and as such the Marlowe-Crowne data will not be analyzed as part of this study. However, negative response items (items 6-10) in the Marlow Crowne Scale have been reverse scored for use in future studies.

## **Univariate Outliers**

Individual item data was reviewed to identify outliers that could impact data analysis (Kline, 2011). Q-Q plots and histograms were examined to compare expected normal and observed values. Boxplots were also reviewed to identify outliers. The means, 95% confidence interval of means, and 5% trimmed means were also compared. All trimmed means were within the 95% confidence interval of means. While some boxplots and Q-Q plots indicated the potential for outliers, the impact on the means was negligible when comparing the trimmed means to the 95% confidence interval for the true mean and, as such, no univariate outliers were removed.



## **Univariate Normality**

Respondents were not randomly sampled from the population of leadership educators. Therefore it was necessary to analyze the data to confirm the assumption that the data set represents a normal distribution (Adams & Bogranskaya, 2015). This was accomplished by analyzing the skew index (SI) and the kurtosis index (KI) of the data.

The skewness for a normal distribution is zero. In this data set, negative skew indicated more high responses (e.g. 4 and 5). Positive skew indicated more low responses (e.g. 1 and 2). Kurtosis measures the ‘peakedness’ of the data in relation to a normal distribution. A negative kurtosis indicated a flatter than normal distribution while a positive kurtosis indicated a highly peaked data set relative to a normal distribution.

The skew indices for the majority of the variables were between -1 and 1 indicating the distribution for each item was approximately symmetric or, at most, had moderate skewness. Fourteen items indicated more highly skewed responses as shown in Table 2. Kurtosis values were among highest for these fourteen items as well. The absolute values for SI and KI fell within the acceptable parameters of  $SI < 3.0$  and  $KI < 10.0$  and did not indicate a need for variable transformation (Kline, 2011). Additionally two tests of normality, Kolmogorov-Smirnov and Shapiro-Wilk, were significant at the  $p < .001$  level for all items, indicating a normal data set. As such, univariate data was analyzed as collected.

## **Multivariate Outliers**

The 104 items in the SRLS measure eight constructs. Using the transform, statistical sum feature in SPSS a composite, multivariate variable was created for each of the eight constructs: Consciousness of Self (CSelf), Congruence, Commitment, Collaboration, Common Purpose

Table 2

*Skewness, Kurtosis, and Item Wording for Highly Skewed Items*

---

Item	Skewness	Kurtosis	Item Wording
1	-1.881	7.775	Positive
4	-1.474	4.834	Positive
5	-1.086	3.697	Positive
7	-1.182	2.686	Positive
22	1.030	2.647	Negative
26	-1.101	2.855	Positive
27	1.350	4.553	Negative
40	-1.174	4.315	Positive
58	1.063	4.314	Negative
63	-1.899	6.804	Positive
79	-1.005	-0.022	Positive
83	1.110	1.598	Negative
93	-1.051	1.543	Positive
99	-1.019	1.617	Positive

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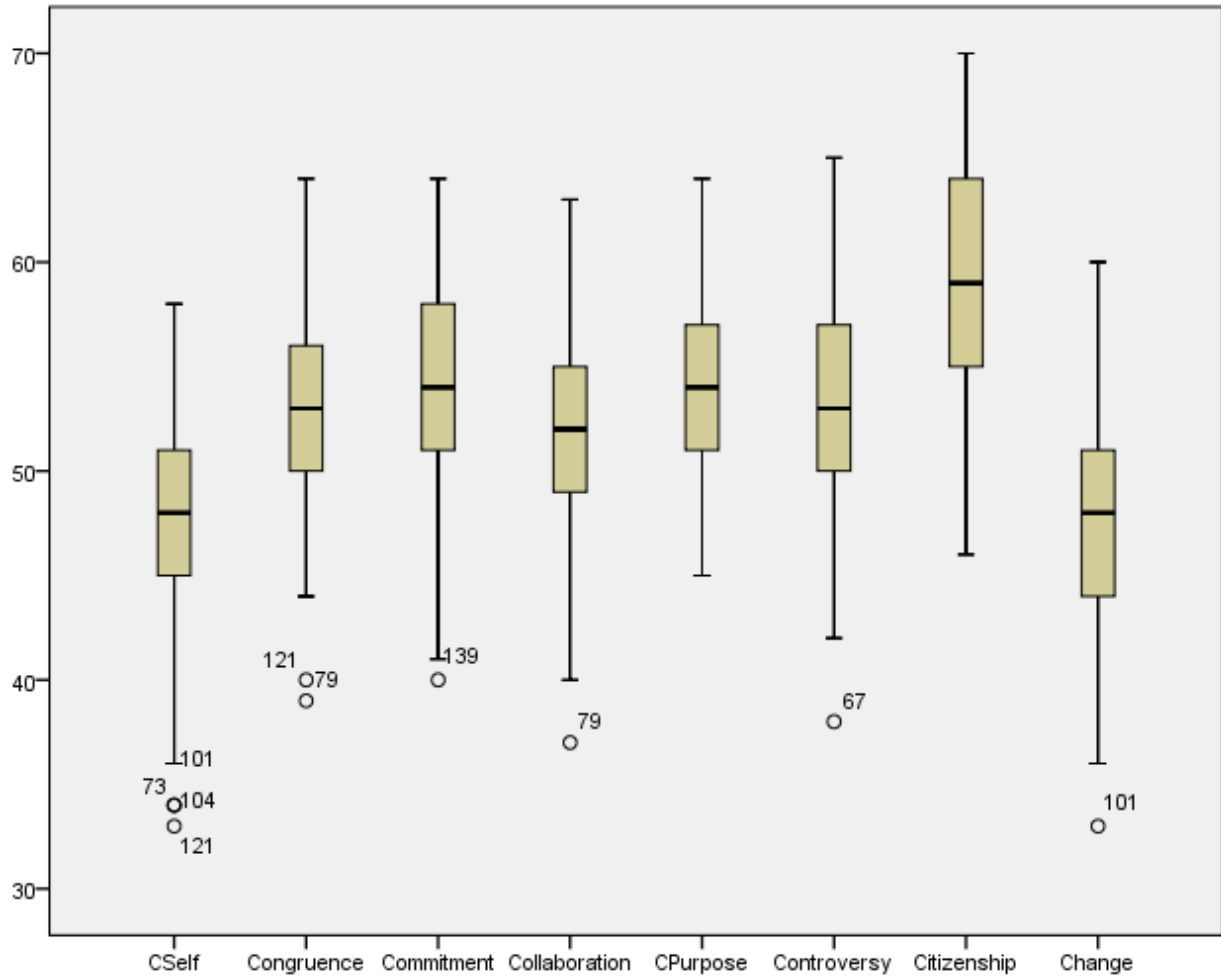
(CPurpose), Controversy with Civility (Controversy), Citizenship, and Change. Item affiliated with each construct are can be reviewed in Appendix L

Multivariate data was reviewed to identify outliers that could impact data analysis (Kline, 2011). Q-Q plots, histograms, boxplots, and the Mahalanobis distance scores were examined to compare expected normal and observed values. Boxplots for each construct are in Figure 2 which highlights potential outliers for all but Common Purpose and Citizenship. Z-scores were calculated confirming these cases for removal due to Z-scores greater than an absolute value of 3.29. The cases removed, the item value, and the range of Z-scores remaining for each construct, after outlier removal, are outlined in Table 3. After removing multivariate outliers for each construct, a new variable (CSum) was calculated by summing the values for each construct. A boxplot highlighted six potential outliers as shown in Figure 3. Z-score analysis recommended removal of these six outliers as noted in Table 3.

After all identified multivariate outliers were removed the Mahalanobis distance statistic was calculated. Mahalanobis distance statistic indicates the distance in standard deviations between a variable and the sample mean (Kline, 2011). Using eight degrees of freedom (as there are eight constructs), and a probability of .001, no additional multivariate outliers were identified. The lowest probability for any potential outlier was .00126 and was therefore not significant, nor removed.

### **Multivariate Normality**

Even with the conclusion of univariate normality it was necessary to confirm multivariate normality. After multivariate outliers were removed the data was analyzed to confirm the assumption that the data set represents a normal distribution (Adams & Bogranskaya, 2015).



*Figure 2.* Boxplots for the eight constructs.

Table 3

*Multivariate Outliers*

	Number of values outside tails	Case removed	Score(s) removed	Low Z score – after outliers removed	High Z score – after outliers removed
CSelf	4	73,101,104,121	Less than 35	-2.60	2.27
Congruence	2	79, 121	39, 40	-1.99	2.28
Commitment	1	139	40	-2.89	1.89
Collaboration	1	79	37	-2.57	2.40
CPurpose	0		--	-2.35	2.47
Controversy	1	67	38	-2.27	2.36
Citizenship	0		--	-2.26	1.78
Change	1	101	33	-2.42	2.61
CSum – sum of Cs	6	58, 73, 79, 101, 121, 139	<332, 500	-2.32	2.26

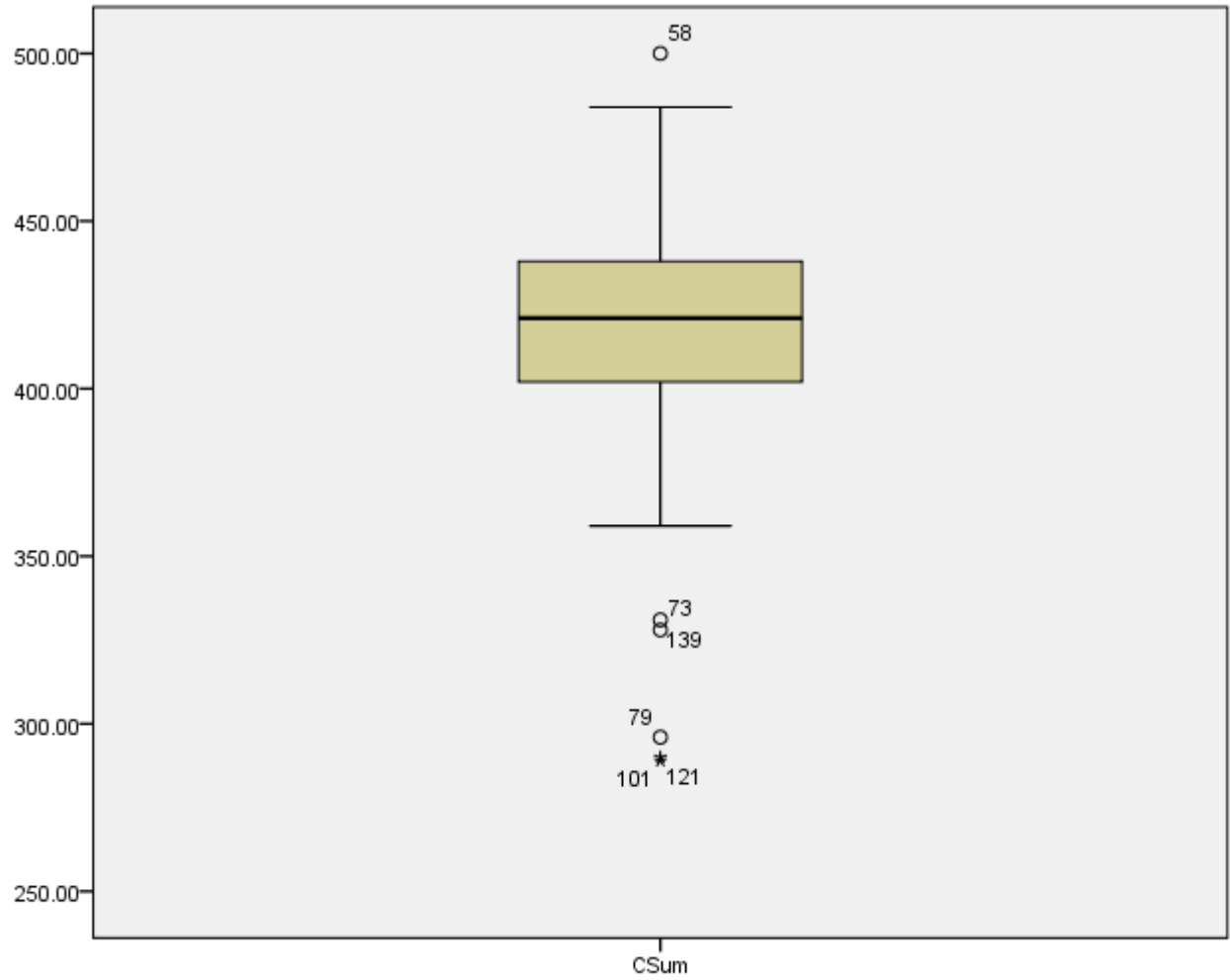


Figure 3. Boxplot for CSum.

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This was accomplished by reviewing histograms and Q-Q plots and analyzing the skew index (SI) and the kurtosis index (KI) of the data.

The skewness for a normal distribution is zero. In this data set, negative skew indicated more high sums. Positive skew indicated more low sums. Kurtosis measures the ‘peakedness’ of the data in relation to a normal distribution. A negative kurtosis indicated a flatter than normal distribution while a positive kurtosis indicated a highly peaked data set relative to a normal distribution.

The skew indices for all computed variables were between -0.5 and 0.5 indicating the distribution for each is approximately symmetric. The absolute values for SI and KI fall within the acceptable parameters of  $SI < 3.0$  and  $KI < 10.0$  and did not indicate a need for multivariate transformation (Kline, 2011). The mean, standard deviation, SI, and KI data are presented in Table 4. The kurtosis values for each are negative, indicating a less peaked data set as compared to a normal distribution.

Beyond removing multi-variate outliers, no adjustments to the data set were made for analyses using the computed variables. While some cases were removed for multi-variate analysis there remain 165 cases list wise. These 165 cases satisfy Kline’s (2011) suggested ratio of 20:1 (160 cases) for a best practice for sample size-to-parameters ratio.

### **Reliability and Validity Analysis**

No scale revisions were planned as part of this study so analyses were only performed to support reliability and validity. Reliability indicates the internal consistency of a scale and whether results can be accurately repeated (Field, 2009). Validity indicates the whether a scale measure what it was intended to measure.

Table 4

*Multivariate Normality Data*


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Variable	Skew index (symmetry)		Kurtosis index (peakedness)	
	Statistic	Standard Error	Statistic	Standard Error
CSelf	-.223	.187	-.202	.371
Congruence	.471	.186	-.559	.369
Commitment	-.003	.185	-.314	.368
Collaboration	-.037	.185	-.173	.368
CPurpose	.328	.185	-.241	.367
Controversy	-.072	.185	-.393	.368
Citizenship	.060	.185	-.810	.367
Change	.016	.185	-.283	.368
CSum	.194	.188	-.316	.374

---



## **Reliability**

Reliability was examined using Cronbach's alpha, the most common measure of scale reliability. Means, standard deviations, and Cronbach alphas for the eight constructs are presented in Table 5. All of the Cronbach's alphas were above .70 indicating respectable alpha scores. Four in particular had very good Cronbach's alphas greater than .80. These results support the reliability of the SRLS with leadership educators.

## **Validity**

The validity of the SRLS was analyzed using Principal Components Analysis and by examining the correlation between each of the constructs and the individual items. Lastly, correlations among the constructs were examined to explore the connectedness among the constructs.

**Principal components analysis.** Principal component analysis (PCA) mimics the process used by Tyree (1998) in her original study. PCA extracts factors from the data to explore validity. If most or all of the items cluster on the first factor there is evidence of construct validity.

Before beginning PCA it was recommend that two tests were completed as a minimum standard – the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity (UCLA IDRE, 2017). KMO values range between 0 and 1. Values above .6 are preferred and indicative that PCA can be an effective analysis. Bartlett's Test uses a p value of .001. Researchers want to reject the null to confirm the data is adequate for PCA. In addition to analyzing KMO and Bartlett's Test values, the determinant value was also examined.

Determinants equal to zero indicate potential computational problems for PCA. Anything above

Table 5

*Standard Deviations and Cronbach's Alphas for the Eight Constructs*

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Construct	Mean	Standard Deviation	Cronbach Alpha
CSelf	47.7633	4.51224	.777
Congruence	53.3158	4.67971	.801
Commitment	54.9128	4.81936	.825
CPurpose	51.8837	4.63124	.777
Controversy	54.2659	3.94863	.729
Collaboration	53.2733	4.96665	.763
Citizenship	59.4220	5.94558	.898
Change	47.5407	4.76875	.809

---

zero is acceptable for analysis. Values for each of these tests affirm the data set is acceptable for PCA. These values are presented Table 6.

PCA yielded two to four factors for each computed variable, with the first factor accounting for at least 30 percent of the variance for all but controversy with civility. Controversy with civility yielded four factors with the first factor accounting for only 23.15 percent of the variance. The number of factors extracted, their eigenvalue, and percentage of variance accounted for are presented in Table 7. Eight items failed to load on their respective construct's first factor with a weight greater than .300. Commitment, collaboration, and common purpose had two items fail to load at that level. Consciousness of self and controversy with civility both had one item fail to load at that level. Congruence, citizenship, and change had all items load. First factor loading weights for each construct and item are presented in Appendix L.

**Correlating constructs to items.** Similar to Tyree's study the correlation of the constructs to their respective items produced strong results in support of SRLS validity. All 104 items, except item 102, produced correlation coefficients that were statistically significant with  $p \leq .01$ . The r values for each item, grouped by construct, is presented in Appendix L. Construct correlations are presented in Table 8. These results indicate support for construct validity of the SRLS with leadership educators.

### **SRLS to SRLS-LE Result Comparisons**

Of initial interest is perhaps how SRLS data compares to SRLS-LE data with respect to comparisons of Cronbach alphas, principal component analysis, and correlations.

Table 6

*Determinant, KMO, and Bartlett Values for Each Construct*

Variable	Determinant (preferred >.00001)	KMO (preferred > .6)	Bartlett's Test
CSelf	.048	.798	.000*
Congruence	.025	.848	.000*
Commitment	.014	.875	.000*
Collaboration	.024	.801	.000*
CPurpose	.051	.857	.000*
Controversy	.083	.732	.000*
Citizenship	.002	.921	.000*
Change	.040	.824	.000*

*Note.* \* Significant at  $p < .001$ .

Table 7

*Factors Analyses*

	Factor	Eigenvalue	Percentage of Variance
Consciousness of Self	1	3.821	31.838
	2	1.285	10.705
	3	1.220	10.165
	4	1.021	8.507
Congruence	1	4.439	34.150
	2	1.385	10.656
	3	1.026	7.892
Commitment	1	4.835	37.195
	2	1.257	9.668
	3	1.162	8.941
Collaboration	1	4.185	32.191
	2	1.526	11.737
	3	1.162	8.941
	4	1.115	8.576
Common Purpose	1	4.140	31.844
	2	1.415	10.88
Controversy with Civility	1	3.241	23.152
	2	1.699	12.137
	3	1.349	9.634
	4	1.180	8.430
Citizenship	1	6.322	45.158
	2	1.051	7.505
Change	1	4.013	33.443
	2	1.310	10.916
	3	1.160	9.666
	4	1.093	9.108

Table 8

*Construct Correlations*

	1	2	3	4	5	6	7	8
CSelf (1)	1							
Congruence (2)	.619**	1						
Commitment (3)	.537**	.686**	1					
Collaboration (4)	.359**	.454**	.426**	1				
CPurpose (5)	.481**	.612**	.569**	.650**	1			
Controversy (6)	.341**	.417**	.293**	.387**	.381**	1		
Citizenship (7)	.390**	.589**	.577**	.485**	.534**	.442**	1	
Change (8)	.280**	.353**	.191*	.463**	.352**	.578**	.348**	1

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

## **Cronbach's Alphas**

Table 9 presents the Cronbach's alphas for the SRLS-LE and the SRLS. For all but controversy with civility and change, the SRLS produced more reliable results than the SRLS-LE.

This may be attributed to the difference in samples size. Tyree's (1998) final study included 342 respondents as compared to the SRLS-LE's 173 respondents, 165 list wise for multivariate analyses. Yurdugul (2008) indicates that larger sample sizes are preferred as they yield more precise confidence intervals when calculating Cronbach's alphas. Yurdugul also indicates, however, that when the first factor eigenvalue is between 3.00 and 6.00 an n of 100 is sufficient for accurate Cronbach's alpha calculations. For eigenvalues above 6.00 merely 30 cases are sufficient for accurate calculations. With SRLS-LE first factor eigenvalues ranging between 3.241 and 6.322 (Table 7 presented the SRLS-LE eigenvalues), combined with 163 cases list wise, we can still be confident about the SRLS-LE Cronbach's alphas even though six of eight are lower than those calculated from Tyree's data set.

## **Factors and Factor Loading**

Table 10 presents a comparison of the factors extracted via PCA for both the SRLS and the SRLS-LE. The SRLS-LE extracted a total of 26 factors with an eigenvalue equal to or greater than one. The SRLS extracted a total of 24 factors with an eigenvalue equal to or greater than one. Fewer factors indicates a more well-defined underlying concept. Neither study yielded only a single factor for any construct, known as unidimensionality. As compared to the SRLS the SRLS-LE extracted more factors for four constructs: consciousness of self, commitment, collaboration, and change. Additionally, the SRLS-LE extracted fewer factors for two constructs:

Table 9

*A Comparison of Cronbach's Alphas for SRLS-LE and SRLS*

---

Construct	Cronbach Alpha	
	SRLS-LE	SRLS
CSelf	.777	.8167
Congruence	.801	.8217
Commitment	.825	.8456
CPurpose	.777	.8242
Controversy	.729	.6866
Collaboration	.763	.7691
Citizenship	.898	.9157
Change	.809	.7844

---



Table 10

*Factor Extraction Comparison*

Construct	SRLS-LE		SRLS	
	Factors Extracted	Percentage of Variance explained by first factor	Factors Extracted	Percentage of Variance explained by first factor
CSelf	4	31.8	3	34.8
Congruence	3	34.1	4	35.1
Commitment	3	37.2	2	38.1
CPurpose	2	31.8	3	36.3
Controversy	4	23.2	4	22.8
Collaboration	4	32.2	3	31.1
Citizenship	2	45.2	2	48.8
Change	4	33.4	3	31.4

congruence and common purpose. The SRLS and SRLS-LE extracted the same number of factors for two constructs: controversy with civility and citizenship.

As compared to the SRLS's first factors, the SRLS-LE's first factors explained a lower percentage of the variance on five of the eight constructs. SRLS-LE first factors explained more of the variance for controversy with civility, collaboration, and change, though neither the SRLS nor the SRLS-LE first factor for controversy with civility explained more than 30% of the variance.

Exploring the reasons for these difference are beyond the scope of this study, and could be considered for future study as outlined in chapter 5. What these results do indicate however is that both the SRLS and the SRLS-LE can point to a solid underlying structure that can be used to explore the interrelations of the eight constructs for both students and leadership educators.

Reinforcing the SRLS-LE to SRLS factor and variance comparisons was a review of which construct items load on to the first factor at the highest levels. These comparisons are presented in Table 11. The same item loads with the highest weight for only two constructs: controversy with civility and change. For the other six constructs, the highest loading item is different for the SRLS as compared to the SRLS-LE. Ignoring controversy with civility due to the first factor's inability to explain more than 30% of the variance, the SRLS and SRLS-LE have a high degree of overlap (77%) in their top five items loading to a construct's first factor. While there is a high degree of congruence between the SRLS and the SRLS-LE, the most glaring difference is that the highest loading SRLS-LE items for collaboration and common purpose are the lowest loading items for the SRLS. This data would indicate that how students and leadership educators view leadership is similar, but perhaps different, based on which items

Table 11

*Top Ranked Factor Loading Comparison*


---

Construct	SRLS/SRLS-LE, first factor, highest loading item	Number of same items in top 5 for both SRLS and SRLS-LE
CSelf	Different	4
Congruence	Different	5
Commitment	Different	4
CPurpose	Different	4
Controversy	Same	1
Collaboration	Different	3
Citizenship	Different	4
Change	Same	3

---

resonate with each respondent group. This data will be informative in future SRLS-LE data reduction research.

## **Correlations**

An examination of the SRLS to SRLS-LE construct-to-item correlations and the SRLS to SRLS-LE construct-to-construct correlations reinforces the idea that there exists interrelations among the constructs. The lowest correlated SRLS construct pair is controversy with civility and congruence, .4325 (Tyree, 1998). The highest correlated SRLS construct pair is controversy with civility and change, .6776. The lowest correlated SRLS-LE construct pair is commitment and change, .191. The highest correlated SRLS-LE construct pair is commitment and congruence, .686. The SRLS-LE construct correlations were presented in Table 8. All construct correlations in both studies were significant at the  $p \leq .01$  level except for the SRLS-LE commitment-change correlation which was significant at the  $p \leq .05$  level. These correlations again emphasize the perspective that how students and leadership educators view leadership is similar, but perhaps different, based on how the constructs in each study differently correlate with one another.

## **Summary**

This chapter outlined the preliminary, reliability, and validity analyses completed for this study. No scale revisions were planned as part of this study so analyses were only performed to support reliability and validity. Based on these analyses it appears the Socially Responsible Leadership Scale is reliable and valid for use with leadership educators. Implications and opportunities for future research are discussed in the next chapter.

## **CHAPTER 5: DISCUSSION**

This research was conducted to determine the validity and reliability of the Socially Responsible Leadership Scale (SRLS) with leadership educators. Originally developed by Tracey Tyree in 1998 as part of her dissertation, the SRLS has not had its utility extended beyond college students. This chapter will summarize the results of this study, draw conclusions that can be gleaned from the data analysis, compare results to Tyree's research, and outline opportunities for future research.

### **Summary of Results**

Potential respondents were identified by reviewing the institutional websites for campuses that participated in the last two iterations of an international study on college student leadership. Five hundred and twenty eight potential respondents were identified, yielding 199 respondents, 173 of which were satisfactory for analysis.

Preliminary analysis included imputing missing data and analyses to address univariate and multivariate outliers and normality. No cases were removed based on the univariate analysis process. Several cases were removed based on the multivariate analysis process yielding 165 cases list wise. These 165 cases satisfy Kline's (2011) suggested ratio of 20:1 (160 cases) for a best practice for sample size-to-parameters ratio.

Reliability analysis using Cronbach's alphas indicated all eight constructs are capable of yielding accurate outcomes with leadership educators. Principal component analysis and correlational analysis was used to assess validity. Both tests indicated the SRLS is sufficiently valid for use with leadership educators. One item (102), equally poor in Tyree's study, should be re-evaluated for inclusion in future studies using the SRLS-leadership educators (SRLS-LE).

In the context of this study, it appears that the SRLS can be extended for use with leadership educators. A review of the respondent pool lends credence that the leadership educators were correctly identified for this study. Specifically, respondents were purposefully selected based on their institutional involvement in an international study on college student leadership; respondents were affiliated with offices primarily responsible for leadership development; and 159 respondents (79%) identified as leadership educators.

### **Limitations**

The respondent population limits the use of the SRLS-LE to leadership educators as defined by ALE (2011). ALE defines a leadership educator as someone who is a higher education faculty or staff member who seeks to develop or improve the knowledge and practice of others by providing high quality leadership education informed by credible leadership literature and practice.

### **Implications for Leadership Educators**

As discussed in the purpose of this study, college student leadership development can be enhanced when leadership educators have been trained to display a commitment to leadership (Astin & Astin, 2000). These trained leadership educators are expected to design and develop best practice leadership initiatives that are learner-centered, knowledge-centered, assessment-centered, and community centered (Andenoro, Allen, Haber-Curran, Jenkins, Sowcik, Dugan, & Osteen, 2013). In particular, Dugan and Komives (2007) articulate that college experiences matter as it relates to building leadership efficacy with college students. Specifically, Dugan and Komives highlight mentoring, campus involvement, socio-cultural conversations, service, and formal leadership programs as key factors explaining the variance in leadership outcomes of college students who participated in the Multi-institutional Study of Leadership. In turn, it would

appear to be critical to have well-trained and self-aware leadership educators creating, managing, and facilitating these high impact practices. Increasing the fundamental understanding of how one views and practices leadership, as measured by the SRLS-LE, can provide a baseline from which leadership educators can shape their personal and professional development in support of these best practice initiatives.

Andenoro et al. (2013) also contend that leadership is a developmental life long endeavor. By definition this life long endeavor extends beyond the context of college, the bounds of the SRLS. NASPA and ACPA (2010) concur with this perspective as evidenced by the inclusion of leadership as one of ten professional competency areas expected of all student affairs educators, not just leadership educators. The SRLS-LE can serve as an ongoing, post-college barometer for leadership educators on their leadership developmental journey and, with additional research as noted below, for the higher education professional community in general. The expectation is that leadership educators will develop over time and transition from knowledge vessels to competent professionals who can critically apply leadership development concepts in their work and eventually foster the development of leadership within and among others.

The SRLS-LE is also well positioned to sit among other leadership and psycho-social assessments (e.g. Leadership Practices Inventory, True Colors, DiSC, StrengthsQuest.) as a tool to support leadership educators and the understanding of their personal leadership knowledge base (consciousness of self in SCM parlance) as part of a holistic professional development agenda. As discussed in chapter 2, StrengthsQuest is a personal assessment tool that includes 34 talents within four domains, DiSC is a personality profile that provides a common language that can help individuals and teams facilitate better teamwork, True Colors is a personality profile focused on four personality components, and the Leadership Practices Inventory provides insight

on the five leadership practices that can serve as a starting point towards development of one's personal leadership best (Gallup, 2017; Personality Profile Solutions LLC, 2015; True Colors Intl, 2016; Wiley, 2017).

That leadership is a developmental and life long endeavor, the SRLS-LE is perhaps uniquely positioned among these tools to provide a recurring snapshot in time along a longitudinal, professional development path. Continued use of the SRLS-LE by leadership educators could help them refine their professional development in a manner that will forever increase the alignment between their leadership values and actions. Higher scores on the SRLS-LE may be an indicator of alignment between the model's values (consciousness of self, commitment, congruence, common purpose, collaboration, controversy with civility, and change) and leadership educator's values and perceptions of leadership (Dugan, 2006).

### **Views on Controversy with Civility and Change**

When working with college students, perhaps the most immediately applicable opportunity for leadership educators is to leverage their own greater degree of comfort related to controversy with civility and change. As compared to the other constructs, leadership educators rate themselves comparatively lower on controversy with civility and change. However, as compared to the college students in Tyree's (1998) study, leadership educators have a comparative degree of comfort and expertise, in addition to their 'educator' based influence.

While the specific issues may be different, the crisis of leadership themes in the late eighties still ring true today and are still a function of changing demographics, economic issues, and foreign affairs. Today's foreign affairs issues are entrenched in the middle east and manifesting themselves in the far east with implications for economic issues and the social climate in the United States. Economically, health care is also intertwined with various social



implications. More specifically related to events on college campuses are crises of leadership relating to the black lives matter movement, free speech rights, and LGBTQ issues in various states, to name but just a few.

Utilizing their expertise and influence could help leadership educators support the training, education, and development of college student relating to controversy with civility and change. An enhanced understanding and transparent discussion of Social Change Model of Leadership Development concepts when engaging with others around demographic, economic, and foreign affair issues could, at least, broaden the discussion beyond individuals to groups and beyond groups to our collective citizen role. Helping participants understand that individual values (consciousness of self), group expectations (common purpose), and citizenship are related, but are not exactly the same, could perhaps improve these conversations across difference.

### **Opportunities for Future Research**

This study presents several opportunities for future research including: exploring more with self identified leadership educators, additional research to strengthen the factor analysis, reduction the SRLS-LE's length, extending the utility of the SRLS-LE into additional non-college student populations, completing a comparative analysis of college student-leadership educator data sets, and exploring the role of leadership educators in fostering social change.

#### **Self-identified Leadership Educators**

The respondent pool for this study was not large enough to limit analysis to self-identified leadership educators. As mentioned in chapter 3, 159 respondents identified as leadership educators and Kline (2011) suggests a best practice sample size-to-parameters ratio of 20:1 (160 cases for this study). Frankly, it is was never the plan to limit the study in this fashion.

At the time of survey development the researcher thought asking how respondents viewed themselves would merely be an interesting question. The question did not include the operational definition of leadership educators for this study, leaving respondents to their own understanding of leadership educators to self-define as they saw fit. This serendipitous luck provides an opportunity to more fully understand self-identified leadership educators beyond the limits of this study. Additional questions along this same vein is: what does it mean that 21% of respondents identified for this study, those who work in student affairs ‘leadership’ offices, don't see themselves as leadership educators? Are differences a function of a lack of understanding about what leadership is and who leadership educators are? What role does credible leadership and practice play in this self-identification, or lack thereof, and how respondents understand and practice their work? Certainly, additional studies that expand the respondent pool over 160 respondents will also support fuller functionality of the SRLS-LE with leadership educators. Excluding those who did not self identify as leadership educators could potentially produce even more robust validity and reliability scores based on leadership educators’ enhanced knowledge and practice foundation.

### **Additional Factor Analysis**

Principal component analysis (PCA) is typically used as an initial step in exploratory and confirmatory factor analysis as a means to identifying the maximum number and nature of factors (Kim, 2008). Using exploratory and confirmatory factor analysis to explore path diagrams relating to the respective constructs and underlying factors would strengthen the reliability and validity analysis of this study. The PCA in this research was conducted with no rotations, matching the process used by Tyree (1998). Considering that the assumption is that the SRLS and SRLS-LE items represent constructs that are all related to socially responsible

leadership, conducting factor analysis with at least an oblimin (correlated) rotation could provide valuable data. Factor paths that could be considered could include eight items to one factor (socially responsible leadership), though Tyree addresses that the idea behind the SRLS is for the constructs to be unique enough that they could operate separately depending on how students (and leadership educators) utilize the model. With that knowledge, exploring an eight-constructs to four-factor (individual, group, society, and change) correlated model, or a broad, more open ended exploratory factor analysis, could yield valuable data.

### **Data Reduction**

At 104 items, not including demographic or other questions, the SRLS-LE is quite long for practical use in today's fast paced, technology driven, instant results world. This research can stand as an initial step to begin the data reduction necessary to increase the practical utility of the survey. While it was beyond the scope of this research study, a cursory review of the data indicates that there exist items within the data that could be removed and the reliability of the scale will either be maintained or improved. Additionally, item correlations could be examined to identify redundancy of items as measures of their respective constructs.

To be clear, over the course of its nearly 20 year history, the SRLS has already been reduced for use with college students, most recently to 34 items by Dugan (2015). Using the SRLS data reduction information to guide the data reduction process for the SRLS-LE will be helpful. Researchers should be reminded that these two populations did not yield that same data analysis results, therefore reduced scales may not be identical. At face value, it would make sense that the scales differ. While the underlying constructs are the same, the items load differently on their respective factors. As discussed, this may be a result of leadership educators being further along on their developmental path than college students. Additionally, leadership

educators can be presumed, by definition, to have a deeper exposure to and understanding of the underlying leadership constructs in their role as leadership educators. These differences are also worth consideration for any college student versus leadership educator comparisons noted below.

### **Additional Non-Student Populations**

While the research indicates the SRLS-LE is reliable and valid with leadership educators, the respondents are narrowly defined, highly educated, and were selected based on their institutions affiliation with an international study that uses as its theoretical framework the same leadership model which the SRLS measures. Broadening the respondent pool would help support the SRLS-LE's reliability and validity with non-student populations. That 21% of the respondents did not self-identify as leadership educators, yet the scale was still found reliable and valid, presents an opportunity for the SRLS to be extended even further than college students and leadership educators. Remaining in the higher education context, validating the SRLS with faculty and administrators could be interesting. Certainly those populations will remain highly educated and, to some degree, familiar with the concepts of socially responsible leadership, if not the Social Change Model of Leadership Development itself. This is neither good nor bad, merely a consideration about which to be aware. Extending the SRLS-LE beyond the borders of higher education into other areas where socially responsible leadership is, or perhaps should be, practiced would be interesting as well. Options could easily include the non-profit and government sectors.

### **College Student Versus Leadership Educator Comparison**

A more thorough comparison of the data sets for college students and leadership educators also seems intriguing. As noted earlier there are differences between how students and leadership educators understand controversy with civility and change. Perhaps an area of inquiry

is one relating to the age of leadership educator respondents, as some may not be that much older than the students. Additional questions to consider could include: to what degree do these two populations coincide, or not, on their understanding of socially responsible leadership; what could those differences or similarities imply of the nature and efficacy of leadership education; what could those differences or similarities imply about our understanding of socially responsible leadership?

### **Leadership Educators' Role in Facilitating Social Change and Fostering Pro-Social Behavior**

As noted in chapter one, the Social Change Model of Leadership Development was created in response to a perceived crisis in leadership. The goal was to develop the next generation of leaders to lead communities more effectively and humanely towards the common, collective purpose of the citizenry. Leadership educators in the student affairs context are uniquely positioned in the co- and extra-curriculum to facilitate the training, education, and development of college students towards this end. At the researcher's institution, a first year student exposed to the Social Change Model of Leadership Development began to engage a variety of service initiatives, eventually becoming a service trip leader. Over the course of his college career this student saw a social need, beyond him and the university, and developed a campus based food pantry accessible to students and the local community at any time of need. This food pantry became the distribution hub for the county during hurricane Matthew recovery efforts – three years after the student had graduated from the university. Exposure to the model, from leadership educators, led to this student leading his community effectively and humanely in support of the citizenry. Unfortunately, this is merely one antidotal story and there is not much in the literature documenting social change emanating from the use of the Social Change Model of

Leadership Development. A qualitative study finding and unpacking these stories would prove valuable.

Exposure to the Social Change Model of Leadership Development led to pro-social behavior by one student. There exists many additional opportunities for enhanced pro-social behavior. While the specific issues may be different, the crisis of leadership themes in the late eighties still ring true today and are still a function of changing demographics, economic issues, and foreign affairs. Today's foreign affairs issues are entrenched in the middle east and manifesting themselves in the far east with implications for economic issues and the social climate in the United States. Economically, health care is also intertwined with various social implications. More specifically related to events on college campuses are crisis of leadership relating to the black lives matter movement, free speech rights, and LGBTQ issues in various states, to name but just a few. While this researcher views leadership as a process, if the reader will allow some latitude, distilling a leadership educator toolkit of 'skills' or practices emanating from the Social Change Model of Leadership Development may be helpful. These professional development skills and practices could build the capacity of leadership educators in support of fostering pro-social behaviors in the next generation of leaders to lead communities more effectively and humanely towards the common, collective purpose of the citizenry.

### **Summary**

This research has confirmed the SRLS as a reliable and valid scale for use with leadership educators. The research also lays the ground work for the SRLS-leadership educators (SRLS-LE) to be further extended into the professional realm of higher education, as well as into other communities that may practice socially responsible leadership, including but not limited to the non-profit and government sectors.

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## APPENDIX A: IRB APPROVAL – NOTICE OF EXEMPT CERTIFICATION



**EAST CAROLINA UNIVERSITY**

**University & Medical Center Institutional Review Board Office**

4N-70 Brody Medical Sciences Building · Mail Stop 682

600 Moye Boulevard · Greenville, NC 27834

Office 252-744-2914 · Fax 252-744-2284 · [www.ecu.edu/irb](http://www.ecu.edu/irb)

### Notification of Exempt Certification

From: Social/Behavioral IRB

To: [Michael Severy](#)

CC:

[Crystal Chambers](#)

Date: 10/25/2016

Re: [UMCIRB 16-001891](#)

Validation of the SRLS with Leadership Educators

I am pleased to inform you that your research submission has been certified as exempt on 10/25/2016. This study is eligible for Exempt Certification under category #2.

It is your responsibility to ensure that this research is conducted in the manner reported in your application and/or protocol, as well as being consistent with the ethical principles of the Belmont Report and your profession.

This research study does not require any additional interaction with the UMCIRB unless there are proposed changes to this study. Any change, prior to implementing that change, must be submitted to the UMCIRB for review and approval. The UMCIRB will determine if the change impacts the eligibility of the research for exempt status. If more substantive review is required, you will be notified within five business days.

The UMCIRB office will hold your exemption application for a period of five years from the date of this letter. If you wish to continue this protocol beyond this period, you will need to submit an Exemption Certification request at least 30 days before the end of the five year period.

The Chairperson (or designee) does not have a potential for conflict of interest on this study.

## APPENDIX B: SOCIALLY RESPONSIBLE LEADERSHIP SCALE

(Tyree, 1998)

For the statements that refer to a group, think of any group of which you have been a part. This might be a formal organization or an informal group. For consistency, use the same group in all your responses. You want to indicate your general feelings about participating in a group.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	2	3	4	5

1. I am open to others' ideas.
2. Creativity can come from conflict.
3. I am committed to the collective purpose of the group.
4. I value differences in others.
5. I understand the extent to which the groups I participate in contribute to the larger community.
6. Describing myself to another person would be difficult.
7. I am able to articulate my priorities.
8. I believe that better outcomes result when many people work together.
9. I believe in having a shared vision.
10. Hearing differences in opinions enriches my thinking.
11. It is important to me that I play an active role in my communities.
12. I have a low self-esteem.
13. I take a stand when I believe in something.
14. I struggle when group members have ideas that are different from mine.
15. I volunteer my time to the community.
16. Transition makes me uncomfortable.
17. I don't take feedback well.
18. I am usually self-confident.
19. I believe my work has a greater purpose for the larger community.
20. I am seen as someone who works well with others.
21. I wish I could be more like myself around my friends.
22. A lot of time is wasted in learning new ways to do something.
23. When I work with others on something, I think it is important that all members are dedicated.
24. Greater harmony can come out of disagreement.
25. I am comfortable initiating new ways of looking at things.
26. I stick with activities that are important to me.
27. There is little I can do that makes a difference for others.
28. My behaviors are congruent with my beliefs.
29. I am committed to a collective purpose in those groups to which I belong.
30. I am willing to devote time and energy to my leadership responsibilities.
31. It is important to develop a common direction in a group in order to get anything done.
32. I respect opinions other than my own.

33. Change brings new life to an organization.
34. The things about which I feel passionate have priority in my life.
35. I find it difficult to follow through on tasks.
36. I contribute to the goals of the group.
37. There is energy in doing something a new way.
38. I persist in carrying out my goals.
39. I am uncomfortable when someone disagrees with me.
40. Others in my group have similar goals to mine.
41. I follow my gut instincts.
42. I know myself pretty well.
43. I am willing to devote time and energy to things that are important to me.
44. I stick with others through the difficult times.
45. When there is a conflict between two people, one will win and the other will lose.
46. Change makes me uncomfortable.
47. It is important to me to act on my beliefs.
48. I am focused on my responsibilities.
49. I can make a difference when I work with others on a task.
50. I actively listen to what others have to say.
51. I think it is important to know other people's priorities.
52. I find group work draining.
53. My actions are consistent with my values.
54. I believe I have responsibilities to my community.
55. I could describe my personality.
56. I have helped to shape the mission of a group.
57. New ways of doing things frustrate me.
58. My beliefs are contradictory to my behaviors.
59. When a group achieves success, everyone deserves credit.
60. Common values drive an organization.
61. I give time to making a difference for someone else.
62. I work well in changing environments.
63. Ordinary people can make a difference in their community.
64. I belong to groups with which I do not have much in common.
65. I work with others to make my communities better places.
66. I can describe how I am similar to other people.
67. I enjoy working with others toward common goals.
68. Peer pressure causes me to do things I would prefer not to do.
69. I am open to new ideas.
70. I have the power to make a difference in my community.
71. I look for new ways to do something.
72. I am willing to act for the rights of others.
73. I participate in activities that contribute to the common good.
74. I find myself getting involved in many different things.
75. Others would describe me as a cooperative group member.
76. I am comfortable with conflict.
77. I can identify the differences between positive and negative change.
78. I can be counted on to do my part.



79. Being seen as a person of integrity is important to me.
80. I find controversy to be exciting.
81. I follow through on my promises.
82. I hold myself accountable for responsibilities I agree to.
83. I act without thinking about the implications.
84. Working in groups tries my patience.
85. I believe I have a civic responsibility to the greater public.
86. Self-reflection is difficult for me.
87. Collaboration produces better results.
88. I would like to be different than I am.
89. I believe it is possible for everyone to win in an argument.
90. I am fully invested in making change.
91. I know the purpose of the groups to which I belong.
92. I am comfortable expressing myself.
93. My contributions are recognized by others in the groups I belong to.
94. I work well when I know the collective values of a group.
95. I share my ideas with others.
96. I do what I can to avoid conflict.
97. My behaviors reflect my beliefs.
98. I am genuine.
99. I am able to trust the people with whom I work.
100. When I take on a project I persevere until it is completed.
101. I value opportunities that allow me to contribute to my community.
102. Groups function best when someone is in charge.
103. I support what the group is trying to accomplish.
104. It is easy for me to be truthful.

## **APPENDIX C: MARLOW-CROWNE SOCIAL DESIRABILITY SCALE**

Strahan and Gerbasi's (1972) short form Marlow-Crowne Social Desirability Scale (SDS). The first five questions are keyed true, the second five questions are keyed false.

1. I'm always willing to admit it when I make a mistake.
2. I always try to practice what I preach.
3. I never resent being asked to return a favor.
4. I have never been irked when people expressed ideas very different than my own.
5. I have never deliberately said something that hurt someone's feelings.
6. I like to gossip at times.
7. There have been occasions when I have taken advantage of someone.
8. I sometimes try to get even rather than forgive and forget.
9. At times I have really insisted on having things my own way.
10. There have been occasions when I have felt like smashing things.

## APPENDIX D: DEMOGRAPHIC QUESTIONS

I identify my gender as:

- Man
- Woman
- Trans\*
- (Fill in the blank)

I identify my ethnicity as:

- Hispanic or Latino or
- Not Hispanic or Latino

I identify my race as (select all that apply):

- American Indian or Alaska Native
- Asian
- Black or African American
- Native Hawaiian or Other Pacific Islander
- White

What is your highest level of educational achievement:

- High school diploma
- Some undergraduate work
- Bachelor's degree
- Some graduate work
- Master's degree
- Some doctoral work
- ABD
- Doctorate/JD/terminal degree

Do you consider yourself a leadership educator?

Yes No

## **APPENDIX E: PRE-SURVEY NOTIFICATION**

Good morning.

My name is Mike Severy. I am writing to ask for your participation in a survey that I am conducting for my dissertation as a doctoral candidate at East Carolina University. The purpose of the survey is to validate a leadership development assessment tool for higher education professionals.

Later this week you will receive another email from me (via ECU's Qualtrics survey software) with a link to the survey. I would appreciate approximately 30 minutes of your time and insight. Your participation in the survey is entirely voluntary and all of your responses will be kept anonymous.

Thanks in advance for your time. Make it a good day.

Mike Severy  
East Carolina University, Doctoral Candidate  
If you have questions about this study, please contact:

**Principal Investigator:**

Mike Severy  
East Carolina University, Doctoral Candidate  
910-521-6482  
severym10@students.ecu.edu

**Faculty Advisor:**

Dr. Crystal Chambers  
East Carolina University  
252-328-4649  
chamberse@ecu.edu

## APPENDIX F: INVITATION TO PARTICIPATE

Dear <participant name>,

I am writing to ask for your participation in a survey that I am conducting for my dissertation as a doctoral candidate at East Carolina University. The purpose of the survey is to validate a leadership development assessment tool for higher education professionals.

Your responses to this survey will be valuable, and completion of the survey should take no more than 30 minutes once you provide consent. Please click the link below to directly access the consent form on the first page followed by the survey.

Survey: <link>

Your participation in this survey is entirely voluntary and all of your responses will be kept anonymous. No personally identifiable information (name, email, university, IP address, etc.) will be associated with your responses in any reports of this data. I appreciate your time and consideration in completing the survey.

Thanks in advance for your time. Make it a good day.

Mike Severy  
East Carolina University, Doctoral Candidate

If you have questions about this study, please contact:

**Principal Investigator:**

Mike Severy  
East Carolina University, Doctoral Candidate  
910-521-6482  
severym10@students.ecu.edu

**Faculty Advisor:**

Dr. Crystal Chambers  
East Carolina University  
252-328-4649  
chamberse@ecu.edu

## APPENDIX G: REMINDER TO PARTICPATE

Dear <participant name>,

You previously received an email from me requesting your participation in a survey that I am conducting for my dissertation as a doctoral candidate at East Carolina University. Your responses to this survey will be valuable, and completion of the survey. Based on responses thus far the survey takes, on average, 15 minutes to complete once you provide consent.

The purpose of the survey is to validate a leadership development assessment tool for higher education professionals. Please click the link below to directly access the consent form on the first page followed by the survey.

Survey: <link>

Your participation in this survey is entirely voluntary and all of your responses will be kept anonymous. No personally identifiable information will be associated with your responses in any reports of this data (name, email, university, IP address, etc.). I appreciate your time and consideration in completing the survey.

Mike Severy  
East Carolina University, Doctoral Candidate

If you have questions about this study, please contact:

**Principal Investigator:**

Mike Severy  
East Carolina University, Doctoral Candidate  
910-521-6482  
severym10@students.ecu.edu

**Faculty Advisor:**

Dr. Crystal Chambers  
East Carolina University  
252-328-4649  
chamberc@ecu.edu

## APPENDIX H: FINAL REMINDER TO PARTICIPATE

Dear <participant name>,

You previously received an email from me requesting your participation in a survey that I am conducting for my dissertation as a doctoral candidate at East Carolina University. Your responses to this survey will be valuable, and completion of the survey. Based on responses thus far the survey takes, on average, 15 minutes to complete once you provide consent.

The purpose of the survey is to validate a leadership development assessment tool for higher education professionals. Please click the link below to directly access the consent form on the first page followed by the survey.

Survey: <link>

Your participation in this survey is entirely voluntary and all of your responses will be kept anonymous. No personally identifiable information will be associated with your responses in any reports of this data (name, email, university, IP address, etc.). I appreciate your time and consideration in completing the survey.

Mike Severy  
East Carolina University, Doctoral Candidate

If you have questions about this study, please contact:

**Principal Investigator:**

Mike Severy  
East Carolina University, Doctoral Candidate  
910-521-6482  
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**Faculty Advisor:**

Dr. Crystal Chambers  
East Carolina University  
252-328-4649  
chamberc@ecu.edu

## **APPENDIX I: INCOMPLETE RESPONSE - REMINDER TO PARTICPATE**

Dear <participant name>,

You previously received an email from me requesting your participation in a survey that I am conducting for my dissertation as a doctoral candidate at East Carolina University. Survey response will close at the end of this week. Your responses to this survey will be valuable, and completion of the survey. Based on responses thus far the survey takes, on average, less than 15 minutes to complete once you provide consent.

The purpose of the survey is to validate a leadership development assessment tool for higher education professionals. Please click the link below to directly access the consent form on the first page followed by the survey.

Mike Severy  
East Carolina University, Doctoral Candidate

If you have questions about this study, please contact:

**Principal Investigator:**

Mike Severy  
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**Faculty Advisor:**

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East Carolina University  
252-328-4649  
chamberesc@ecu.edu



## APPENDIX J: THANK YOU DEBRIEF

Dear <participant name>,

I appreciate you taking the time to complete your survey response in support of my dissertation as a doctoral candidate at East Carolina University. Your participation in this survey is entirely voluntary and all of your responses will be kept anonymous. No personally identifiable information will be associated with your responses in any reports of this data (name, email, university, IP address, etc.).

Your responses will help validate the Socially Responsible Leadership Scale with leadership educators. The Socially Responsible Leadership Scale was originally developed in 1998 by Tracey Tyree for use with college students as a measure of the Social Change Model of Leadership Development . The Social Change Model of Leadership Development approaches “leadership as a purposeful, collaborative, values-based process that results in positive social change” (HERI, 1996). The model was built with the assumption that leadership is socially responsible, impacting change on behalf of others; collaborative; a process, not a position; inclusive and accessible to all people; values-based; and practiced via community involvement and service (NCLP, 2012; Dugan & Owen, 2007).

I appreciate your time and consideration in completing the survey. Make it a good day.

Mike Severy  
East Carolina University, Doctoral Candidate

If you have questions about this study, please contact:

**Principal Investigator:**

Mike Severy  
East Carolina University, Doctoral Candidate  
910-521-6482  
severym10@students.ecu.edu

**Faculty Advisor:**

Dr. Crystal Chambers  
East Carolina University  
252-328-4649  
chamberc@ecu.edu

## APPENDIX K: DESCRIPTIVE INFORMATION OF ITEMS

Number	Text	Mean	SD
1	I am open to others' ideas.	4.35	.687
2	Creativity can come from conflict.	4.29	.663
3	I am committed to the collective purpose of the group.	4.34	.595
4	I value differences in others.	4.47	.634
5	I understand the extent to which the groups I participate in contribute to the larger community.	4.39	.624
6*	Describing myself to another person would be difficult.	2.49	.980
7	I am able to articulate my priorities.	4.02	.735
8	I believe that better outcomes result when many people work together.	4.31	.750
9	I believe in having a shared vision.	4.54	.544
10	Hearing differences in opinions enriches my thinking.	4.42	.592
11	It is important to me that I play an active role in my communities.	4.16	.734
12*	I have a low self-esteem.	2.22	.888
13	I take a stand when I believe in something.	4.12	.627
14*	I struggle when group members have ideas that are different from mine.	2.44	.809
15	I volunteer my time to the community.	3.77	.870
16*	Transition makes me uncomfortable.	2.64	.922
17*	I don't take feedback well.	2.37	.801
18	I am usually self-confident.	3.84	.831
19	I believe my work has a greater purpose for the larger community.	4.34	.660
20	I am seen as someone who works well with others.	4.32	.664
21*	I wish I could be more like myself around my friends.	2.12	.871
22*	A lot of time is wasted in learning new ways to do something.	2.01	.739
23	When I work with others on something. I think it is important that all members are dedicated.	4.20	.628
24	Greater harmony can come out of disagreement.	3.76	.760
25	I Am comfortable initiating new ways of looking at things.	4.24	.714
26	I stick with activities that are important to me.	4.08	.711
27*	There is little I can do that makes a difference for others.	1.66	.658
28	My behaviors are congruent with my beliefs.	4.25	.487
29	I am committed to a collective purpose in those groups to which I belong.	4.19	.532
30	I am willing to devote time and energy to my leadership responsibilities.	4.49	.535
31	It is important to develop a common direction in a group in order to get anything done.	4.27	.639

32	I respect opinions other than my own.	4.27	.572
33	Change brings new life to an organization.	4.10	.665
34	The things about which I feel passionate have priority in my life.	4.17	.685
35*	I find it difficult to follow through on tasks.	2.23	.935
36	I contribute to the goals of the group.	4.34	.486
37	There is energy in doing something a new way.	4.12	.589
38	I persist in carrying out my goals.	4.11	.651
39*	I am uncomfortable when someone disagrees with me.	2.58	.928
40	Others in my group have similar goals to mine.	3.86	.567
41	I follow my gut instincts.	3.84	.727
42	I know myself pretty well.	4.29	.600
43	I am willing to devote time and energy to things that are important to me.	4.42	.518
44	I stick with others through the difficult times.	4.28	.606
45*	When there is a conflict between two people, one will win and the other will lose.	2.25	.685
46*	Change makes me uncomfortable.	2.43	.953
47	It is important to me to act on my beliefs.	4.13	.539
48	I am focused on my responsibilities.	4.29	.558
49	I can make a difference when I work with others on a task.	4.25	.530
50	I actively listen to what others have to say.	4.27	.599
51	I think it is important to know other people's priorities.	4.16	.503
52*	I find group work draining.	2.73	.922
53	My actions are consistent with my values.	4.20	.525
54	I believe I have responsibilities to my community.	4.36	.569
55	I could describe my personality.	4.16	.659
56	I have helped to shape the mission of a group.	4.33	.561
57*	New ways of doing things frustrate me.	2.21	.717
58*	My beliefs are contradictory to my behaviors.	1.77	.630
59	When a group achieves success, everyone deserves credit.	4.26	.635
60	Common values drive an organization.	4.24	.570
61	I give time to making a difference for someone else.	4.21	.566
62	I work well in changing environments.	3.89	.758
63	Ordinary people can make a difference in their community.	4.57	.612
64*	I belong to groups with which I do not have much in common.	2.63	.910
65	I work with others to make my communities better places.	4.07	.687
66	I can describe how I am similar to other people.	4.10	.483
67	I enjoy working with others toward common goals.	4.26	.535
68*	Peer pressure causes me to do things I would prefer not to do.	2.37	.965
69	I am open to new ideas.	4.28	.512
70	I have the power to make a difference in my community.	4.30	.592

71	I look for new ways to do something.	3.95	.717
72	I am willing to act for the rights of others.	4.25	.614
73	I participate in activities that contribute to the common good.	4.25	.519
74	I find myself getting involved in many different things.	3.90	.915
75	Others would describe me as a cooperative group member.	4.21	.586
76	I am comfortable with conflict.	3.44	.984
77	I can identify the differences between positive and negative change.	4.10	.529
78	I can be counted on to do my part.	4.50	.513
79	Being seen as a person of integrity is important to me.	4.61	.545
80	I find controversy to be exciting.	2.86	.930
81	I follow through on my promises.	4.29	.645
82	I hold myself accountable for responsibilities I agree to.	4.38	.575
83*	I act without thinking about the implications.	2.02	.849
84*	Working in groups tries my patience.	2.66	.871
85	I believe I have a civic responsibility to the greater public.	4.20	.662
86*	Self-reflection is difficult for me.	2.01	.931
87	Collaboration produces better results.	4.10	.639
88*	I would like to be different than I am.	2.66	1.008
89	I believe it is possible for everyone to win in an argument.	3.31	.853
90	I am fully invested in making change.	4.05	.640
91	I know the purpose of the groups to which I belong.	4.18	.525
92	I am comfortable expressing myself.	4.09	.706
93	My contributions are recognized by others in the groups I belong to	3.79	.832
94	I work well when I know the collective values of a group.	4.20	.570
95	I share my ideas with others.	4.25	.611
96*	I do what I can to avoid conflict.	2.97	.933
97	My behaviors reflect my beliefs.	4.20	.517
98	I am genuine.	4.35	.546
99	I am able to trust the people with whom I work.	3.79	.851
100	When I take on a project I persevere until it is completed.	4.11	.727
101	I value opportunities that allow me to contribute to my community.	4.21	.615
102	Groups function best when someone is in charge.	3.63	.764
103	I support what the group is trying to accomplish.	4.05	.537
104	It is easy for me to be truthful.	4.24	.580

Item numbers marked with a \* require reverse scoring for analysis.

**APPENDIX L: ITEM COMPOSITION, CORRELATION, AND FACTOR LOADING  
FOR THE EIGHT CONSTRUCTS**

Consciousness of Self		
Item	r	Factor loading for first factor
6	.596*	.624
7	.541*	.580
12	.620*	.620
17	.318*	.330
18	.660*	.724
34	.472*	.441
41	.230*	.211 low
42	.563*	.658
55	.661*	.714
66	.466*	.477
86	.402*	.366
92	.652*	.731

significant at  $p < .01$

Congruence		
Item	r	Factor loading for first factor
13	.482*	.437
21	.510*	.456
28	.705*	.747
47	.489*	.523
53	.672*	.764
58	.661*	.664
68	.576*	.526
79	.515*	.511
83	.420*	.358
88	.543*	.476
97	.666*	.748
98	.557*	.614
104	.545*	.597

significant at  $p < .01$

Commitment		
Item	r	Factor loading for first factor
23	.534*	.527
26	.312*	.257 low
30	.554*	.562
35	.627*	.640
38	.686*	.706
43	.553*	.557
44	.430*	.399
48	.622*	.670
74	.377*	.235 low
78	.654*	.703
81	.737*	.790
82	.732*	.782
100	.708*	.751

significant at  $p < .01$

Collaboration		
Item	r	Factor loading for first factor
8	.514*	.556
20	.712*	.698
49	.561*	.648
50	.508*	.605
52	.579*	.573
59	.277*	.137 low
67	.612*	.657
75	.669*	.708
84	.511*	.476
87	.567*	.603
93	.540*	.552
99	.636*	.620
102	.002	-.213 low

significant at  $p < .01$

Common Purpose		
Item	r	Factor loading on first factor
3	.548*	.605
9	.560*	.573
29	.623*	.680
31	.469*	.365
36	.626*	.631
40	.355*	.215 low
51	.429*	.507
56	.590*	.583
60	.615*	.698
64	.340*	.110 low
91	.610*	.656
94	.640*	.659
103	.523*	.666

significant at  $p < .01$

Controversy with Civility		
Item	r	Factor loading on first factor
1	.326*	.320
2	.460*	.525
4	.332*	.400
10	.538*	.643
14	.477*	.480
24	.477*	.511
32	.436*	.483
39	.546*	.553
45	.397*	.419
76	.652*	.622
80	.466*	.421
89	.384*	.297 low
95	.417*	.430
96	.548*	.518

significant at  $p < .01$

Citizenship		
Item	r	Factor loading on first factor
5	.505*	.477
11	.704*	.692
15	.651*	.625
19	.620*	.614
27	-.503*	.474
54	.709*	.724
61	.676*	.691
63	.494*	.473
65	.786*	.796
70	.731*	.746
72	.612*	.625
73	.767*	.788
85	.749*	.762
101	.773*	.785

significant at  $p < .01$

Change		
Item	r	Factor loading on first factor
16	-.668*	.652
22	-.398*	.376
25	.562*	.586
33	.452*	.452
37	.469*	.490
46	-.708*	.703
57	-.687*	.715
62	.708*	.736
69	.593*	.649
71	.590*	.605
77	.311*	.312
90	.497*	.478

significant at  $p < .01$



