

University of Denver

Digital Commons @ DU

Electronic Theses and Dissertations

Graduate Studies

6-1-2012

Leading Schools Through a Generational Lens: Perceptions of Principals' Change Leadership Disaggregated by Principal Generation

Matthew Scott Kuhn
University of Denver

Follow this and additional works at: <https://digitalcommons.du.edu/etd>



Part of the [Educational Leadership Commons](#)

Recommended Citation

Kuhn, Matthew Scott, "Leading Schools Through a Generational Lens: Perceptions of Principals' Change Leadership Disaggregated by Principal Generation" (2012). *Electronic Theses and Dissertations*. 351.
<https://digitalcommons.du.edu/etd/351>

This Dissertation is brought to you for free and open access by the Graduate Studies at Digital Commons @ DU. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of Digital Commons @ DU. For more information, please contact jennifer.cox@du.edu, dig-commons@du.edu.

**LEADING SCHOOLS THROUGH A GENERATIONAL LENS
PERCEPTIONS OF PRINCIPALS' CHANGE LEADERSHIP
DISAGGREGATED BY PRINCIPAL GENERATION**

A Dissertation

Presented to

the Faculty of the Morgridge College of Education

University of Denver

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

by

Matthew Scott Kuhn

June 8, 2012

Director: Dr. Susan Korach

Abstract

Author: Matthew S. Kuhn
Title: LEADING SCHOOLS THROUGH A GENERATIONAL LENS: PERCEPTIONS OF PRINCIPALS' CHANGE LEADERSHIP DISAGGREGATED BY PRINCIPAL GENERATION
Advisor: Dr. Susan Korach
Degree Date: June, 2012

The purpose of this descriptive quantitative study was to investigate possible differences in school leadership within a change process, as perceived by teachers. Grouped by generation, this study investigated principals' perceptions of change order and that of their teachers, as well as how their teachers perceived their principal's leadership capacity when leading 1st and 2nd order change. This was done by analyzing data from Mid-continent for Education and Learning's Balanced Leadership Profile®. McREL surveyed principals about the order of school change initiatives and their capacity to lead change. McREL also surveyed teachers about the 1st and 2nd order change leadership of their principals according to 21 leadership responsibilities.

The first part of this study first looked at the differences between what principals estimated the order of change to be for their school improvement initiatives and what the teachers personally thought the order of the change was for themselves. The second part of this study looked at the perceptions teachers had of their principals' leadership when their principals were leading 1st or 2nd order change for principals overall and for five generational cohorts of principals.

Using t-tests for significant differences, results were summarized into five major findings:

1. a significant gap seems to exist between how principals judged the order of change they were leading and how teachers perceived the same change;
2. the top and bottom five ranked leadership responsibilities were similar for all generational groups;
3. principals tended to self-rate their leadership capacity higher than average compared to their teachers' ratings, especially under 2nd order change conditions;
4. teachers seemed to rate the leadership capacity of Gen-X principals lower than average under 1st order change conditions. Conversely, teachers seemed to rate the leadership capacity of their Gen-X principals higher than average under 2nd order change conditions;
5. teachers seemed to rate the leadership capacity of Generation Jones principals higher than average under 1st order, and lower than average under 2nd order, change conditions.

Acknowledgements

I would like to express my gratitude to Mid-continent Research for Education and Learning (McREL) for granting me access to the Balanced Leadership Profile database. Without it, I could not have embarked upon this study. I also want to acknowledge my Dissertation Committee (Dr. Susan Korach, Dr. Kent Seidel, Dr. Anthony Davis, and Dr. Daniel Connolly) for guiding me through the research process.

I would like to thank my proofreaders, Nancy Outlaw, Tammy Bair, and Caroline Davenport for catching my mistakes and improving my writing. Most importantly, I would like to thank my wife, Carol Kuhn for countless hours of editing and support throughout my PhD journey, as well as the rest of my family and friends who endured my lack of time and commitment as I completed my studies.

Table of Contents

Chapter One – Introduction.....	1
Purpose	3
Significance	6
Statement of the Problem	7
Research Questions.....	7
Chapter Two – Review of the Literature	10
Generational Cohort Theory	10
Historical Perspective of School Leadership Theories	14
Theoretical Framework of “Balanced Leadership that Works”	18
Conceptual Foundation of 1 st and 2 nd Order Change	24
Generations in the Workplace.....	35
Millennial (1981-1998)	36
Gen-X (1966-1980).....	43
Jones (1954-1965).....	51
Baby Boomer (1943-1953).....	58
Silent (←1942)	63
Leadership Characteristics by Generation.....	67
Leadership Capacities of Generations of School Leaders.....	79
Chapter Three – Methodology	88
Research Questions and Methods.....	88
Balanced Leadership Profile™ Technical Design, Validity, and Reliability	89
About the Profile.....	89
Theoretical Framework	90
Survey Procedures	91
Reporting.....	91
Technical Summary	92
Quantitative Research Design	93
Data Analysis Plans	97
Sample and Confidentiality	99
Data Collection, Disaggregation, and Analysis.....	102
Assumptions and Anticipated Limitations	105
Chapter Four – Findings	107
Research Questions and Findings.....	107
Research Question 1	108
Research Question 2	109
Research Question 3	109
Research Question 4	116
Leadership Responsibility Findings	126
Findings by Leadership Responsibility – 1 st Order Change.....	127
Findings by Leadership Responsibilities – 2 nd Order Change	134
Chapter Five – Discussion and Conclusions	150
Five Major Conclusions.....	150
Implications	154
Change Order Summary.....	154
All Principals and Generational Cohort Summaries.....	156

Millennial Generation	157
Gen-X	158
Generation Jones	161
Baby Boomer Generation	164
Silent Generation	166
Reflections on Assumptions and Limitations	167
Contributions to the Body of Knowledge on Change Leadership	169
Recommendations for Further Research	170
References	172
Appendix A – Teacher/Principal Survey Instrument (Balanced Leadership Profile)	186
Appendix B – Data Analysis Tables and Figures	192

Chapter 1 – Introduction

This study uses the sociological construct of generations to make sense of differences between groups of people that grew up in a similar era, within a relatively similar culture. This schemata was first proposed by Mannheim's (1952 [1923]) *The Problem of Generations* which is widely regarded as the first systematic and fully developed treatment of generational cohort theory from a sociological perspective (Bengtson, Furlong, & Laufer, 1974). Other important contributions to the foundations of Generational Cohort Theory come from Spanish philosopher Ortega y Gasset, with his theory of social norms called *Vigencias* (Spitzer, 1973) and from the French *Annales* school's model of *mentalities collectives* (Esler, 1984).

Many factors influence how a principal leads a school. Some of these factors are consciously acted upon, while others influence leadership style subconsciously. One's generational perspective might be a strong factor. Not just age, but generational cohort, is another lens—like those of gender, race, religion, and culture through which to look at people's workplace experiences and needs (Martin & Tulgan, 2006).

Understanding and respecting the different perspectives people bring to the workplace is as important as respecting other more obvious differences. These subtle differences may play an important role in workplace behavior as the authors of *Managing by Defining Moments* point out,

Race, gender, and religion may seem like the key drivers of diversity in today's workplace, but according to demographical research on generational cohorts, the core attitudes and values that are formed during a person's coming-of-age years are often more important determinates of workplace behavior (Meredith, Schewe, Hiam, & Karlovich, 2002, pp 5).

Typically, the term "generation," as applied to school leadership, has merely meant the next crop of leaders coming into the system. This study instead takes a new perspective, instead using a cognitive-schemata approach to the study of possible generational influences to explore differences in workplace interactions, particularly leadership roles when approaching change

initiatives. This cognitive-schemata approach means that the next wave of school leaders is not the categorical variable used. Instead, the larger cognitive-schemata of generational cohorts were used. These cohorts were defined by the history of the larger culture, rather than just the educational system.

Generations of school leaders may differ in how they see change and lead others partially due to the attitudes they may have as a member of a generational group and the influences of particular generational experiences. While sociologists and demographers generally agree on the approximate historical eras of each generation, they do not all agree on the exact start and end dates of the generations leading schools today. As each generation evolved into the next, the endings and beginnings become blurred. Therefore, this research took an average of the beginning and ending date ranges from the most prominent generation demographers and sociologists to determine approximate birth ranges of the generations used in this study, as shown in Table 1. What is most important to this study, however, is the likely set of shared experiences, cognitive frameworks, and collective attitudes of those who belong to a generational cohort and have thus grown up in a similar culture and period of time.

Table 1: Generational Cohort Birth Ranges

Millennial Generation	Born between 1981 and 1998
Generation X (Gen-X)	Born between 1966 and 1980
Generation Jones	Born between 1954 and 1965
Baby Boomer Generation	Born between 1943 and 1953
Silent Generation	Those still in the workplace born before 1943

Although most school leaders are currently members of the Gen-X, Jones, or Baby Boomer generational cohorts, current principals can be found from each of these five generations. Their leadership tendencies differ for many reasons. Are some of these differences associated with generational effects? Is there a relationship between the principal and teacher

perceptions of change leadership and the generation of the principal? These questions served as the impetus for this research.

Purpose

This study adds to the body of work on the influence of sociological schemata on leadership theories, including change leadership. A dissertation by Gage (2005) stated that, "Leadership theory becomes a bit deeper and more applicable when studied in relationship to generational cohorts" (p. 1), noting that generational factors add a dimension that has rarely been considered in studies of leadership theory. While existing school leadership research has explored factors such as cultural background, ethnicity, gender, and nationality as influences on leadership style and perspective, this literature showed that generational factors are only now becoming commonly understood as the Baby Boomer Generation begins to retire in large numbers. More researchers have noticed differences in school leadership over time and have begun to wonder about what the newer generations bring to the system.

In recent years, the turnover of principals has accelerated at an ever-increasing rate resulting from the aging of the Baby Boomer Generation. This has created additional difficulties that threaten the sustainability of school improvement efforts and undermines the capacity of incoming and outgoing principals to lead their schools. Leaders in the 1960s and '70s were remembered as larger-than-life characters that were attached to their schools, knew most people within them, and stayed around long enough to make a lasting impression. By comparison, leaders during the past 7 or 8 years are typically perceived as being more like anonymous managers than distinctive leaders. They are less visible around the school and seem more attentive to the system's agenda and their own careers rather than the needs of the students and teachers (Fink & Brayman, 2006, p. 62).

The cognitive sciences suggest that the world as it is experienced does not consist of events that are meaningful in themselves. Rather, meaningfulness comes from cognitions, interpretations, or ways of understanding events that are guided by organizing frameworks, or schemata (Mikulowski-Pomorski, 1968; Bartunek & Mock, 1987; Fiske, 1995; Asamen, Ellis, & Berry, 2008). These schemata are sociological constructs that influence our behavior. Thus, school leaders need to understand the role of schemata when leading change. A person's

generation is a type of schema, much like educational background, religious philosophy, or economic class.

A cognitive perspective can help leaders become more aware that their generational predisposition, which may support the successful implementation of change. It is valuable not only to assess in more depth schemata, but also to determine more fully the ways they interact with school leadership efforts to affect organizational functioning (Bartunek & Mock, 1987).

Most educators would agree that school leaders need to improve many aspects of our education system. Innovations such as instructional technology integration, behavior management systems, flexible grouping, competency-based promotion, or formative assessment-based differentiation are often brought into systems to create positive change in results. The impacts of these vary across settings, and one of the factors for this variability is leadership. However, leading these sorts of changes does not have the same impact on everyone (both leaders and their followers). Some staff members are more comfortable with these changes than others are. Likewise, the perceived complexity of changes such as these varies depending on the leader and among his/her staff.

Some changes require a paradigm shift in ways of thinking for both the leader and staff. These major changes are usually more difficult to make. These more difficult change initiatives are referred to as 2nd order changes (Watzlawick, Weakland, & Fisch, 1974). The other, more common, simplistic type of change is 1st order change. It is a variation in the way processes and procedures have been done in a given system, leaving the system itself relatively unchanged while 2nd order change occurs when the system itself is changed. The more complex 2nd order changes usually occur as the result of a strategic change or a major crisis such as a threat against system survival. It involves a redefinition or reconceptualization of the business of the organization and the way it is to be conducted (Watzlawick, Weakland, & Fisch, 1974). Maier (1987) defined 1st order change as incremental, a linear progression to do more or less, better, faster, or with greater accuracy and 2nd order change as a nonlinear progression, a transformation from one state to another.

Perhaps some generations of school leaders are perceived by their teachers to lead 2nd order changes differently than more routine 1st order changes. Since 2nd order change requires one to question values and assumptions, generational differences in leadership may be more evident under 2nd order change conditions. Depending on the formative experiences that shape a generation, some generations may be more open to more transformational changes. This study's purpose is to investigate whether there seems to be generational differences in school leadership within a change process.

Mid-continent Research for Education and Learning's (McREL) Balanced Leadership Profile® looks at many aspects of leadership. It is based on the meta-analysis called "*Balanced leadership: What 30 years of research tells us about the effect of leadership on student achievement*" (Marzano, Waters, & McNulty, 2003). This tool offered an opportunity to explore leadership differences that may be influenced by generational schemata. This survey and research are sponsored by McREL. Marzano, Waters, & McNulty's (2003) meta-analysis and the subsequent factor analysis found that 21 leadership responsibilities are significantly factored with leading 1st order change. In addition, 11 of the 21 leadership responsibilities are significantly factored with leading 2nd order change. The concepts of 1st and 2nd order change are further developed in a later section.

Change leadership is examined in an attempt to heighten possible leadership differences between the generations. An investigation into the generational aspects of school leadership within a change process requires a tool to assess one's leadership capability within a change process and the ability to disaggregate the results by generation (birth range). The Balanced Leadership Profile® surveys principals about the order of the change initiatives they are currently leading and their self-reported capacity to lead change according to 21 leadership responsibilities. It also surveys teachers about the capacity of their principals to lead according to 21 leadership responsibilities when leading 1st (minor) or 2nd (major) order change. It allows for the grouping of rated principals by the five aforementioned generations.

Significance

Exploring the generational effects on school leadership behaviors is important for two main reasons. One, the professional development of principals might improve if supervisors have a more holistic understanding of the characteristics of those principals when they lead different orders of change. Two, principals might be able to improve their leadership capacity through reflective practice if they understand all of the influences on their leadership behavior including their upbringing, cultural background, religious beliefs, ethnicity, nationality, gender, and – of most concern for this study – generation. The more leaders are aware of internal and external influences on their leadership tendencies, the more they may understand how their leadership could be improved.

Organizational leaders need to build professional relationships within their organizations. These relationships could be enriched by an understanding of the generational perspectives within the organization. This way they can differentiate their leadership to maximize the capacity for success. It may be beneficial for organizational leaders to be cognizant of this understanding when designing policies and programs. If they focus on a “one size fits all” approach, it may not mesh with the values of their employees, or help them achieve the goals they seek to achieve through their work. It may be beneficial for all organizations’ training supervisors to include constructs that focus on the values different generations possess (Eslinger, 2000). The existing generational differences in the workplace are one reason that one style of management, reward, or motivation does not work for everyone (Bober, 2005).

The findings of this research may be useful to school organization leaders (superintendents) as they strive to: 1. create a productive work climate; 2. enhance and promote productive and positive organizational group and interpersonal communication; 3. motivate principals to lead change; 4. enhance functional and cross functional teamwork; 5. improve morale and job satisfaction; and 6. foster loyalty and high levels of commitment to the organization (Wagenknecht-Ivey, 1997). Principals can benefit from the findings as well.

Conscientious principals look for ways to continually improve their practice. They often do so as part of a professional learning community. As such, principals need to understand not only the effectiveness of their actions, but the underlying beliefs behind them. Understanding their generational tendencies may help principals use reflective practice to improve their capacity to lead change. John Dewey (1933) was one of the first to write about reflective practice with his exploration of experience, interaction, and reflection. It is the capacity to reflect on actions in order to engage in a process of continual learning by paying critical attention to the practical values and theories that informs everyday actions. This then leads to developmental insight (Schön, 1983).

Before we can adopt new behaviors, and before we can begin to introduce reflective practice as a professional development strategy— whether in a university classroom, a school, or a school district— it is necessary that (a) we develop an awareness of our habitual actions and the assumptions that shape those actions, and (b) that we consider the effectiveness of actions relative to intentions. Such knowledge is useful in consciousness- or awareness-raising as a stimulus to thinking about discrepancies between intentions and actions or espoused theories and theories-in-use. It is also useful as a source of possibilities for new ways of behaving *after* discrepancies are acknowledged and the individual is motivated to change (Osterman & Kottkamp, 1993, p. 30).

Again, a person's generation can be thought of as any other sociological schemata that frames one's behavior. Other schemata that shape one's persona may be based on influences such as politics, ethnicity, religion, and the like. The point is that understanding the varied perspectives leaders bring to the table may deepen our abilities to lead schools and make the extensive changes needed to improve education.

Thus, under the informed leadership of the superintendent/principal, an understanding of possible generational influences on school leaders' capacity to lead change can improve the organization as a whole. It can also increase the efficacy of the individual leader as he/she becomes more aware of any positive and/or negative generational influences on change leadership.

Statement of the Problem

This study's purpose was to investigate if there were generational differences in school leadership within a change process as perceived by teachers. Grouped by generation, this study investigated whether there were any significant differences in principals' perception of change order and that of their teachers, as well as how their teachers perceived their principal's leadership capacity when leading 1st and 2nd order change. The study used data from Mid-continent for Education and Learning's Balanced Leadership Profile® survey.

Essentially, this research investigated generational patterns in principals' capacity to lead 1st and 2nd order change according to the perceptions of teachers. In order to meet the goals of this study, the researcher used an existing survey of teacher and principal perceptions of change and leadership capacity to examine responses disaggregated by generation as determined by birth date. An optional demographical question was added to the survey in 2005 for this purpose.

Research Questions

The following four research questions were used to focus the findings and conclusions of this research. In paired comparisons of principals with the teachers they lead:

1. Do statistically significant differences exist between all principals' perceptions of the order of school change (1st or 2nd) and that of their teachers?
2. Do statistically significant differences exist between generational groupings of principals' perceptions of the order of school change (1st or 2nd) and that of their teachers when analyzed by principals' generation?

As perceived by principals' teachers:

3. Do statistically significant differences exist in teacher perceptions of 1st order change leadership capacity of their principals, broken into five generational groupings of principals, and compared to all other principals combined, using mean Likert scale scores

for each of the 21 leadership responsibilities correlated with 1st order change for each group of principals leading 1st order change?

4. Do statistically significant differences exist in teacher perceptions of 2nd order change leadership capacity of their principals, broken into five generational groupings of principals, and compared to all other principals combined, using mean Likert scale scores for each of the 21 leadership responsibilities, and especially the 11 responsibilities factored with 2nd order change, for each group of principals leading 2nd order change?

To understand the body of work that lends credence to the purpose and significance of these research questions, a thorough review of the literature is presented in the following chapter.

Chapter 2 – Review of the Literature

An extensive review of the literature on leadership theory, generational cohort theory, generational influences on leadership (with an emphasis on change leadership), and each individual generation in the workplace today was conducted. Published works were identified, described, evaluated, and summarized in order to build a theoretical and conceptual base around the concept of generational cohorts as sociological constructs and possible effects on change leadership in schools.

Generational Cohort Theory

Many people think of generations in terms of their families (grandparents, parents, siblings, and children). This research uses a different concept of generations called Cohort Theory. "Men resemble their times more than they do their fathers," as the 14th-century North African philosopher-historian Ibn Khaldun observed (Rosen, 2008, p. 125). This may have been the first recorded statement about Generational Cohort Theory.

A useful example comes from nature; trees planted in the same year contain rings that indicate when they all experienced a cold winter, wet spring, or dry summer. Cohort-groups are like trees in this respect. They carry within them a unique signature of history's bygone moments (Strauss & Howe, 1992). We too carry the "rings" of own generation within us. These "rings" of our generation show up in how we behave and experience the world around us. They can often be observed in people when they socialize, especially in nostalgic conversations. They can also be seen when people are stressed, such as when they are in the middle of difficult leadership situations.

Although generational demographics often pertain specifically to the United States, Canada, Great Britain, Australia, and New Zealand, there is evidence of generational cohorts in

other nations/cultures. Empirical studies conducted in South Korea and Mainland China lend credence to the Generation Cohort Theory (Cha & Na, 2000; Li, 2001). These studies indicate differences in generations in other cultures and nations. As the world becomes more and more interconnected, global generational cohorts may become more common.

Development of Generational Cohort Theory.

The formulation of generations as useful societal categories was first proposed by sociologist Karl Mannheim in his 1928 essay *The Problem of Generations*. He posited that people born in different historical periods, and who experience unique social and historical contexts during their formative years, will have fundamentally different worldviews (Mannheim, 1952 - 1st published in 1928). Mannheim's concept of social generation stressed concrete sociological factors (such as setting, association, and group relationships) that made up a shared social matrix in order to define a generation; birthdates alone were not enough (Mannheim, 1970).

Renowned demographer, Norman Ryder (1965) asserted that shared historical events and experiences define a generational cohort, not age or birth. As Schlesinger Jr. (1986, p. 30) stated, "There is no arithmetical inevitability in the generational sequence. A generation is a rough, not an exact, unit; almost a metaphor." Often those on the edges of a cohort share characteristics of both generations on either side. These people are usually called "cuspers."

A useful definition of a social cohort was developed in the 1970s by demographer Irving Rosow when he devised components of social schemata. He identified five defining components as: 1. consisting of people who share given life experiences; 2. their experiences are socially or historically structured; 3. these experiences occur in a common generational framework; 4. experiential effects distinguish one generation from another; and 5. these effects are relatively stable over a group's lifetime (Rosow, 1978, p. 67).

A specialized form of demography only looks at the effect of population trends and sizes on generations. However, as the study of generations became more sophisticated, this simpler way of defining generations became less useful. Social demographers use significant changes in populations to divide groups into generations (Strauss & Howe, 1991; Raines 1997; Michele,

1998; Hicks & Hicks, 1999; Zemke, Raines, & Filipczak, 2000). This method is still important, but is a narrow influence on a generational cohort.

Some of the most influential research came when demographers looked at the culture of those born as a result of the “boom” after World War II. The Baby Boomer Generation changed the way many demographers studied generations. At first, the booming birthrates after World War II were enough for demographers to label a generation. However, when they realized that many other cultural factors influenced a generation, they began to look at them in a more comprehensive way. Most demographers now realize that a generation is defined by what it thinks, feels, and experiences together and not just dates of birth (Zemke, Raines, & Filipczak, 2000). This concept of “generational cohort” was required for publications to be included in this review.

Definition of Generational Cohort Theory.

It is important to realize that generational characteristics are just one of many influences on a person's personality. One is not trapped within a generational perspective. Some people relate more closely with generations other than their own. Some people are influenced so much by other factors, such as religion or ethnicity, that generational influences are largely overshadowed. The peer personality of a generation is essentially a caricature of its prototypical members. However, some members of the cohort may not show very many of the key characteristics or traits of that generation. The beliefs and behavior of a generation never shows up uniformly across all of its members. But even those who differ from the peer norm are generally aware of their nonconformity (Strauss & Howe, 1992).

Think of questions such as where were you when the Soviets launched Sputnik, President John F. Kennedy was assassinated, OPEC enacted an oil embargo, the Challenger Shuttle exploded, or Al Qaeda attacked the World Trade Center on 9/11/2001? The answers to these questions, as well as others, help define a generation. A generation has a shared memory of important events and similar assumptions about what matters based on their formative experiences (Raines, 1997; Kunreuther, Kim, & Rodriguez, 2008). These impactful sociological

and cultural influences affect those coming of age. Generational understanding and acceptance is similar to multiculturalism in that each generation develops a unique culture within the larger macro-culture (Goben, 2003).

Massey (1979) posits that generations of individuals are value programmed according to what is happening in an individual's life during the value programming periods of imprinting, modeling, and socialization. Each generation is distinguishable by its demographics, early life experiences, headlines that defined its times, heroes, music, and sociology (Laufer & Bengtson, 1974; Zemke, Raines, & Filipczak, 2000). Factors influencing cohorts can be categorized into five categories: economic, demographic, political, ecological, and environmental (Rosow, 1978).

Six characteristics help determine the scope of a generation: 1. a traumatic or formative event such as a war; 2. a dramatic shift in demography that influences the distribution of resources in society; 3. an interval that connects a generation to success or failure (e.g., the Great Depression); 4. the creation of a "sacred space" that sustains a collective memory (e.g., Woodstock); 5. mentors or heroes that give impetus and voice deriving from their work (e.g., Dr. Martin Luther King Jr.); and 6. the work of people who know and support each other (e.g., Bill Gates, Steven Jobs, and Sergey Brin) (Wyatt, 1993, p. 3).

Essentially, a generational cohort is a product of the significant historical experiences of that cohort within a loosely defined era. It is not simply the next wave of children in a family or a result of national birthrates.

Critiques of Generational Cohort Theory.

A critique of Generational Cohort Theory is that differences in groups of people would have happened regardless of their generation due to aging. Essentially, this argument is that growing older makes people behave differently. Certainly growing older does change one's life and behavior, but does it fundamentally change one's personality traits and behavioral perspective? Studies have found that generational perspectives largely endure over time. For example, a research report by the American Association of Retired Persons called *Tracing Baby Boomer Attitudes Then and Now* found that "perhaps the most startling finding from our comparison of Baby Boomer attitudes across 30 years is the fact that many very important social indicators have NOT changed" (Davis, 2002, p. 23). To the extent that one generational cohort has had different historical cohort-defining experiences than another, generational diversity rather

than individual aging and maturation tend to be the "cause" of differences among "older" and "younger people" (Cutler, 1992).

Another common critique is that differences in work ethic and morals are due to age. Basically, the argument is that young people just do not work as hard or have moral standards as high as other generations did at their age. This common refrain about "*kids these days...*" is often called the "Hand Basket Theory" (Raines, 2003, p. 6). Throughout time, older people have decried the decay of the younger generations, saying that the youth of today have "gone to hell in a hand basket." While age may change one's work ethic and morals over time, it does not do so very differently with today's teenagers compared to teenagers in the 1920's. For instance, a 2006 study found that there were no significant differences between the three generations –Baby Boomers, Gen-X, and Millennial– in *hard work*, *delay of gratification*, *morality/ethics*, and the *self-reliance* dimension. The findings of this study contradict the popular notion that a decline in positive work ethic is evident in the American culture (Gonzalez, 2006). In other words, work ethic seems to be the same for each generation at their significant times of life (i.e. Millennial teenagers are just as apathetic about work as Baby Boomer teenagers were at like age).

In general, value priorities are thought to be relatively stable over time, both for individuals, as well as societies. Nationwide surveying of terminal values (describing the individual's desired end-state of existence) from 1968-1981 by the National Opinion Research Center and the Institute for Social Research revealed amazing consistency (Abramson, 1985).

So do differences exist at all? Yes, but they are not simply due to differences in age. What makes a cohort-group truly unique is that the majority of its members, from birth on, usually encounter the same national events, moods, and trends at similar ages (Strauss & Howe, 1992).

Historical Perspective of School Leadership Theories

The following brief history of leadership research provides an overview of how this study fits within the body of knowledge on leadership. Researchers have studied leadership skills from many perspectives. Early analyses of leadership, from the 1900s to the 1950s, distinguished

between leader and follower characteristics. Finding that no single trait or combination of traits fully explained leaders' abilities, many researchers then began to examine the influence of the situation on leaders' skills and behaviors (Dubrin, 2004). Subsequent leadership studies attempted to distinguish effective from non-effective leaders. To do so, these studies attempted to determine which leadership behaviors were demonstrated by highly effective leaders.

To understand what contributed to making leaders effective, researchers used the contingency model in examining the connection between personal traits, situational variables, and leader effectiveness. Leadership studies of the 1970s and '80s once again focused on the individual characteristics of leaders, which influence their effectiveness, and the success of their organizations. The investigations led to the conclusion that leaders and leadership are crucial, but complex components of organizations. This included realizations that not only are leaders impacted by the contextual factors within their organizations, but also by personal contextual factors such as generational characteristics (Southwest Educational Development Laboratory, 2009, p. 1).

Also during the late 1970s and '80s, studies conducted at Ohio State University and the University of Michigan on leadership style and behavior resulted in the development of three leadership styles and two major behaviors (Daft, 1988). These styles are *authoritarian*, *democratic*, and *laissez faire*, and the behaviors are *initiating structure* and *consideration*. The Ohio State University studies were instrumental in behavioral leadership theory and the development of the task and relationship dimensions (Bass, 1990).

Context became an important dimension in situational leadership. The situational approach says that it is the organizational situation that determines the leadership style or behavior (Bass, 1990). In other words, the leader adapts his/her style to the conditions at the time. This approach, combined with the abilities of the leader, results in contingency theory. The "relationship between leadership traits and interpersonal motivation, leadership actions and behaviors, and the situation," resulted in the development of contingency theory (Chance, 1992, p. 23). The contingency theory was developed by Fred Fiedler and postulates that leadership effectiveness depends on both the leader's personality and the situation. It is this personality component of leadership that brings in character influences such as cultural background, gender, religion, and generation. This study focuses on the influences of generation on the leadership of significant change in schools.

Contingency theory presumes that certain leaders are effective in one situation but not in others. This means that in effect, contingency theory is a situational theory in that it posits that there is no one best way of leading. Hersey and Blanchard's (1977) situational leadership model is based on a two-by-two matrix in which one side represents high and low task leadership; the other dimension represents high and low relationship behavior. The result is four different possible styles: telling (high task, low relationship), selling (high task and high relationship), participating (low task, high relationship), and delegating (low task, low relationship) (Dubrin, 2004). This theory was followed by the resurgence of servant leadership.

Servant leadership theory incorporates generational issues in more of the aforementioned studies that focus on the followers rather than this study's focus on the characteristics of the leaders. Greenleaf first discussed his servant leadership theory in his essay "The Servant as Leader" in 1970. Working with Greenleaf, Larry Spears identified ten characteristics that describe the essence of a servant leader. The characteristics are listening, empathy, healing, awareness, persuasion, conceptualization, foresight, stewardship, commitment to the growth of others, and building community (Spears, 1995). Many other educational theorists, such as Bolman, Deal, Covey, Fullan, Sergiovanni, and Heifetz also reference these characteristics as essential components of effective leadership. In 1989, DePree summarized servant leadership when he said that,

Leaders need to first think of themselves as stewards. Leaders owe it to themselves to be good caretakers of not only the assets of organizations but of the people who work in these organizations. It is through taking care of the people that successful leadership is able to come to fruition (DePree, 1989, p. 11).

Next, servant leadership influenced transformational leadership. In 1992, Leithwood found that transformational leaders pursue three fundamental goals: 1. Help staff develop and maintain a collaborative, professional school culture; 2. Foster teacher leadership development; and 3. Help teachers solve problems more effectively. Understanding more about the influences on leadership, such as generational factors, could help leaders achieve these three goals.

Leithwood's data was incorporated into the book, *School Leadership that Works*, which is used as the leadership framework for this study. This book, and its foundational meta-analysis,

frames the 21 leadership responsibilities and concepts of 1st and 2nd order change. Leithwood & Jantzi (2000, p. 113) suggested six transformational leadership factors that are very similar to many of the 21 leadership responsibilities used in this study, they are:

1. Building vision and goals.
2. Providing intellectual stimulation.
3. Offering individualized support.
4. Symbolizing professional practices and values.
5. Demonstrating high performance expectations.
6. Developing structures to foster participation in decisions.

Evidence of the effects of transformational leadership, according to Leithwood's data, is "uniformly positive." He cites two findings from his own studies: transformational leadership practices have a large influence on teacher collaboration, and significant relationships exist between aspects of transformational leadership and teachers' own reports of changes in both attitudes toward school improvement and changed instructional behavior. Sergiovanni (1990) suggests that student achievement can be "remarkably improved" by such leadership. Finally, Sagor (1992) found that schools where teachers and students reported a culture conducive to school success had a transformational leader as its principal.

This historical body of school leadership research brings us to the leadership structure used in this study. In 2003, Waters, Marzano, and McNulty used components of most of the aforementioned theories to redefine instructional leadership theory in light of their large meta-analysis on the relationship between school leadership and student achievement. Drawing from 35 years of quantitative studies, the authors explain critical leadership principles that every administrator needs to know.

In order to combine the results of several pieces of research, they reviewed over 5000 studies and carefully narrowed them down to 69 that meet all of their research design criteria. They identified a common measure of effect size, for which a weighted average was calculated related to sample sizes within the individual studies. The general aim of the meta-analysis was to more powerfully estimate the true "effect size" as opposed to a smaller "effect size" derived in a single study under a given single set of assumptions and conditions.

After making their analytical calculations, they found a significant correlation (0.25) between school leadership and student achievement. This means that school leadership matters in regards to student achievement. In addition to their meta-analysis, they also used the works of Warren Bennis (1994), Peter Block (2003), Marcus Buckingham & Donald Clifton (2001), James Collins (2001), Stephen Covey (1992), Richard Elmore (2000), and James Spillane et. al. (1999) to create their framework for school leadership in *School Leadership that Works* (2005).

They performed a factor analysis on leadership responsibilities and found that two types of change required different approaches to leadership. The first type was 1st order change in which followers experience the change as routine, reasonable, and feasible. The second type was 2nd order change in which followers experience the change with a high degree of confusion, trepidation, and conflict. They combined the works of other theoretical researchers to construct their concepts of 1st and 2nd order change including the research of Michael Fullan (2001), Ronald Heifetz & Martin Linsky (2002), Richard Beckhard & Wendy Pritchard (1992), William Bridges (1991), Frances Hesselbein & Rob Johnston (2002), David Nadler et. al. (1994), and Everett Rogers (2003).

The work of Marzano, Waters, and McNulty (2005) is the leadership structure that this study used to determine possible differences in leadership of both 1st and 2nd order change by generation. After reading *School Leadership that Works*, this researcher wondered, could there be a difference in the way some generations lead change? Some may be very adept at leading 1st order change while not as able at leading 2nd order change. The importance of the distinction between 1st and 2nd order change is discussed further in a later section called “Conceptual Overview of 1st and 2nd Order Change.”

Theoretical Framework of “Balanced Leadership that Works”

This study adds another aspect to the substantial research conducted by Timothy Waters, Robert Marzano, and Brian McNulty (2003) in *Balanced leaders: What 30 years of research tells us about the effect of leadership on student achievement.* The findings from their

meta-analysis of 30 years of quantitative research on the effects of school leadership on student achievement are used as this study's criteria for effective change leadership. Therefore, it is important for the reader to have a deep understanding of it. The following description of this work comes from three primary sources:

1. *Balanced Leadership: What 30 years of research tells us about the effect of leadership on student achievement* by Waters, Marzano, and McNulty (2003)
2. *School Leadership that Works: From Research to Results* by Marzano, Waters and McNulty (2005)
3. *The Balanced Leadership Framework™ - Connecting vision with action* by Waters and Cameron (2007)

Over the past several years, Mid-continent Research for Education and Learning (McREL) has completed multiple meta-analytic studies on the practices of effective schools, teachers, and principals. These studies provide general guidance for what school leaders and teachers can do to increase student achievement.

The meta-analysis for *School Leadership that Works* began in 2001 with the literature review of more than 5,000 studies that claimed to have examined the effects of principal leadership on student achievement. From these 5,000 studies, 69 were selected based on the quality of their design, rigor, reliability, and relevance of data to the questions McREL was attempting to answer about school-level leadership. In all cases, the studies shared four characteristics:

1. The dependent variable in each study was student achievement.
2. The independent variable in each study was leadership.
3. Student achievement measures were all quantitative and standardized.
4. Measures of school-level leadership were all quantitative and standardized.

The sample sizes for these 69 studies included more than 14,000 teacher ratings of principal leadership for 2,802 principals. Ratings of principal leadership were correlated with more than 1.4 million student achievement scores. The findings, conclusions, and technical notes from

this meta-analysis have been published in *School leadership that works: from research to results* (Marzano, Waters, & McNulty, 2005). This meta-analysis examined the relationship between student achievement and school-level leadership. It came to a number of interesting conclusions about the responsibilities of school leaders and which ones are most significant when leading major changes in educational systems.

First, Marzano, Waters, and McNulty (2005) found a statistically significant correlation between school-level leadership and student achievement of 0.25, which translates to a one standard deviation increase in principal leadership behavior corresponding with a 10 percentile point difference in student achievement on a norm referenced test (Marzano, Waters, & McNulty, 2005).

Second, the authors identified 21 leadership responsibilities with statistically significant correlations to student achievement. With this finding, their concept of “instructional leadership” was formed. Table 2 showed the definition of the findings as a set of leadership responsibilities and associated practices correlated with student achievement.

Table 2: Principal Leadership Responsibilities & Practices

Responsibilities (extent to which the principal ...)	Associated Practices
1. Affirmation: Recognizes and celebrates school accomplishments and acknowledges failures	<ul style="list-style-type: none"> • Systematically and fairly recognizes and celebrates accomplishments of teachers • Systematically and fairly recognizes and celebrates accomplishments of students • Systematically acknowledges failures and celebrates accomplishments of the school
2. Change agent: Is willing to and actively challenges the status quo	<ul style="list-style-type: none"> • Consciously challenges the status quo • Is comfortable with leading change initiatives with uncertain outcomes • Systematically considers new and better ways of doing things
3. Communication: Establishes strong lines of communication with teachers and among students	<ul style="list-style-type: none"> • Is easily accessible to teachers • Develops effective means for teachers to communicate with one another • Maintains open and effective lines of communication with staff
4. Contingent rewards: Recognizes and rewards individual accomplishments	<ul style="list-style-type: none"> • Recognizes individuals who excel • Uses performance versus seniority as the primary criterion for reward and advancement • Uses hard work and results as the basis for reward and recognition
5. Culture: Fosters shared beliefs and a sense of community and cooperation	<ul style="list-style-type: none"> • Promotes cooperation among staff • Promotes a sense of well-being • Promotes cohesion among staff • Develops an understanding of purpose • Develops a shared vision of what the school could be like
6. Discipline: Protects teachers from issues and influences that would detract from their teaching time or focus	<ul style="list-style-type: none"> • Protects instructional time from interruptions • Protects/shelters teachers from distractions
7. Flexibility: Adapts his or her leadership behavior to the needs of the current situation and is comfortable with dissent	<ul style="list-style-type: none"> • Is comfortable with major changes in how things are done • Encourages people to express opinions contrary to those in authority • Adapts leadership style to needs of specific situations • Can be directive or non-directive as the situation warrants
8. Focus: Establishes clear goals and keeps those goals in the forefront of the school's attention	<ul style="list-style-type: none"> • Establishes high, concrete goals and expectations that all students meet them • Establishes concrete goals for all curriculum, instruction, and assessment • Establishes concrete goals for the general functioning of the school • Continually keeps attention on established goals

Responsibilities (extent to which the principal ...)	Associated Practices
9. Ideals and beliefs: Communicates and operates from strong ideals and beliefs about schooling	<ul style="list-style-type: none"> • Holds strong professional beliefs about schools, teaching, and learning • Shares beliefs about schools, teaching, and learning with the staff • Demonstrates behaviors that are consistent with beliefs
10. Input: Involves teachers in the design and implementation of important decisions and policies	<ul style="list-style-type: none"> • Provides opportunities for input on all important decisions • Provides opportunities for staff to be involved in developing school policies • Uses leadership team in decision making
11. Intellectual stimulation: Ensures faculty and staff are aware of the most current theories and practices and makes the discussion of these a regular aspect of the school's culture	<ul style="list-style-type: none"> • Keeps informed about current research and theory regarding effective schooling • Continually exposes the staff to cutting edge ideas about how to be effective • Systematically engages staff in discussions about current research and theory • Continually involves the staff in reading articles and books about effective practices
12. Involvement in curriculum, instruction, and assessment: Is directly involved in the design and implementation of curriculum, instruction, and assessment practices	<ul style="list-style-type: none"> • Is involved in helping teachers design curricular activities • Is involved with teachers to address instructional issues in their classrooms • Is involved with teachers to address assessment issues
13. Knowledge of curriculum, instruction, and assessment: Is knowledgeable about current curriculum, instruction, and assessment practices	<ul style="list-style-type: none"> • Is knowledgeable about instructional practices • Is knowledgeable about assessment practices • Provides conceptual guidance for teachers regarding effective classroom practice
14. Monitors and evaluates: Monitors the effectiveness of school practices and their impact on student learning	<ul style="list-style-type: none"> • Monitors and evaluates the effectiveness of curriculum, instruction, and assessment
15. Optimize: Inspires and leads new and challenging innovations	<ul style="list-style-type: none"> • Inspires teachers to accomplish things that might seem beyond their grasp • Portrays a positive attitude about the ability of the staff to accomplish substantial things • Is a driving force behind major initiatives
16. Order: Establishes a set of standard operating procedures and routines	<ul style="list-style-type: none"> • Provides and enforces clear structure, rules, and procedures for students • Provides and enforces clear structures, rules, and procedures for staff • Establishes routines regarding the running of the school that staff understand and follow

Responsibilities (extent to which the principal ...)	Associated Practices
17. Outreach: Is an advocate and spokesperson for the school to all stakeholders	<ul style="list-style-type: none"> • Assures the school is in compliance with district and state mandates • Advocates on behalf of the school in the community • Advocates for the school with parents • Ensures the central office is aware of the school's accomplishments
18. Relationship: Demonstrates an awareness of the personal aspects of teachers and staff	<ul style="list-style-type: none"> • Remains aware of personal needs of teachers • Maintains personal relationships with teachers • Is informed about significant personal issues within the lives of staff members • Acknowledges significant events in the lives of staff members
19. Resources: Provides teachers with materials and professional development necessary for the successful execution of their jobs	<ul style="list-style-type: none"> • Ensures teachers have necessary materials and equipment • Ensures teachers have necessary staff development opportunities that directly enhance their teaching
20. Situational awareness: Is aware of the details and undercurrents in the running of the school and uses this information to address current and potential problems	<ul style="list-style-type: none"> • Is aware of informal groups and relationships among staff of the school • Is aware of issues in the school that have not surfaced but could create discord • Can predict what could go wrong from day to day
21. Visibility: Has quality contact and interactions with teachers and students	<ul style="list-style-type: none"> • Makes systematic, frequent visits to classrooms • Maintains high visibility around the school • Has frequent contact with students

The third finding in their meta-analysis required further clarification. Despite finding the average effect of student achievement correlated at 0.25, Waters, Marzano, and McNulty's (2003) study also found that a small, yet significant group of school leaders rated highly by their teachers did not have an overall positive impact on student achievement. This comes from a number of studies in which principals were rated by teachers as strong leaders in schools with below average achievement. While the majority of principals rated highly by their teachers did have better student achievement than the average principals, enough highly rated principals were not correlated with high student achievement to cause further investigation.

There are many possible explanations for this third finding, described as "the differential impact of leadership," but two possibilities emerged as most plausible to the researchers. First, the effect of strong leadership could be lessened if a principal is focused (and focuses the school)

on practices that are not likely to impact student achievement. There are many practices and activities on which a principal can focus his/her energy, attention, talent, wisdom, and other assets of a school. Not all of them have the potential to positively influence student achievement. They may be important in the running of a school, or mandated by the district/state, but not essential for improving achievement.

Therefore, Marzano, Waters, & McNulty concluded that one possible explanation of the differential impact of leadership is the focus of leadership. Focusing on research-informed, effective practices, leaders can have a strong positive effect. On the contrary, focusing on practices unlikely to make a difference could cause even a leader perceived as strong to be ineffective and have a minimal or even negative effect on student achievement.

Marzano, Waters, & McNulty (2005) decided that the second explanation for the differential impact of leadership is the order of change implied by the principal's improvement efforts. Basically, even when principals focus on the best practices, they must realize the implications these changes have for the staff and adjust their leadership behaviors accordingly. This second explanation is investigated further in this study.

Conceptual Foundation of 1st and 2nd Order Change

The foundations of 1st and 2nd order change come from research on organizational behavior and psychology. The connection to generational cohort theory stems from the shift people experience when their established paradigm is threatened by change. Are certain generations more open or closed to change? Could the cultural influences experienced during highly impactful times in their youth affect their propensity to withstand change?

The concept of 1st and 2nd order change has been extensively researched. The distinction between the two is analogous to the distinction between single-loop and double-loop learning as described by Argyris & Schön (1974) and the distinction between 1st order and 2nd order change as proposed by Watzlawick, Weakland & Fisch (1974). They believed that there are two types of change. Less complex 1st order change is the permissible within an unchanging system. More

complex 2nd order change is a shift affecting the system itself. Watzlawick, et al. further defined it at follows:

- 1st order change: Changing the individuals in a setting to attempt to fix a problem. It is a variation in the way processes and procedures have been done in a given system, leaving the system itself relatively unchanged.
- 2nd order change: Attending to systems and structures involved with the problem to adjust the person–environment fit. It occurs when the system itself is changed. This type of change usually occurs as the result of a strategic change or a major crisis such as a threat against system survival. 2nd order change involves a redefinition or reconceptualization of the business of the organization and the way it is to be conducted (Watzlawick, et al., 1974, p. 170).

These two orders of change represent extremes. 1st order change involves doing better what we already do, while 2nd order change alters the core ways we conduct business or even the basic business itself (Watzlawick, et al., 1974).

Maier (1987) proposed a description of the order of change that closely mirrors the frameworks used in *School Leadership that Works* and this research. Maier said:

- 1st order change is incremental, a linear progression to do more or less, better, faster, or with greater accuracy. Practice, reinforcement, and time will be the most likely approaches for facilitating sound developmental change of this kind.
- 2nd order change, on the other hand, involves a nonlinear progression, a transformation from one state to another. The aim would be to enable the individual to behave, think, or feel differently. Within the 2nd order change approach, applicable practice tools might be modeling, confrontation, conflict, work, refraining, and most important, the introduction of decisively different personal experience over time (Maier, 1987, p. 10).

One way of thinking of the two types of change is that one is changing what we already do, but doing it better, and the other (2nd order) is doing something we have never done. William Bergquist (1993, p. 97) expanded on the work of Gregory Bateson, in his characterization of 1st and 2nd order change. He listed their characteristics as follows:

- 1st order change:
 - Adjustments within the existing structure
 - Doing more or less of something
 - Reversible
 - Restoration of balance (homeostasis)
 - Non-transformational
 - New learning is not required
 - Old story can still be told

2nd order change:

- New way of seeing things
- Shifting gears
- Irreversible
- Often begins through the informal system
- Transformation to something quite different
- Requires new learning
- New story is told

Conley (1993) grouped two types of change in public schools as the 1st order type:

renewal and reform. Renewal activities are those activities a school or district is already doing and if done better will produce better results, such as upgraded to the next version of a familiar word processing program. Reform activities alter existing procedures, or rules as a result of new conditions or requirements (Conley, 1993). On the other hand, 2nd order change was something Conley described as “restructuring.” Restructuring activities change fundamental assumptions, practices, and relationships, both within the organization and between the organization and the outside world, in ways that lead to improved and varied student learning outcomes for essentially all students (Conley, 1993). Fullan (1993) referred to this type of change as 2nd order change that alters the ways in which organizations are structured.

Nancy Lorenzi and Robert Riley (2000) in *Managing Change: An Overview*, described changes as *microchanges* or *megachanges*. The following scheme can be used to differentiate between the two:

- *Microchanges*—differences in degree
- *Megachanges*—differences in kind

Just as it is also described in *School Leadership that Works*, this scheme works surprisingly well for communication within organizations as long as we remember that one person's microchange is often another person's megachange. Therefore, while system designers think they are making a minor change to enhance the total system, an individual end user may see the change as a megachange and resist it vehemently (Lorenzi & Riley, 2000).

The findings from Waters, Marzano, and McNulty's (2003) meta-analysis of 30 years of quantitative research on the effects of school leadership on student achievement are used as this

study's primary criteria for effective change leadership. As previously mentioned, their description of 1st and 2nd order change comes primarily from three sources:

1. *Balanced Leadership: What 30 years of research tells us about the effect of leadership on student achievement* by Waters, Marzano, and McNulty (2003)
2. *School Leadership that Works: From Research to Results* by Marzano, Waters and McNulty (2005)
3. *The Balanced Leadership Framework™ - Connecting vision with action* by Waters and Cameron (2007)

The Balanced Leadership Survey used to collect the data for this research is based on the definitions of change conceptualized in the aforementioned sources. In order to maintain a high degree of fidelity to the survey, Waters, Marzano, and McNulty's (2003) definitions are used as the basis for determining the change leadership differences among various generations of principals. Essentially, this research is an extension of Waters, Marzano, and McNulty's (2003) research, thus, they are cited extensively in the following concepts that were used as the basis to create the data collection tool (Balanced Leadership Profile).

Research on leadership and change including Bridges (1991), Beckard & Pritchard (1992), Heifetz (1994), Nadler, Shaw & Walton (1994), Hesselbein & Johnston (2002), Kanter (2003), Rogers (2003), and Fullan (2006) indicates that not all change is of the same order. Some changes have greater implications than others do for stakeholders. For example, Heifetz, (1994) discusses the difference between 1st and 2nd order change by describing Type I, Type II, and Type III problems. He notes that Type I problems are those for which there is a reasonable expectation that a traditional solution will suffice. Type II problems are those that might be fairly well defined, but for which no clear-cut solution is available. Type III problems are those for which current ways of thinking do not provide a solution.

Although there are many labels given to differing magnitudes of change (incremental vs. fundamental, technical vs. adaptive challenges, continuous vs. discontinuous), Waters, Marzano,

and McNulty's (2003) study uses the terms "1st order" and "2nd order" change to make this distinction.

In order to clarify distinctions between the factors found in the meta-analysis, Waters, Marzano, and McNulty (2003) conducted a factor analysis meant to reveal intercorrelations among independent variables and underlying "factor" structures that might not be easily recognized by researchers, but that could improve the understanding of the independent variables.

The first goal of the factor analysis was to determine if there were inter-correlations among the 21 leadership responsibilities identified in the meta-analysis. For example, it was presumed that the leadership responsibilities of *Relationships*, *Communication*, and *Culture* might be interrelated. The second goal was to test the hypothesis that the "differential impact of leadership" might be related to a leader's degree of understanding of his/her leadership initiatives as 1st and 2nd order change.

Waters, Marzano, and McNulty (2003) collected data from more than 700 principals using a 92-item online survey designed to measure principals' behaviors in terms of 21 responsibilities as well as the extent to which the school was initiating 1st or 2nd order change.

Waters, Marzano, and McNulty (2003) were somewhat surprised by the results of this analysis. First, they did not find sufficient inter-correlations among the 21 responsibilities to warrant eliminating or combining any of them. They found that each leadership responsibility is distinct enough to include it in the set of 21 responsibilities. This finding indicates strong construct validity in the results of the initial meta-analysis.

Second, they found an empirical relationship between the 21 leadership responsibilities and change. Namely, principals reported varying their emphasis of the 21 responsibilities based on their estimates of the order of change associated with their improvement initiatives. Specifically, the researchers found that all 21 responsibilities were positively correlated with 1st order change. This finding indicates that principals appeared to evenly balance their emphasis of all 21 responsibilities when leading change perceived as 1st order.

Waters, Marzano, and McNulty (2003) were more interested in the second factor that emerged in the analysis of 2nd order change. Eleven of the leadership responsibilities significantly factored with 2nd order change. As shown in Table 3, seven were positively correlated with 2nd order change, and four were negatively correlated with 2nd order change.

Table 3: Responsibilities Correlated with 2nd Order Change

Positively Correlated	Negatively Correlated
• <i>Knowledge of Curriculum, Instruction, and Assessment</i>	• <i>Culture</i>
• <i>Flexibility</i>	• <i>Communication</i>
• <i>Change Agent</i>	• <i>Input</i>
• <i>Ideals and Beliefs</i>	• <i>Order</i>
• <i>Monitor and Evaluate</i>	
• <i>Intellectual Stimulation</i>	
• <i>Optimize</i>	

Ergo, when leading 2nd order changes, principals emphasize the seven responsibilities in the left-hand column of Table 3 while struggling to effectively fulfill the four responsibilities in the right-hand column.

This does not suggest that these four negatively correlated responsibilities have a negative impact on 2nd order change. In fact, fulfilling these responsibilities effectively will likely increase the prospects for successful implementation of 2nd order change initiatives.

This finding also does not suggest that principals are not working hard enough to fulfill these responsibilities effectively. Rather, the researchers think of this finding as the “unintended negative consequence” of 2nd order change. In other words, teachers perceive their leaders as lacking in these four responsibilities due to the magnitude and nature of the change itself, not because of any necessary failings of leadership.

Fullan (2001) and others have written about “implementation dip” associated with significant change in schools. Initial declines in school performance when struggling to implement changes that challenge prevailing norms, require new knowledge and skills, or conflict with personal values, are common. The implementation dip is the phenomenon of things getting worse before they get better.

Waters, Marzano, and McNulty's (2003) factor analysis offers some quantitative teacher perception data as validation of the implementation dip. It suggests that when schools take on an initiative with 2nd order implications for the majority of the staff, teachers may feel there is less cohesion and more fragmentation in the school and less clarity regarding the school's vision (culture). They may also feel like the principal is less accessible and less willing to listen to their concerns (communication). They also may feel like they have less influence on the day-to-day functions and direction of the school (input). Finally, they may feel like patterns of behavior, communication, and decision-making are no longer predictable (order).

Again, this finding does not suggest that principals are not doing a good job at the four negatively correlated responsibilities. Rather, it suggests that it is difficult to fulfill these four responsibilities effectively when leading changes with 2nd order implications for the majority of staff—especially when they are heavily emphasizing the seven responsibilities positively correlated with 2nd order change. This is what Waters, Marzano, and McNulty (2003) mean by the “unintended negative consequence” of 2nd order change: the likelihood that teachers' perceptions of a principal's effectiveness in these areas of responsibility are negatively affected by the nature of 2nd order change itself.

The magnitude of change is one of the explanations for the differential impact of leadership. It is based on Waters, Marzano, and McNulty's (2003) understanding of change leadership, the nature of change, the implications of change, and the change process. They implied that even when leaders were perceived as highly effective and even when those leaders were focused on the right school and classroom practices, they can have a negative impact on achievement if they fail to correctly estimate the order of change.

It is important to clarify that the terms 1st order and 2nd order have less to do with the actual change initiatives themselves and more to do with the implications of change for individuals involved. In other words, like beauty, magnitude of change lies in the eye of the beholder. Whether individuals perceive a change as 1st order or 2nd order has to do with their own comfort with the change in terms of their knowledge, experience, values, and flexibility as shown

in Table 4. As a result, few changes are of the same order for everyone. The same change can be perceived as a 1st order change for some and as 2nd order change for others.

Table 4: Comparison of 1st Order Change & 2nd Order Change

1st Order Change When a change is perceived as:	2nd Order Change When a change is perceived as:
An extension of the past	A break with the past
Within existing paradigms	Outside of existing paradigms
Consistent with prevailing values and norms	Conflicting with prevailing values and norms
Implemented with existing knowledge & skills	Requiring new knowledge & skills to implement

Leading transformative change initiatives can be a high-stakes proposition, and fulfilling key responsibilities exceptionally well is challenging. In order to avoid the “differential impact of leadership,” principals must understand and accurately estimate the order of change of their improvement initiatives for each individual. They must also understand the change process; that is, they must understand which leadership responsibilities to emphasize and how to emphasize them when working with stakeholders for whom the change may have different implications (Waters, Marzano, & McNulty, 2003).

Effective change leadership requires a thorough understanding of the change process, which is complex and cyclical. This makes it difficult for leaders to have a clear understanding of where they are in the process. Waters, Marzano, & McNulty’s (2003) theory of change is composed of four phases: Create Demand, Implement, Manage Personal Transitions, and Monitor and Evaluate.

To create demand for change, the leader has to show the staff that the status quo is not working as well as an alternative path could. This then motivates the staff to change. Of course the leader must show that the change is possible and desirable given available resources and conditions. Just telling a staff to change is not good enough. They must be convinced to decide to change for themselves.

If one’s theory of action does not motivate people to put in the effort—individually and collectively—that is necessary to get results, improvement is not possible. Motivation cannot be achieved in the short run. In fact the beginning of all eventual successes is unavoidably bumpy. However, if your strategy does not gain on the motivation question

over time (e.g. end of year one, year two etc.) it will fail. Certainly moral purpose is a great potential motivator, but by itself won't go anywhere, unless other conditions conspire to mobilize several key aspects of motivation, including moral purpose; capacity; resources; peer and leadership support; identity and so on. It is the combination that makes the motivational difference (Fullan, 2006, p. 8).

The anxiety that creates a demand for change can be a product of many different influences. Two of the original seven leadership responsibilities from Waters, Marzano, & McNulty (2003) positively correlated with 2nd order change. *Intellectual Stimulation* and *Change Agent*, help create demand for change. Change occurs as new insights are formed via experiences, experimentation, and feedback, and are initiated when they are supported by new norms and organizational features. The unlearning-relearning process can produce anxiety and defensiveness that often surfaces in the form of personal or group resistance (Scott, 2009).

Once a school leader has created demand for change, the challenge becomes implementing appropriate research-informed practices effectively. To sustain the impetus created in the previous phase and to guide teachers and others through the phase of *Implement* requires principals to maintain a continual focus on the quality, fidelity, intensity, and consistency of implementation. All too often, change initiatives fail at this phase because leaders assume that the demand created in the initial phase will carry the initiative forward.

Two leadership responsibilities from Waters, Marzano, & McNulty (2003) support principals in this effort: *Knowledge of curriculum, instruction, and assessment* and *Optimize*. These responsibilities are about the prioritization principals must do to make sure that instructional leadership comes first. The term *instructional leadership* focuses administrators' attention on 1st order changes— improving the technical and instructional activities of the school through the close monitoring of teachers' and students' class work. Yet instructional leaders often make such important 2nd order changes as building a shared vision, improving communication, and developing collaborative decision-making processes (Leithwood, 1992).

It is not enough for principals to know a lot about curriculum, instruction, and assessment. They must also provide conceptual guidance regarding the related school and classroom

practices needed to make the change happen. This includes supporting the staff in realizing and implementing the change through inspiration, optimism, and relentless drive.

Often changes for the better in education can be felt as a loss for teachers or principals. This is especially true when they must gain new knowledge, develop new approaches and procedures, redefine relationships, and re-examine their norms and values. School improvement initiatives often require staff to undergo personal transitions, which they often respond to by resisting change (Waters, Marzano, & McNulty, 2003).

Managing personal transitions created by 2nd order change is not the same as managing change. Bridges (1991) makes the distinction between change and transition by describing the former as external and the latter as internal. Bridges says that personal transitions are internal psychological processes that are often the result of external changes.

For principals, managing individuals as they go through personal transitions is crucial to successful change leadership. Since personal transitions vary between individuals and groups, principals must fulfill the leadership responsibility *Flexibility* from Waters, Marzano, & McNulty (2003). This means that they must be flexible in their approach to leadership and differentiate their leadership behaviors by being directive or non-directive as needed. It also means that they must find a balance between setting direction for the school and listening to beliefs and opinions that differ and even sometimes oppose their own.

Principals have to realize that change is a regular part of leadership. Often, principals may need to lead changes that are, for themselves, 2nd order. This requires that principals engage in reflective practice and maintain an awareness of the implications of change for themselves as well as others. Principals can reflect on their practice more effectively if they are aware of their leadership tendencies, including generational influences. For instance, a hypothetical Gen-X principal is struggling with leading the staff through a long-term vision creation process. If Gen-X principals realize that their generation tends to sacrifice long-term vision for short-term pragmatism, they may see this tendency in the mirror of their own leadership practice more readily and clearly than if they did not understand generational tendencies. This can help

them deal with their own and other's 2nd order change implications. This does not mean that everyone is definitely going to exhibit the general characteristics of their generation, but they might recognize them better in themselves if they understand those characteristics.

Implementing 2nd order change requires constant vigilance. Monitoring the implementation of research-informed improvement initiatives requires that principals fulfill the responsibility *Monitor and Evaluate* from Waters, Marzano, & McNulty (2003). They do this by:

- Collecting and analyzing data on the quality, fidelity, consistency, and intensity of implementation,
- Assessing the impact of implementation on student achievement, and
- Determining the impact of implementation on implementers.

By keeping close tabs on the impact of change on the staff responsible for implementing it, principals will know how accurately they estimated the order of the change for individuals and thus, be able to adjust their leadership behaviors according to how well the implementation is progressing.

Finally, the consequences of 2nd order change are influenced by many factors. Waters, Marzano, & McNulty's factor analysis clarified some of the dynamics of change leadership. In addition to the seven positively correlated leadership responsibilities found by these researchers, there were four responsibilities negatively correlated with 2nd order change: *Culture, Order, Communication, and Input*.

The idea that principals struggle to fulfill these responsibilities, when leading 2nd order changes, is not new. Many school leaders have led 2nd order change that created feelings of animosity, distrust, disorientation, miscommunication, accessibility issues, personal vulnerability, and the loss of influence in the decision-making process. Despite additional attention and effort a principal may put into these responsibilities, the results of Waters, Marzano, & McNulty's factor analysis suggest that staff are likely to perceive that their leaders are not attending to these four responsibilities as well as they should.

Generations in the Workplace

What follows is a general description of the five generations in the workplace. Specific leadership traits of each are addressed in the next major section. The names and birth years of each generation have been standardized for the purposes of this research. The names used are those that seem the most common in the existing research field of generations. However, many names can be found that refer to the same generation. For instance, the Millennials are also known as “Generation Y” or the “Net Generation.” Gen-X is also known as “The Baby Busters.” Generation Jones is also known as “The Trailing Edge Baby Boomers.” Baby Boomers are also known as “The Leading Edge Baby Boomers.” And the Silent Generation is also known as “The Beat Generation” or “The Swing Generation.”

While demographers and sociologists generally agree on the generational boundaries within a range of 3-5 years, generations do not have distinct boundaries and there is little consensus on the actual years that should be used to distinguish one cohort from another. This is partly due to the difficulties of combining the quantitative measures of age and time with the qualitative measure of values and historical events (Scott, 2000). Therefore, an average of the birth date ranges was taken from prominent demographers and sociologists and used for the purposes of this research. People born on or near the birth date range boundary are referred to as “cuspers.” They often relate to both generations, more or less.

Some demographers and sociologists would not agree with the inclusion of Generation Jones in this research. It was discovered after the fact that significant differences in the leading and trailing halves of the traditional Baby Boomer Generation exist. However, only about half of the generation scholars recognize it. Others view it as a subgroup of the Baby Boomers by calling those born from 1943-1953 the Leading Edge Baby Boomers and those born from 1954-1965 the Trailing Edge Baby Boomers. However, enough evidence was found during the review of the literature to treat these two groups as two distinct generations.

The following are generational tendencies and do not represent absolutes. They are broad descriptions summarized from characteristics found in the research. The theory is that

most people in a generation would identify more closely to their generation's description than people in other generations. Rarely would someone's personality, behavior, and perspective completely match one of these descriptions. Furthermore, other factors that influence a person's characteristics could be much stronger and therefore that person may not necessarily identify with any of these descriptions at all.

Millennial (1981-1998).

The best-known single fact about the Millennial Generation is that it is large. The Baby Boomers were originally named due to a surge in birth rates. But even they have been eclipsed by the huge size of the Millennial Cohort. Part of their large size comes from immigrant families who tend to have more children per family than established U.S. families. It also comes from children who immigrated to the United States in large numbers in the 1980s and '90s. Between 1980 and 2000, a record average of 7.9% of foreign born people in the United States were children. This is nearly twice the proportion that previous generations received from foreign born children that lived in the United States during their childhood. It's estimated that in 2000, 13.1 million children under 18 years old resided in the United States, but were not originally born in the United States (Migration Policy Institute, 2011). In total, there were an estimated 87.39 million Millennials born in the U.S. and from immigration. Factoring in improving infant mortality rates and each generation's immigrant children, Millennials are now a larger cohort group than the Baby Boomers and Jones Generation combined and much larger than the estimated 56.11 million Gen-Xers born (U.S. Census Bureau, 2011). Despite their large numbers, Millennials are the children of a lower, yet newly stable, fertility pattern that reflects an emerging family ethic favoring "quality over quantity" (Strauss & Howe, 2000, p. 294).

The Baby Boomer, Jones, and Gen-X parents and teachers of Millennials taught them to be inclusive and tolerant of other races, religions, and sexual orientations (Raines, 2003). Racial and ethnic diversity is much greater among Millennials. Furthermore, Asians, African Americans, and Latinos account for a large share of them (Editors of New Strategist Publications, 2008). Yet, they tend to ostracize outsiders and compel conformity. Millennials feel more of an urge to

homogenize and to celebrate ties that bind rather than differences that splinter (Strauss & Howe, 2000). While Millennials are more ethnically diverse than the other generations, they are heavily divided by class. They are part of the largest economic divide in over a century (Kunreuther, 2008) as many more of them live in families at the extremes –rich and poor– than previous generations that had higher percentages in the middle class. Like their large population size, much of their diversity has come from young immigrant families.

Coming of Age.

Millennials had a formative period characterized by many economic highs and lows, technological advances, and globalization. They are shaped by the influence of the Internet and other information technologies, which have provided them with novel ways of thinking and communicating (Lyons, Duxbury, & Higgins, 2005). While the last of the Millennials experienced a significant recession starting around December 2007, even the youngest members of this cohort were already eight years old. Still, this recession is the transition time to a new, yet unnamed, generation.

Through the Millennial-child era, government has offered carrots to kids and sticks to parents, again and again—exactly what government so plainly did not do during the Gen-Xer child years. The result is the largest, healthiest, most cared-for youth generation in living memory. The poverty rate for children rose through much of the Gen-Xer childhood era, peaked in the early 1980s just when the first Millennials arrived, and continuing to trend downward even beyond the Millennial birth range. The 1990s became the first decade since the 1920s in which federal spending on kids rose faster than spending on working-age adults or elders (Strauss & Howe, 2000, p. 95).

In the decades right before and after the turn of the century, Americans moved the spotlight back onto kids and their families. Las Vegas and Club Med *went family*; eating out, once an *adult thing*, became a family matter; and 90% of fathers attended the birth of their children. The Federal Forum on Family Statistics reported that national attention to children was at an all-time high (Raines, 2003).

As did the Gen-Xers, Millennials grew up with dual-income parents, divorces, and daycare. But this generation grew up under different parenting styles. Timeouts became a popular method for discipline, and spankings became viewed as child abuse. Parents began sheltering their children more from the woes the world. This generation did not grow up in the

times when kids freely played outside without supervision. (Gravett & Throckmorton, 2007). Instead, they participated in numerous organized activities, sports, and clubs. They were raised, by and large, by active, involved parents. In fact, Millennials actually *like* their parents. In the Generation 2001 survey, conducted by Lou Harris on behalf of Northwest Mutual Life Insurance, Mom and Dad were most often named when young people were asked whom they admired (Raines, 2003).

During their most formative years, Millennials lived through many acts of terrorism. They saw the bombing of the Murrah Federal Building in Oklahoma City, the horror at Columbine High School, numerous copycat school shootings –and most impacting– the September 11th attacks of 2001. This meant that they grew up at a time when there was a need to pull together. Community service is part of their DNA. It's no longer keeping up with the Joneses. It's helping the Joneses. Surveys show people born between 1981 and 1998 are the most civic-minded since the generation of the 1930s and 1940s, say Morley Winograd and Michael Hais, co-authors of *Millennial Makeover: MySpace, YouTube, and the Future of American Politics*. The Corporation for National and Community Service, the federal agency that oversees AmeriCorps and other programs, says volunteer rates for ages 16-24 nearly doubled from 1989 through 2005, from 12.3% to 23% (Stone, 2009).

The education of Millennials differed in a number of noteworthy ways compared to the other generations. The 1990s became the decade of getting back to basics, teaching values, setting standards, and holding schools and students accountable. For Millennials, *collaborative learning* became as popular as *independent study* was for Baby Boomers or *open classrooms* for Gen-Xers. They were taught to be outer-driven, ideal-following team players (Strauss & Howe, 2000). Millennial students say that they feel a lot of pressure, not just from their parents, but also from themselves to earn high grades and compile impressive co-curricular portfolios to enhance their prospects in the college admission process (Sandfort & Haworth, 2001).

So what about Millennials who have become educators? Teachers have lost some professional clout during the time of the Millennial Generation. Their generation of new urban

teachers in particular have been raised on what Bulman (2002) termed the “urban high school genre film,” which has risen in popularity since 1977. In this genre, an outsider comes into a troubled school and succeeds where veteran teachers and administrators have failed. He notes that in these films, the staff is made up of “inept bureaucrats and incompetent teachers” (Bulman, 2002, p. 34).

General Characteristics.

With so much media attention on the ills of society and youth in particular, one would think that the generational characteristics of today’s young people are slanted toward the negative and getting worse by the day. However, the opposite is probably true. People are hyperaware of unusual teenagers – ones who commit atrocious crimes or heroic feats – and often forget the majority who do their homework, help with the dishes, and never make the news (Aubrun, 2000). Adults of any era tend to think that the youth of their time are not on the right path and that their morals are deteriorating. It doesn’t matter if one compares 45-year-olds in 1920 to 45-year-olds in 2010. On average, both groups will have similarly negative views of the youth of their day. Again, Clair Raines (2003) put this phenomenon in plain words when she explained her “Hand Basket Theory.” It is as old as time. It says, “Kids just ain’t no good these days.” It says, “Today’s kids are going to hell in a hand basket” (Raines, 2003, p. 6).

Most Millennials tend to be sociable, talented, well-educated, collaborative, open-minded, influential, and achievement-oriented. This “Baby on Board” generation has always felt sought after, needed, and indispensable. In Canada, they are called the Sunshine Generation (Raines, 2003). Most are young adults who believe education is cool, integrity is admirable, and parents are role-models (Martin & Tulgan, 2001). The strongest traits found about the Millennial Generation are a strong work-ethic, resourcefulness, and generosity (Gage, 2005).

Lancaster and Stillman (2002) have suggested that Millennials define success largely in materialistic terms including status and prestige, but not at the expense of family. For instance, 85% of Millennials interviewed personally ranked family as their first or second priority in life (Sandfort & Haworth, 2001).

They view the baccalaureate degrees as the only way to secure financial stability. Building on this point, many students stressed that the problem with dead-end, low education jobs was not just that they often paid poorly, but that they also seldom provided personal fulfillment (Sandfort & Haworth, 2001).

Millennials are also said to view frequent change as positive and desirable (Lyons, Duxbury, & Higgins, 2005). A large percentage of interviewees described themselves and their generation as hopeful with respect to change. The majority of participants were highly optimistic about their future, viewing themselves as leaders and advocates of change (Strauss & Howe, 2000; Lovern, 2001; Sandfort & Haworth, 2001).

Part of their belief in change seems to stem from the fact that they are a civic generation that believes themselves more collectively powerful than older generations. They seem to easily develop a clear collective mission and high ambitions for cleaning up and rebuilding the outer world. They are often achievers, instinctive team players, and easily form peer relationships (Strauss & Howe, 1992; Alch, 2000). News stories about youth groups that have raised money for this cause or that movement are more common due to this civic-mindedness. Not only do they think they can change the world, they are doing so in many ways.

They are the first for which community service has been a key to college admissions or even a requirement for high school graduation. For many, that commitment to service has stuck (Ruggeri, 2009). They seem to worry about the future, not just locally, but globally, and actively engage in and encourage acts of recycling and reducing wastes or pollutants. Morally, interviews showed them to be much more against premarital and unprotected sex, alcohol, and drugs than Baby Boomers or Gen-Xers were at like ages (Gravett & Throckmorton, 2007).

Millennials are the first generation of technological natives. Their relationships are built on texting, social networking, and constant connectivity. Millennials are poised to be lifelong learners. Fueled by their facility with technology, this "Digital Generation" is ready to learn anything, anywhere, anytime. Like Gen-Xers, the most talented Millennials seem to be independent, entrepreneurial thinkers who relish responsibility, demand immediate feedback, and

expect to feel a sense of accomplishment hourly. They often thrive on challenging work and creative expression, love freedom and flexibility, and hate micromanagement. A Millennial will say, "We're here to challenge old ideas, push forward new ideas, and use our energy to find 'work-arounds.' We're team-ready and like to collaborate." Millennials seem to want to make meaningful contributions immediately. They have the energy, enthusiasm, and "can do" attitude that can reignite a team (Strauss & Howe, 2000; Markley, 2002; Raines, 2003; Martin & Tulgan, 2006).

But not all Millennial characteristics are positive. Although their power to communicate and compete globally is astounding, Millennials may have a hard time establishing boundaries between their personal and professional lives (Lovely, 2010). They might also be less inclined than Gen-Xers were at a like age to take big career risks. It seems that they have a fear of failure, aversion to risk, and desire to fit in to the mainstream. Every generation has a shadow side. For Millennials, the shadow they confront could include excessive collectivism and rationalism, and a capacity to push technology too far or follow leaders too unquestioningly (Strauss & Howe, 2000).

Another possible issue often cited in the research on Millennials is narcissism. Baby Boomers were also plagued by this as implied by one of their aliases, the "Me" Generation.

A meta-analysis of 85 samples of American college students shows a systematic increase in scores on the Narcissistic Personality Inventory between the early 1980s and 2006. It seems likely that much of the shift is a generational rather than a time-period effect. Recent college students approach celebrities in their levels of narcissism. Other traits correlated with narcissism have increased over the same time period, including self-esteem and materialism. In a 2006 survey, 81% of 18- to 25-year-olds said that getting rich was among their generation's most important goals. While Millennials show higher rates of civic volunteerism, it is possible that a more civic orientation could co-exist along with more narcissism; perhaps both have increased in more recent generations. These trends motivated Time magazine to declare that the 2006 Person of the Year was "You," complete with a mirror on the cover (Twenge, Konrath, Foster, & Campbell, 2008, p. 893).

Today's teenagers and young adults may be far more likely than their parents to believe they're great people, destined for maximum success as workers, spouses, and parents, suggests the following finding from a report comparing three decades of national surveys.

Compared with Generation Jones, who were seniors in 1975, 12th-graders surveyed in 2006 were much more confident they would be "very good" employees, mates, and parents, and they were more self-satisfied overall. Between half and two-thirds of

Millennial teens gave themselves top ratings, compared with less than half in their parents' generation (Twenge, Konrath, Foster, & Campbell, 2008, p. 876).

Impacts on Society.

Millennials are pushing the envelope of technological progress. Many of the junior *tech gurus* in large companies like Google, Microsoft, Apple, and Facebook are Millennials. Their thirst for global connectivity and customized technology will have lasting impacts for many years to come.

Their large size means that Millennials must compete against their many peers for colleges, jobs, and housing. This competitive crush shapes the attitudes and lifestyles of Millennials and is one of the factors that distinguish them from Gen-X (Editors of New Strategist Publications, 2008).

Millennials are becoming a generation of positive trends in educational achievement. Millennial's aptitude scores have raised within every racial and ethnic group. They seem to be rule followers and accept legitimate authority. Large majorities favor tougher rules against misbehavior in the classroom and society at large (Strauss & Howe, 2000; Zemke, Raines, & Filipczak, 2000; Thielfoldt, 2004). A system that sets high and measurable standards for effective teaching and that helps teachers reach those standards appeals to Millennial educators (Coggins, Zuckerman, & McKelvey, 2010).

They were taught to see things globally, not just through education but through their experiences of terrorism, heroism, patriotism, and advocacy (Bober, 2005). The first true cohort of "Global Citizens," they have been told by parents, teachers, and counselors that they can make a difference in the world, and they have already started to prove it (Martin & Tulgan, 2006). One only needs to look at the U.S. 2008 election cycle and the "Arab Spring" youth movements in the Middle East that marked the beginning of the second decade to see evidence of their impact.

Their political influence began building early on and continues to expand today. The 2008 UCLA freshmen survey reported signs of renewed political interest. After a record low of 28.1 in 2000, freshmen in the post-Sept. 11 era have shown increased interest in keeping up to date on political affairs; the level reached 39.5 percent in 2008," (Pryor, J., Hurtado, S., DeAngelo, L.,

Sharkness, J., Romero, L., Korn, W., et al., 2008, p.1). Yet they feel that their generation is at extremes with one another. They feel that they are divided on issues and hold the views at the ends of the political spectrum (Gage, 2005).

Most Millennials are far more trusting than their parents about the capacity of large national institutions to do the right thing on their (and the nation's) behalf. They are also more willing than other recent generations to acknowledge the importance of their own personal choices and actions (Strauss & Howe, 2000).

It is still too early to get a full picture of the research on Millennial characteristics in the workplace. As a young generation still coming of age, their full impact is still to be seen. Yet they have already made a significant mark on the world. Their influence on school leadership may be a reflection of their characteristics described above. Will they make big changes in the world of education? The future will tell.

Again, these are just generalized descriptions of a generation gleaned from the research. They are not necessarily true for any specific individuals. While many people in this generation may identify with the described tendencies, others may feel more comfortable with generations before or after the Millennials or do not identify with any of these descriptions at all.

Gen-X (1966-1980).

The research that defined Gen-X got off to a rocky start. Generational research experienced a decline during the formative years of both Generation Jones and Gen-X. The period of "decline and retrenchment" which began in the mid-1970s continued well into the 1980s. The recession of 1978-1982 severely reduced employment opportunities for sociologists, the pool of research funds contracted, and the number of sociology majors dropped dramatically between 1974 and 1985 (Rosich, 2005). This caused some early confusion about the characteristics of Gen-X and an unhealthy imbalance between the influence of popular media and serious research. The Baby Boomers of the media and marketing world were desperate to explain a generation they didn't understand, so they reduced Gen-Xers to a metaphorical cartoon (Hornblower, 1997, p. 1).

Though not then permanently named or in any other way celebrated, Gen-Xers were discovered in the early 1980s when colleges noticed a more nonchalant and less confrontational type of freshman. During this time the number and quality of military recruits soared and young hockey fans startled the media with a renewed patriotism by chanting "USA! USA!" at the winter Olympics in 1980 (Strauss & Howe, 2000).

Naming the new generation was a challenge. Massey (1986) called this generation the syntechs or synthesizers, but these names did not stick. The name "Gen-X" was coined by Douglas Coupland as a book title; he used the name of Billy Idol's 1970's rock band, "Generation X" to assign a moniker to the generation following the Baby Boomers. Most sociologists shortened it to Gen-X. The name itself connotes a sense of the unknown and a kind of edginess.

Since Gen-Xers behaved differently than Baby Boomers, they were easily misunderstood by elders who expected continuing Baby Boomer patterns. Unlike many Baby Boomers, who often protested loudly against societal inequities and governmental policies, Gen-Xers simply charted their own course— integrating various worldviews into their own psyche and weaving together bits and pieces of various cultures, religions, and other perspectives (Goben, 2003). They were not disloyal and uncommitted, as so many people first claimed, but rather cautious investors in a world that has taught them to expect little from institutional relationships (Tulgan, 2000).

The typical teen behaviors found in the worst of Gen-X (arrogance, indifference, cynicism) and the caricatures in Douglas Copland's book were used as evidence to define the whole generation as "lost" or "slackers."

Many of the Gen-Xers were less lost, than lost in translation; their rejection of politics-as-usual mistaken for apathy, their anxiety about economic security condemned as materialism, and their reluctance to be identified either by labels or with larger institutions dismissed as lack of commitment (Kunreuther, 2008, p. 108).

Most scholars now believe that most of the negative characterizations of Gen-Xers are misconceptions brought on by an impulsive media. They were not better or worse, just different and initially misunderstood. Tulgan (2000) said that the perceived arrogance is more independence and their tendency to be creative and think outside the box. The belief that Gen-X

is different than previous generations remains but the negative stereotypes are dissipating. These questionable stereotypes have been found to be particularly untrue in the work environment (Miller, 2000). In fact, according to the 2011 University of Michigan's Longitudinal Study of American Youth, compared to a national sample of all U.S. adults, Gen-X were more likely to be employed and were working and commuting significantly more hours per week (Miller, 2011).

Coming of Age.

Gen-X grew up during a time when faith in elders and traditional institutions had waned. During their formative years, Gen-X kids sensed that adults were simply not in control of themselves or the country. Older generations saw them as frenetic, physical, and slippery. Right or wrong, the message sent to Gen-X youth and their new employers was clear: that these kids got a poor education and were not intellectually capable. This was more hype than truth. One by one, Gen-Xers slowed or reversed Baby Boomer and Generation Jones trends— the SAT decline, youth crime, substance abuse, and early sex. But Gen-Xers have felt the full brunt of them and have borne the ensuing adult criticism (Strauss & Howe, 1992).

In the 1970s, Gen-X lived through a nightmare of self-immersed parents, disintegrating homes, schools with conflicting missions, confused leaders, a culture shifting from G to R ratings, new public-health dangers (i.e. AIDS), and a "Me Decade" economy that tipped toward the organized old and away from the voiceless youth (Strauss & Howe, 1992).

The Iran Hostage Crisis, OPEC Oil Embargo, Three Mile Island Meltdown, Challenger Disaster, Exxon Valdez Oil Spill, Operation Desert Storm, and Los Angeles Riots shaped their thinking in their early years. With Baby Boomer and Silent parents overworked and focused on accomplishing personal goals, Gen-X children were more often neglected and overlooked. Two factors heavily impacted the childhood years of Gen-Xers. First, soaring Baby Boomer divorce rates meant Gen-Xers did not have the same nurturing environment enjoyed by the Baby Boomers and Generation Jones, as 40% of the Gen-Xers spent time in a single-parent home by age 16. Second, as women entered the workforce in increasing numbers, Gen-Xers became the ultimate latchkey children. Being alone and fending for themselves, the young Gen-Xers learned

to be self-reliant and developed a confidence often misinterpreted as arrogance (Losyk, 1997; Wong, 2000; Gravett & Throckmorton, 2007).

They are called skeptical but for good reason. Whereas the Baby Boomers' hopes soared eternal with the first lunar landing, Gen-Xers' hopes were shattered as they watched the Challenger explode on their schoolroom TV screens (Wong, 2000). They grew up seeing every major American institution called into question. From the presidency to the military to organized religion to corporate America, you name the institution and Gen-Xers can name the crime. Combine that with the aforementioned divorce rate that tripled during their birth years and you have a generation that distrusts the permanence of institutional and personal relationships. As a result, Gen-Xers tend to put more faith in themselves as individuals and less faith in the institutions that seem to have failed them time and again (Strauss & Howe, 1992; Lancaster & Stillman, 2003).

The education of Gen-X was not viewed very positively by the press. The 1970s were a decade of experimentation, curricular diversity, rejection of standards, open classrooms, teachers as buddies, and the elevation of student self-esteem as a primary goal of schooling. The 1980s emerged as the decade of alarm, arguments over mistakes made, teacher morale problems, and growing parental discontent (Strauss & Howe, 2000).

While most Gen-Xers embraced diversity, they watched as their elder generations continued to struggle with it. In their youth, race dominated the airways, not through civil rights marches but in the O. J. Simpson trial and the Rodney King beating/riots. Dramatic change was happening outside the United States: the end of apartheid in South Africa, the fall of the Berlin Wall, and the mobilization of peoples across the globe fighting together for issues ranging from fair trade policies to land rights (Kunreuther, 2008).

The economy had a large impact on the shaping of Gen-X. Between 1979 and 1995, some 43 million jobs were lost through corporate downsizing and the national unemployment rate went as high as 10.8% in 1982 (Hornblower, 1997). Before 1981, the word "layoff," in the sense of permanent separation from a job with no prospects for recall, was so uncommon that the U.S.

Bureau of Labor Statistics didn't even keep track of such cuts. It's not surprising that today's younger managers are more wary of corporate commitments (Erickson, 2010). Since the mid-1970s, while the costs of setting out in life (college tuition, transportation, housing) have raced ahead of inflation, the rewards (salaries and fringe benefits for young workers) have steadily fallen behind (Strauss & Howe, 1992; Rousseau, 2007).

From the 1950s through the early 1970s, the over-65 age bracket showed the highest poverty rate; since 1974, the under-18 bracket has shown the highest (Strauss & Howe, 1992). This shift in societal priorities to the elderly did not go unnoticed by Gen-X.

With Baby Boomers clogging the promotional pipeline at work, Gen-Xers sometimes wondered when their day would come. It would seem that it is their fate to be overshadowed by the large generations on either side of them (Editors of New Strategist Publications, 2008).

General Characteristics.

Gen-Xers seem to have built a powerful survival instinct, wrapped around an ethos of personal determinism (Strauss & Howe, 1992). Research indicates that they prefer to achieve without drawing too much unwanted attention. Unlike their Millennial younger siblings, Gen-Xers tend not to crave the spotlight. Gordinier (2008, p. 77) summed this up well when he stated, "The Gen-X Sensibility" – *"it's wrong to sell out, it's wrong to want to be the center of attention, it's wrong to be too grasping and transparent in your ambitions."* Sometimes this can be misinterpreted as unambitious.

Gen-Xers are politically pragmatic. For instance, a higher percentage of Gen-Xers register to vote as independents than previous generations who more often choose a specific political party affiliation (Goben, 2003). They seem to bristle when they're told how to vote, how to behave, what to listen to, or even how to squander their time. They recoil at any hint of a presumption that *this is how it is done*, or even worse, *this is what you are supposed to think*. This cohort may be more prepared than any other modern generation to trade idealism for realism (Erickson, 2010). If it is one thing that the Xers are temperamentally opposed to, it is a

monoculture (Gordinier, 2008). This means they seem to avoid being assimilated into any one way of thinking. This may make them more comfortable with change.

Much has been written about the behavior of Gen-X in the workplace. Surveys indicate that they seem to love information and facts, prefer to work with concrete goals, value expertise, welcome evaluation, and are unforgiving (Hladun, 1990). Always wanting to improve their personal credentials, they seem to place great value on opportunities for intellectual development and learning in their work (Lyons, Duxbury, & Higgins, 2005).

For Gen-X, commitment seems to be focused on the work, not the organization, even when they are in a position they love (Kunreuther, 2008). Gen-Xers want to get the job done and go home at the end of the day. They are more likely than previous generations to change jobs if they are dissatisfied in their current position (Rousseau, 2007). Gen-Xers tend to demand good management and will go elsewhere if they do not find it (Tulgan, 2000). Evidence indicates that titles and power must match the competence of the individual in order to gain their respect (Losyk, 1997; Hessen & Lewis, 2001). As such, they prefer to judge on merit rather than on status (Conger, 1998; Sessa, 2007).

They seem to have grown into independent, goal-oriented, entrepreneurial thinkers whose ease with information and technology became one of their most important survival skills. Gen-Xers also seem to know their security rests in staying on the cutting edge. Gen-Xers still don't care for "the way we do things around here," and continue to push their innovative spirit and entrepreneurial ideas. They tend to sidestep rules and procedures that slow them down as they push for results. They may be willing to take risks and innovate—even when it drives their older bosses crazy (Martin, 2006).

Gen-X is viewed as independent and self-sufficient. In the workforce, they seem to adapt easily to the rapid tempo of change as they have learned from their childhood to expect it (Buckley, 2001). Gen-Xers may take change for granted (Rosen 2001; Kunreuther, 2008). Like the Millennials, they have seen change all around them throughout their lives, believing that it is a

constant. The forces of change that have impacted them have resulted in their being flexible, ready to adapt, and eager to prove themselves (Tulgan 1997; Sessa, 2007).

Muchnick (1996) found that Gen-Xers value communication and input more than some other generations. He found communication to be a central component to "Gen-Xers' value scheme." They want regular communication and access to data. They are in need of constant information (Tulgan, 2000). They tend to ask numerous questions to clarify information and believe in information transparency. What they seem to want is regular feedback on their performance, preferring ongoing status reports so that they understand how they are doing at work (Tulgan, 2000). Gen-Xers tend to expect work to be fun and want to work for managers they view as highly competent (which includes having a vision for the organization) rather than merely senior in position (Cufaude, 2000; Kupperschmidt, 2000; Raines & Hunt, 2000).

Gen-Xers may have translated a youthful preference for "alternative" things along with their early experiences in making their own way, into an inclination for innovation and proven entrepreneurial achievements (Erickson, 2010). But Gen-X managers and employees seem not trust corporate America. In general, Gen Xers also may not trust government. In summary, they seem to distrust hierarchy (Beaudoin, 1998; Raines & Hunt, 2000; Erickson, 2010). Gen-Xers may have little patience for bureaucracy, are willing to speak out against it, and if allowed, can bring fresh perspective and life into the workplace (Bishop, 2004).

If the Gen-Xer is allowed to contribute toward the vision as well as the process, then the chances of being successful will increase dramatically. They are quick learners, self-taught, technically proficient, and computer literate. Lack of immediate communication is perceived as a hidden agenda and reinforces their lack of trust. For this generation, it is not so much about recognition as it is about participation/ownership/equity. And they do not have enough trust to be swept into a pre-existing old school culture just because they are told it is the way we have always done it (Muetzel, 2003, p. 47).

Gen-X seems to work best when they are given the desired outcome and then turned loose to figure out how to achieve it. They probably should be guided with feedback and suggestions, not step-by-step instructions (Thielfoldt, 2004).

They tend to exhibit a practical commitment to effective stewardship and a fierce dedication to work/life balance, particularly in their approach to parenting. Having watched their

parents struggle with the trade-offs, they bring a new resolve to the fight (Erickson, 2010). For instance, several studies have noted that Gen-X men are more involved in child rearing, something that Baby Boomers aspired to but had more trouble accomplishing (Kunreuther, 2008).

Impacts on Society.

Gen-X has pushed the boundaries of technological progress. They are well-educated and media-savvy. The women of Gen-X have a higher level of educational attainment than any other group of Americans (Editors of New Strategist Publications, 2008). They represent a divide between the Industrial Age and the Information Age (Tulgan, 2000; Fowler, 2003). Gen-X began working with technology (computers in particular) at an earlier age than did members of previous generations and so entered the workforce with a high level of proficiency and comfort with computers and other technologies (Holtz, 1995; Clurman, 1997; Losyk, 1997; Raines, 1997; Conger, 1998; Munk, 1999). While not as innately proficient in technology as Millennials, they continue to highly value their technical expertise and tend to keep their skills current.

Just as the Gen-Xers were graduating from college, the wave of downsizing began, with companies unceremoniously dumping longtime employees on the sidewalk in a seemingly never-ending stream of layoffs. Consequentially, they feel that loyalty is only to themselves and their teammates, not to the boss or the company (Conger, 1998). As previously mentioned, Gen-X changed the world of work. As companies became less reliable for pensions and life-time employment, workers had to adapt. Now it is more about building up ones' own skills and credentials to ensure employability, regardless of where or in what economic climate.

They also changed the balance of work and personal life. As Gen-Xers entered the workforce, they remembered the workaholic tendencies of their Baby Boomer parents and responded with an intense pursuit of balance in their lives. The "Work is Life" motto of the Baby Boomers was replaced by "Get a Life" as Gen-Xers brought a sense of informality and balance to the workplace (Wong, 2000). They do not trust retirement plans to be there for them in the future. Thus, they prefer to invest in a company's 401K plan rather than enroll in a defined-benefit pension plan.

Gen-X has also had a large impact on the armed forces. No longer are the ranks of foot soldiers filled with many disgruntled conscripts. The soldiers of the 1980s and '90s were volunteers with a high level of commitment to their profession. By a two-to-one majority, Gen-Xer men preferred military to civilian public service. They are the best-educated generation of soldiers in American history (Strauss & Howe, 1992). The Millennials have continued this trend.

In the 1980s, Gen-Xers took over the youth culture with the spread of new innovations in popular music (rap, new wave, MTV), a spate of dark-themed youth movies by older directors (The Breakfast Club, St. Elmo's Fire), a new sitcom presence (Michael J. Fox in Family Ties), and a new on-campus interest in investment banking and other moneymaking jobs-especially anything entrepreneurial or involving cutting-edge technology. The old social-science dictum that the children of divorce are much more likely to divorce themselves is no longer true for Gen-Xers. When action is required, Gen Xers will not take the tiny instrumentalist steps. Instead, given the tasks at hand, they will draw a straight line between two points and care little about the rules (or feelings) that might stand in the way (Strauss & Howe, 2000, p. 65).

Gen-Xers are not the slackers of the late 1970s teen movies. They are not the diplomats of the Silent Generation or the social justice protesters found among the Baby Boomers. They are not the "keeping up with the Jones'" materialists of Generation Jones. Nor are they the collaborative political movement leaders like those found in the Millennial Generation. However, they are typically savvy, pragmatic, humble, and genuine. The [former] president of MIT has likened the Gen-Xer civic attitude to that of the Lone Ranger: "Do a good deed, leave a silver bullet, and move on" (Goben, 2003, p. 36).

Jones (1954-1965).

Generation Jones is a significant group of adults previously unnoticed because they were grouped in with Baby Boomers. Their experiences in the 1970's and early 1980's during their formative teens and early twenties separate them from those generations immediately before and after them (Coll, 2007). Differences in their cohort's general perspective make it important to differentiate between the Leading-Edge Baby Boomers and the Trailing-Edge Baby Boomers [Generation Jones] (Eggebeen, 2006; Martin, 2006).

The millions born at the trailing edge of the traditional Baby Boomer Generation feel a disconnect (Nasser, 2010). When those in Generation Jones hear the characteristics of Baby Boomers, they only partially relate to them. Many sociologists think that the copious attention paid

to the Baby Boomers masked the existence of Generation Jones until many years later when the differences were just too hard to ignore any longer.

Breaking the traditional Baby Boomer Generation into two different groups is controversial. There was no intention to do so at the beginning of this review of the literature. However, as article after article purported differences between the leading edge and trailing edge of the traditional Baby Boomer cohort, it became evident that it was not homogeneous in its characteristics. The name Generation Jones began to pop up in publications after 2000. This brought up the possibility of a new generation altogether.

Cultural historian Jonathan Pontell is widely credited with proposing this full-fledged new generation carved out of the traditional Baby Boomer cohort. Meredith (1994) also noticed a split in the traditional Baby Boomer cohort and identified other generations ranging from the Silent Generation, to Baby Boomer Generations I and II [Jones], to Gen-X.

Of course not all demographers and sociologists would agree to split the traditional Baby Boomer Generation into two groups. So to confirm the distinction, this research conducted a small survey of 79 people born between 1943 and 1965 as part of a course on dissertation planning and design. It found a significantly lower level of idealism in the Trailing-Edge Baby Boomers or Jones Generation compared to responses from the Leading-Edge Baby Boomers (born 1943-1953). This combined with certain articles found in the literature convinced this research to treat the subgroups of leading edge and trailing edge as two separate groups for the purposes of this research.

For instance, in 2000 Ian McCaleb writing for CNN Allpolitics.com said,

There is a sizeable segment of the Baby Boomer Generation, born between 1954 and 1965, that has begun lifting its voice as separate and apart from older Boomers. This group has begun referring to itself as Generation Jones, and relates more to leisure suits, disco, aviator glasses, and KC and the Sunshine Band rather than the Beatles.

Typically, those born 1946 and 1964 are lumped together as the "Baby Boomer Generation," as if their values, habits, and product preferences are unified. In fact, as the "late-wave Boomers" age, it is clear that the classes of 1946 and 1964 are often very different (Zaslow, 2004). The world into which the leading edge of the traditional Baby Boomer cohort was born is

distinctive from that which greeted the trailing edge [Jones]. The members of the Baby Boomer cohort differ in important ways from Generation Jones. These differences are due not only to age and life stage differences, but also to historical and social differences (Skaff, 2006).

The origins of the traditional Baby Boomer Generation are based on demography, not Cohort Theory. The Baby Boom population trend was declared over in 1965 when demographers noticed that U.S. births fell below four million for the first time since 1953. It was a pretty arbitrary delineation: 3.8 million people were born in 1965, just 260,000 fewer than in 1964 (Zaslow, 2004, p. 1). Those in Generation Jones were born when the Baby Boom had been recognized and was beginning to level off (Eggebeen, 2006).

Coming of Age.

Generation Jonesers are now trying to establish themselves as a "betweenner" generation. Instead of reaping the fruits of the revolutionary spirit of the early Baby Boomers, they came of age during the disappointments of the 1970s and a faltering economy (Martin & Tulgan, 2006). They are in between these early Baby Boomers and Gen-X.

Baby Boomers and Generation Jones experienced historical events differently based on their developmental stage when the events occurred. The dramatic social events of the 1960s and '70s (i.e. the Civil Rights Movement, Women's Liberation Movement, Sexual Revolution, and Vietnam War) occurred during a time of cynicism, oil shortages, and rising inflation. These events were the context for the development of expectations about the future for Generation Jones. However, for the Baby Boomers, these events contributed to their adult identity and consequently helped to force their political commitments. This difference in experience between the Baby Boomers and Generation Jones also explains some of the variation in generational identity across the traditional Baby Boomer Generation (Meredith, 2002; Almeida, 2006; Alwin, 2006; Eggebeen, 2006).

For instance, a big difference between Baby Boomers and Generation Jones is how they experienced the Vietnam War (Bishop, 2004; Nasser, 2010). Baby Boomers were reluctantly drafted to fight in the war, protested against the war and in favor of civil rights, and felt pride in

forcing the war's end. On the other hand, Generation Jones only witnessed the fighting and protests on TV, were not old enough to fight in the war, and felt the aftermath of a depressed military and diminished national reputation as they entered adulthood. Baby Boomers felt this aftermath too but as established adults, not coming-of-age teens.

As Baby Boomers transitioned to Generation Jones, the future seemed to grow more chaotic, less linked to work or credentials, and less subject to institutional rules. In recent U.S. history, the worst youth drug abusers by far—whether you are talking about marijuana, cigarettes, alcohol, or pills—are/were Generation Jones, most of whom reached their late teens in the 1970s when the drug culture was at peak postwar potency (Strauss & Howe, 2000).

Life was not as ideal for Generation Jones youth compared to their older Baby Boomer siblings. Led by mostly Silent Generation parents, Generation Jones have fared worse than Baby Boomers in educational aptitude, financial security, and self-destructive behavior (Strauss & Howe, 1992).

As children of the more ambivalent Silent Generation, differences in parenting have had major effects on Generation Jones. For instance, Generation Jones came of age showing more pathologies (crime, drug use, suicide, low aptitude scores) than Baby Boomers. Dr. Benjamin Spock-guided moms applied his "permissive" style of "He'll-clean-up-his-room-when-he's-ready-to-have-a-clean-room" philosophy. As Generation Jones passed through childhood, the adult nurturing style leaned more toward tolerance than guidance, and parents began second-guessing the sacrifices they were making for the sake of their children (Strauss & Howe, 1992). Furthermore, they were more likely to have mothers who worked during their childhood than the Baby Boomers; 33.9% of women worked full-time in 1950 compared to 45.9% in 1975 (Fingerman, 2006).

The national malaise of the 1970s and early '80s, poor economy, Watergate scandal, and Vietnam War failure had a negative effect on America's youth. Throughout the formative years of Generation Jones, death rates for every kind of accidental death rose sharply—and the rates of drunk driving, suicide, illegitimate births, and teen unemployment all doubled or tripled. During the

1970s, the incidence of serious youth crime grew twice as fast as the number of youths. Also, criminals born in 1958 were 80% more likely than criminals born in 1945 to commit multiple crimes—and 80% more likely to send their victims to the hospital or morgue (Strauss & Howe, 1992).

Parental expectations that their children achieve some form of post-secondary education first became normative in the Baby Boomer cohort (Willis, 2006). Baby Boomers were more likely to have continued their education immediately after high school (over 50%), however Generation Jones were more likely to have entered work immediately after high school (50-60%). The incentive of a college deferment during the Vietnam War may have contributed to college enrollment among Baby Boomers (Eggebeen, 2006).

The seventeen-year SAT slide spanned nearly the entire Baby Boomer and Generation Jones formative years. Yet the worst years of that slide coincided with the greatest grade inflation ever measured. In 1969, 4% of college freshmen (Baby Boomers) claimed to have had a straight-A high school grade average; by 1978, that proportion had nearly tripled with Generation Jones, to 11% (Strauss & Howe, 1992).

During the 1960's elementary education of Generation Jones, there was growing attention to student creativity, an erosion of school authority, and entirely new public missions (race, gender, poverty). Generation Jones' and Gen-X's education in the 1970s was one of experimentation, curricular diversity, rejection of standards, and open classrooms (Strauss & Howe, 2000).

The economy was very different for Generation Jones compared to the Baby Boomers. The Baby Boomers came of age at a time of affordable housing, easier acceptance to colleges, and better job markets. The young Generation Jonesers struggled through deeper recessions, crowded workplaces, and outsourced jobs (Zaslow, 2004). One indicator of particular note was the unemployment rate. The unemployment rate hovered around 4% during the latter part of the 1960s when early Baby Boomers were starting their careers. Gradually, the unemployment rate increased to 6% as the decade of the 1970s commenced, climbing to 9% by the mid-1970s. By

the early 1980s, when Generation Jones had entered the labor market, the unemployment rate climbed precipitously to a high of 11% (Snyder, 1993).

Generation Jones experienced greater intra-group competition. After World War II, economic prosperity created job opportunities within the United States. This economic prosperity continued as the first Baby Boomers entered a workforce filled with opportunity. The number of new workers entering the workplace, however, eventually outpaced job growth, and Generation Jones faced more competition and more rejection on the job market (Easterlin, 1985; Foot, 1996).

General Characteristics.

Despite the trials and tribulations of their formative years, compared to older generations, Generation Jones seems to be a fairly optimistic group. They overwhelmingly consider their careers better, their personal freedoms greater, and their lives more meaningful than past generations (Strauss & Howe, 1992).

Muller (1997) posits that less economic opportunity caused Generation Jones to turn to other areas of their lives for fulfillment, and that this shift is reflected in their reported values. The Baby Boomers rank personal issues such as self-respect and a sense of accomplishment as highest in their order of priorities, whereas Generation Jones rank relationships with others as most important (Muller, 1997).

The work environment for Generation Jones was also very different compared to previous generations. Unlike previous generations, but similar to Gen-X, Generation Jones expresses caution in regards to respecting authority (Bishop, 2004). They tend to be less trusting than Baby Boomers but not as skeptical as Gen-X.

While Generation Jones shares the most tendencies with the Baby Boomers, they also share some characteristics with Gen-X and Millennials. For instance, when surveyed, they said that they loved work as long as it was fun, provided opportunities for creativity, and allowed them to have a rich life outside of work. This group gracefully made the transition into the new global workplace, embracing the flexibility, techno-literacy, and entrepreneurial thinking it demands. In

reaction to the work addiction of their older siblings, Generation Jones tends to emphasize family values and a balanced life among their strengths (Martin & Tulgan, 2006).

The personal and family life of Generation Jones is also different compared to previous generations. More Generation Jones adults have not married compared to older generations. Statistics show that 10% of older male Baby Boomers and 8% of older female Baby Boomers have not married – but among Generation Jones, 16% of men and 12% of women haven't been married (Nasser, 2010). They also reported experiencing significantly higher levels of psychological distress than Baby Boomers (Almeida, 2006).

As the least researched cohort, the characteristics of Generation Jones are not all well defined. Many sociologists simply say that their behaviors are an average of Baby Boomer and Gen-X tendencies. Researchers suggest that they tend to be less ideological than Baby Boomers, more respectful of contrary opinions, and more pragmatic. When faced with angry political rhetoric, Generation Jonesers tend to assume the role of mediators. While they hold strong ideals and beliefs, they tend to compromise some of them to get an acceptable outcome.

Impacts on Society.

The term "Generation Jones" or "Joneser" comes from the idea of the conspicuous consumption of the 1980s, and the idea of keeping up with the Joneses. It also means to yearn for something better. The older members of Generation Jones were the first Yuppies, defined as self-immersed with an impatient desire for personal satisfaction, and weak civic instincts (Strauss & Howe, 1992). Rather than commit to long careers, many "Yuppie types" turned to get-rich-quick schemes and risky entrepreneurial enterprises. Overshadowed by their older Boomer siblings, success was harder to come by for Generation Jones.

Both men and women show a noticeable drop in employment in professional/technical occupations during the period that corresponds to the time when Generation Jones was entering the workforce out of college. The proportion of professional/technical workers then increases after this period, indicating that this pattern was not a long-term trend but rather a cohort-specific effect. The patterns for managerial occupations are not as striking, suggesting perhaps a slowdown in entry into managerial jobs for the Generation Jones members, particularly for men, but not as dramatic as the trends for professional employment. Lower proportions in professional occupations among the Generation Jones members persisted through at least age 40. Therefore, the results suggest that

Generation Jones experienced a permanent divergence in occupational outcomes compared to its neighboring cohorts (Hollister, 2009, p. 8).

Politically, Generation Jones has emerged as a crucial voting segment in Western elections. In the U.S. 2006 and 2010 congressional, and 2004 and 2008 presidential elections, as well as the 2005 U.K. elections, Generation Jones' electoral role was widely described as "pivotal" by the media and political pollsters. In the 2008 U.S. Presidential election in particular, they were seen as a key electoral segment because of the high degree to which Generation Jones members acted as swing voters, and since then, Barack Obama was the first serious candidate to run for, and win the presidency, from Generation Jones.

President Obama's book, *The Audacity of Hope* makes it clear that he thinks of himself as a generation apart from Baby Boomers,

In the back-and-forth between Clinton and Gingrich, and in the elections of 2000 and 2004, I sometimes felt as if I were watching the psychodrama of the Baby Boomer Generation -- a tale rooted in old grudges and revenge plots hatched on a handful of college campuses long ago -- played out on the national stage (Obama, 2006 p. 32).

Generation Jones has begun to take over the mantle of leadership in government and many corporations. More than a quarter of all U.S. adults are Generation Jonesers. Not only President Obama, but also many of his key appointees, are members of Generation Jones. Their size, age, and influence across the board make them a formidable cultural and political force (Pontell, 2011).

Baby Boomer (1943-1953).

The Baby Boom was not initially a generation, but a population trend. Only later did it become the name of a generation. While younger generations are represented more globally, when the Baby Boomers were formed as a generational cohort, they represented just western cultures. Only four western countries had Baby Booms in their populations following the Second World War: Canada, the United States, Australia, and New Zealand (Love, 2005).

Recall from the earlier section on Generation Jones that the Baby Boom population trend actually involved multiple generational cohorts; individuals born from 1943 to 1964 have experienced a wide range of historical events. The earliest Baby Boomers were born during a

period of relative economic stability, domestic political tranquility, and a tenuous post World War II atmosphere of competing superpowers. These early Baby Boomers later encountered tumultuous social changes in the 1960s and '70s during their adolescence or early adulthood (Fingerman, 2006; Eggebeen, 2006). They were also born during the years when the birthrate was climbing (Eggebeen, 2006). The following description is of this first cohort of the Baby Boom called the Baby Boomer Generation.

The cohort who once popularized the adage "never trust anyone over 30" now represents the middle-to-late aged adults in the United States, with the oldest in retirement. [Ten] years from now, the Baby Boomers will represent the majority of older adults, an age group which will comprise 20% of the population (Piazza, 2006). Most are now in the empty-nest life stage, when free time and discretionary income are supposed to increase (Editors of New Strategist Publications, 2008).

Coming of Age.

The Baby Boomers were the first generation raised in more of an urban and suburban environment than rural. They were much less likely to grow up in agrarian settings than were their parents (Roark, 1998). Concurrently, education became more important. Flynn and colleagues maintain that the post World War II cohorts showed massive cohort gain in IQ in adolescence and young adulthood compared to immediately-prior cohorts (Flynn, 1999).

In the 1950s and '60s, schools prepared Baby Boomers to be inner-driven, ideal-cultivating individualists (Strauss & Howe, 2000). Their parents were members of the G.I. Generation that fought World War II. They passed through public schools in the Sputnik-era peak of institutional confidence, thanks in part to a powerful mutual support network between G.I. mothers and teachers (Strauss & Howe, 1992).

Baby Boomers came of age during a time of social protest, idealism, and a good economy (Bober, 2005). During their formative years this new generation experienced the assassination of Dr. Martin Luther King Jr. and presidential candidate Senator Robert Kennedy, the Civil Rights movement, the Vietnam War and the continuing protests against it, the sexual

revolution, the influx of drugs into American culture, and the beginnings of the feminist movement. The first of the Baby Boomers reached age 21 in 1964 when the first major student demonstration against the Vietnam War occurred when hundreds of students marched through Times Square in New York City, while another 700+ marched in San Francisco.

Baby Boomers were mostly raised by young, stay-at-home mothers. They were taught to be independent and to believe they could control their own destinies (Editors of New Strategist Publications, 2008). They grew up with an expectation of nearly limitless economic growth and opportunity. This kind of expectation might have bred a certain level of optimism, confidence, and sense of entitlement (Eggebeen, 2006).

Compared to generations before, the way they were brought up changed. Benjamin Spock's 1946 book, *The Common Sense Book of Child and Baby Care*, sold 3 million volumes in the first year it was published. Thus, the earliest years of the Baby Boomers were accompanied by a cultural focus on childhood and relationships between parents and children (Fingerman, 2006). They were cherished as children, leading to a "psychology of entitlement" as they grew to adulthood (Strauss & Howe, 1991; Kupperschmidt, 2000).

Baby Boomers that served in the Vietnam War and their families were influenced in ways unlike previous war generations. Coming home, Baby Boomer veterans had a defeat to haunt them, not a victory to empower them (Strauss & Howe, 1992). Veterans were unsupported in the field or battle and vilified at home. This experience led to disgruntled attitudes and lasting feelings of failure. The stress of the war was combined with the even larger dangers of the Cold War. During the Cold War Era, many families built serious bomb shelters in their backyards while students were taught in crowded schools to "duck and cover" when air-raid sirens sounded, in preparation for a nuclear attack. The Baby Boomers were the first generation to be reared under the real threat of Armageddon.

The relative wealth with which the Baby Boomers grew up allowed them to be driven less by material needs and more by spiritual needs and personal growth, which helped caused the gaps between the Baby Boomers and the two preceding and trailing generations (Adams, 1997;

Fowler, 2003). In the 1960s, many Baby Boomers were able to take advantage of the many benefits of an expanding economy and the relatively small generational cohort preceding them, which led to increased job prospects and upward mobility (Love, 2005).

General Characteristics.

Many Baby Boomers freely call their cohort the "me" generation, one that in the end supported charismatic leaders over a team or group approach (Kunreuther, 2008). While college surveys of incoming freshmen Baby Boomers indicated high levels of narcissism, this level has been eclipsed by the Millennial Generation's higher levels of indicated narcissism (Twenge & Campbell, 2008).

Baby Boomers tend to love adventure, independence, risk, and general goals; they also seem to value creativity, loathe evaluation, and are suspicious of traditional corporate ideology (Hladun, 1990; Hicks & Hicks, 1999). Optimistic, affluent, and idealistic, this generation's early trademark was change. They had witnessed large changes in a relatively short period, and it gave them a sense of efficacy and power (Kunreuther, 2008).

With respect to work, the Baby Boomers are commonly depicted as "workaholics" who relentlessly pursue success and achievement. Many of them channeled their passion, hard work, and can-do attitude to build their organizations. To them, this was not a job or a career; it was their life (Kunreuther, 2008). They are said to place great value on their careers as a central focus in their lives and as a source of meaning and personal fulfillment (Kiechel, 1989; Smola & Sutton, 2002). In surveys of Baby Boomers at work, they placed a higher value on *Surroundings*, *Supervisor Relations*, *Way of Life*, *Security*, *Creativity*, and *Achievement* than did Gen-X workers (Eslinger, 2000). Their focus at work is on relationships and achieving lasting results (Raines & Hunt, 2000).

Their value trends have stayed rather stable over time. Despite the fact that older voters tend to vote more conservatively, Baby Boomers have not become more conservative with age (Editors of New Strategist Publications, 2008). Formal studies show that the Baby Boomer Generation remained distinctive throughout adulthood in its embrace of social responsibility and

communal values (Eggebeen, 2006). All these years later, they still show relatively little confidence in the U.S. Congress. Few Baby Boomers still believe government is telling the truth. Ironically, they are now the senior leaders in Congress with historically low national approval ratings.

However, one pertinent view did change. A little over one-third (36%) of Baby Boomers in the early 1970s had a great deal of confidence in people running the education system. This level of confidence has dropped to 20% (Davis, 2002).

On issues such as sex, personal responsibility, respect for parents, and knowledge of the world, some real differences do exist between Baby Boomer's and their parent's age cohort. Not surprisingly, Baby Boomers are more liberal about these topics than their G.I. Generation parents were. Yet, Baby Boomers and their Millennial and Gen-X children have some very similar opinions about these topics (Davis, 2002).

Their mixture of high self-esteem and selective self-indulgence has at once repelled and fascinated other generations, giving Baby Boomers a reputation for grating arrogance—and for transcendent cultural wisdom. As such, they seem to have excelled in occupations calling for creative independence (Strauss & Howe, 1992).

Impacts on Society.

During the most emotionally intense and culturally influential youth rebellion in American history, Baby Boomers asserted a creative role in an idealized future (Strauss & Howe, 1992). Many chroniclers describe them as the original "Me Generation." Not content to live in black-and-white "Pleasantville," where the parental imperative was "Get a good job and settle down," many set out not merely to define their individuality, but also to create a more open, free society (Martin & Tulgan, 2006).

Adult Baby Boomers entered a world of increased consumerism. The emphasis on and need to obtain more expensive private-consumption goods resulted in greater hours at work, less leisure time and lower levels of happiness (Schor, 1998). With many of their dreams of a social revolution unfulfilled, many channeled their energies into their work and a dual search for material

goods and spirituality as a way to affirm their self-worth. For many, work became their identity, competition their driving force, and self-improvement a way of life (Martin & Tulgan, 2006).

The Baby Boomer tendency toward immediate gratification led to a spend-now, pay-later mentality, moving away from financial conservatism (Bishop, 2004). This trend was not only in their personal lives, but also in the government budgets they managed. For the Baby Boomer cohort, work life is likely to continue to a later age, and retirement may well involve full-time or part-time employment (Willis, 2006).

Society's ideas about sexuality, gender, and family were altered profoundly by the Baby Boomer Generation. Likewise, parenthood changed, old age and retirement was redefined, and labor forces were transformed. Even as they near retirement age, they seize opportunities to stay involved and active like staying in their work force to meet the responsibilities of supporting both their children and elderly relatives.

Unlike their G.I. Generation elders, Baby Boomers have always seen their mission not as constructing a society, but of justifying, purifying, even sanctifying it. The Baby Boomer ethos was a deliberate antithesis to everything G.I.: spiritualism over science, gratification over patience, fractiousness over conformity, and rage over friendliness (Strauss & Howe, 1992). Their full impact on the World is still building and evolving. They still lead most corporations and governments. Their legacy will be felt for many years to come.

Silent Generation (1925-1942).

The Silent Generation includes more than one million Americans 70 years of age or older, still active in the workforce. Despite the hardiness of some members, this cohort will continue streaming out of the workforce and virtually disappear from it soon. Some call these oldest workers Radio Babies, Swing Generation, Veterans, Matures, or Traditionals (Martin & Tulgan, 2006; Gravett, 2007). However, most demographers and sociologists label them "The Silent Generation," with birth years between 1925 and 1942. The name Silent Generation was coined in the November 5, 1951 cover story of Time Magazine referring to the generation coming of age at the time. The phrase gained further traction after William Manchester's comment that

the members of this generation were "withdrawn, cautious, unimaginative, indifferent, unadventurous, and silent."

Reform, not revolution, has been their aim. As a generation, they are distinguished by their lack of anger. Circled by fury, they are the unfurious; surrounded by passion, they are the dispassionate (Clarke, 1970, p. 4).

The Silent Generation are "betweeners." Born too late to participate in the mettle-testing events of World War II and too early to become full-blown flower children, they found themselves stuck between "can do" G.I. Veterans and "I gotta be me" Baby Boomers (Martin & Tulgan, 2006).

Coming of Age.

After being born mostly during the hard times of the Great Depression and World War II, the Silent Generation began their young adult years during a period of quiet prosperity. This is the most affluent group of older Americans in history. Many leaders of the social movements of the 1960s and '70s were members of this generation (Editors of New Strategist Publications, 2008).

Their education was very traditional and meant for an industrial rather than information age. In the 1930s and '40s schools prepared the Silents to be factory workers or book-smart corporate careerists (Strauss & Howe, 2000). Silents did not grow up with computer technology, or the expectation that others would entertain them as they learned. Rather, their expectation was that they would listen and the teacher would impart knowledge (Gravett & Throckmorton, 2007).

Their worst school discipline problems ranged from gum-chewing to cutting in line. Older generations did not expect them to achieve anything great, just to calibrate, to become expert at what G.I. economist Walter Holler called "fine tuning" of the hydraulic G.I. wealth machine. While Silent men outpaced the previous G.I. Generation's educational achievement, Silent women showed no gain (Strauss & Howe, 1992, p. 253).

The Silent Generation worked hard out of necessity because of the Great Depression and a scarcity of working men who were away fighting WWII. This required women to fill demanding factory positions. This generation taught its children (Baby Boomers and Generation Jones) the meaning of sacrifice and "climbing the ladder" to success by "paying your dues." Small

wonder then that members of this generation are not totally receptive to the suggestion by younger employees that work hours, rules, and methods should be open to discussion. In the minds of many Silent Generation employees, there is no discussion (Gravett & Throckmorton, 2007, p. 258).

On average, they had a less tumultuous life than many other generations. The Silents were America's late-twentieth-century facilitators and technocrats. Compared to the G.I. Generation's winning of World War II, young rebels, like James Dean, found themselves "without a cause." The Silents have enjoyed a lifetime of steadily rising affluence, have suffered relatively few war casualties, and have shown the twentieth century's lowest rates for almost every social pathology of youth (crime, suicide, illegitimate births, and teen unemployment) (Strauss & Howe, 1992, p. 281).

They were the last American generation to grow up without television; their fantasies were tied to the radio buzz of the *Green Hornet* and the exotic adventures of *Terry and the Pirates*. They were also the last generation to unconditionally accept—or at least pretend to accept—the traditional American values of work, order, and patriotism (Clarke, 1970, p. 5). Their hard experiences as children taught them to “waste not, want not,” and they still apply this conservative principle to their lives today.

General Characteristics.

The Silents' formative experiences, which include the Great Depression and the hard times of WWII, are said to have given this generation a strong sense of duty and an appreciation of the value of hard work. They tend to value loyalty, dependability, persistence, and fiscal prudence (Lyons, Duxbury, & Higgins, 2005; Gravett, 2007). Surveys of the Silent Generation at work show that they place a higher degree of importance on altruism and security than did the Baby Boomer or Gen-X generations (Eslinger, 2000).

The Silent Generation is the most conservative, with twice as many self-identified Conservatives as Liberals (Editors of New Strategist Publications, 2008). They also tend to appreciate consistency and attention to detail (Bishop, 2004) and believe in duty before pleasure.

On the other hand, they seem to be wary of change, and unwilling to challenge established systems (Zemke, Raines, & Filipczak, 2000).

They are known for their human relationship skills and their ability to negotiate, prompting some experts to call them the "helpmate" generation. They were more likely to make room for participation in problem solving and decision making than their elders were. Silents are also more patient with mediating conflicts through "processing" and gathering opinions than their "give me the bottom line fast" Gen-X colleagues. Years of experience have taught them to rely on those tried and true ways of doing things, and many would still agree, "If it's not broken, don't fix it." In fact, they still thrive on standard operating procedures, both written and verbal. Paradoxically, despite their reputation as change resisters, many members of this generation became true change masters of the workforce. If they seemed skeptical about a new idea, it might be because they were remembering when it was a "new idea" 30 years ago . . . and then again 20 years ago . . . and then again 10 years ago (Martin & Tulgan, 2006, p. 7).

Despite their conservative nature, some say that the aging Silents are an adaptive generation. They appear to remain personally flexible and culturally sensitive. They tend to adopt the agenda of younger idealists while wishing to be accepted as full partners in the new values regime. They seem to preserve a social conscience, show a resilient spirit, and never stop raising new questions (Strauss & Howe, 1992, p. 281).

Impacts on Society.

The Silent Generation reached maturity in an era of "lonely crowd" conformism; they avoided risking their spotless reputations while making early and unconditional commitments to family and career. Much later, in a "midlife crisis," they rebelled against these youthful promises and triggered the divorce boom. They also invented the hands-off child-raising style of the 1970s, adopted by Baby Boomer parents, which Gen-X kids recall as their own (Strauss & Howe, 2000).

This "Beat Generation" danced to their newly invented rock and roll music and made intellectualism cool by reciting poetry in beatnik clubs. Their other-directedness gradually asserted itself in the modern civil rights movement in which almost every major leader was a member of the Silent Generation. They have grown more radical as they have gotten older. While all generations joined the divorce epidemic, the Silents were by far the most likely to have young children in the household—leaving them with the greatest residue of guilt (Strauss & Howe, 1992).

Under the Silent elite, America became a kinder, more communicative place. It has also become culturally fragmented and less globally competitive (Strauss & Howe, 1992). They are the

only generation to not have an elected president of the United States. The last to try was Senator John McCain who seems to personify this generation. Yet they have had many U.S. Chiefs of Staff. While their influence is not as obvious as other generations, and is waning, their contributions to society continue to be felt in the aftermath of the Korean War, Civil Rights Movement, and the Space Race.

Leadership Characteristics by Generation

Much of the research on generational cohorts focuses on the generational characteristics of the cohort in a very general way. A more narrow but popular area of generation research focuses on describing and generalizing how to lead multiple generations in the workplace. For instance, according to Arsenault (2004) Gen-Xers, and especially Baby Boomers, are much more likely to want leaders that have expertise in leadership abilities like challenging, inspiring, enabling, and modeling than Silents and Millennials.

Rather than focusing on characteristics of the entire generation or those being lead, this research study looks at the generational characteristics of the leaders themselves. This is a rare niche of generational cohort studies. Even more uncommon is research that includes the perspectives of the supervised rather than simply self-reported data of the leaders. There is little generational research that considers how leaders in different generational cohorts are perceived by their subordinates (Sessa, 2007).

Despite the rarity of this specific type of research, both similarities and differences have been found in how leaders lead according to their generational cohort. Raines (2003, p. 219) found that the current generations in the workplace "have unique work ethics, different perspectives on work, distinct and preferred ways of managing and being managed, idiosyncratic styles, and unique ways of viewing work-world issues." A vital core of demographers and sociologists such as Arsenault, Conger, Filipczak, Kunreuther, Martin, Raines, Salahuddin, Sessa, Tulgan, and Zemke have studied the value of leadership characteristics by generational cohort. They and others have found that a big challenge for transformational leaders in the 21st

century is to gain a better understanding of the generational differences in work-related values, attitudes, needs, and expectations (Chan, 2005, p. 70).

Similarities and Differences Found between Generations.

Of particular interest in the business and popular press is the impact of generational cohort differences on leaders and leadership—that different generations view leaders differently and that different generations manifest leadership differently (Zemke, Raines, & Filipczak, 2000; Arsenault, 2004; Conger, 2001). However, one has to be careful to separate casual journalism from real research. Fortunately, enough serious studies do exist to shed some light on the generational similarities and differences in leadership behavior.

However, some studies have not found evidence of generational influences on leadership behavior. The quantitative results of a study by Polk (2005) revealed no statistically significant generational differences in perceived leadership practices of elementary school administrators. Yet, interviews that Polk presumed would coincide with the quantitative results of the study, conversely revealed that perceptions of generational differences did exist among practicing school administrators (Polk, 2005).

Although the differences in manager cohorts in terms of attributes they value in leaders and their actual behaviors as leaders are not as drastic as predicted in the press, they are large and broad enough to suggest that organizations do need to pay attention to these differences (Sessa, 2007).

Others have found more noteworthy differences in leadership between the generations. A study on differentiation of generations by the work values they possess found statistically significant differences in the values Silent, Baby Boomer, Gen-X, and Millennial leaders seek to attain or achieve through their work (Eslinger, 2000). Thus, there are probably individual differences that impact the conceptual preference of leadership behavior from a generational perspective (Rodriguez, Green, & Malcolm, 2003).

Some have found differences that compare one generation to another but are difficult to quantify. For instance, a study by Wagenknecht-Ivey (1997) at the University of Denver found that

there are differences for both Baby Boomers and Gen-X between what they prefer/desire in the workplace and what is present in their current organizations; and Arsenault (2004) found that generations have significant differences in how they characterize admired leaders, yet both researchers were unable to provide detailed analysis about these generalized differences.

A more ambitious study used a similar data collection method as this study. Each participant completed a 360-degree evaluation process called Leadership 360® by Management Research Group from 1992 to 1998. The Leadership 360® survey is a descriptive, behaviorally-oriented instrument that provides scores on 22 dimensions of leadership behavior in six functional areas (Sessa, 2007). While these 22 dimensions are not directly related to school leadership in particular, they are analogous. They found that managers in different generational cohorts manifest leadership differently, and valued attributes appear to be in line with the way managers of that generation enact leadership (Sessa, 2007).

While this study was of high quality, its results were not as relevant to this research as hoped due to the difficulty of matching Sessa's criteria to the criteria and definitions used in the Balanced Leadership Profile data. Sessa's (2007) study concluded that the picture of generational differences suggests that leaders in the earlier generations bring a calm, considered approach that draws on the skills and abilities of others. Leaders in the newer generations bring an energizing presence; they are focused on attaining short-term results; and they are more self-focused (Sessa, 2007). This research does not dispute Sessa's (2007) conclusions, but it is notable that most generational studies have difficulty separating generational influences from other parallel ones such as age and experience. These confounding variables may have influenced Sessa's (2007) results.

Other studies have also found differences. Miller & Yu (2005) found significant differences between Baby Boomers and Gen-Xers in aspects of work characteristics and preferred managerial style. Their research found that people who work in different industries show different work characteristics. This finding suggests that different generations of school leaders may behave differently than studies of business leaders.

Lyons, Duxbury, & Higgins (2005) conducted an impressive quantitative study that compared the values of both followers and leaders in the workplace. Some of these values were self-motivation, altruism, and prestige of one's work. While similar to this study and somewhat predictive, these findings are not specific to school leaders.

Comparisons of the generational cohorts revealed that both Baby Boomers and Millennials placed significantly less importance on intrinsic work values than did Gen-Xers ($p < .001$). Altruistic work values were significantly more important to Silents than to Gen-Xers ($p < .05$) and Millennials ($p < .001$). Baby Boomers also placed significantly more score importance on altruism than did Millennials ($p < .001$). Social work values were significantly more important to Millennials than to Gen-Xers ($p < .05$), Baby Boomers ($p < .001$), or Silents ($p < .001$). Also, Gen-Xers placed more importance on social work values than did Baby Boomers ($p < .001$) or Silents ($p < .001$). Prestige work values were significantly more important to Millennials than to Gen-Xers ($p < .05$) Baby Boomers ($p < .001$) or Silents ($p < .05$). Gen-Xers also placed more importance on prestige than did Baby Boomers ($p < .001$) Lyons, Duxbury, & Higgins, (2005, p. 67).

Another study called *Generational Perceptions of Effective Leadership* by Powell (2003) found that the Millennial Generation did not value being "fair-minded" as highly as Baby Boomers and Gen-Xers. Millennials also valued "supportive" less than the other two. However, Millennials value "courageous" more than the other two. Baby Boomers valued "cooperative" more than Gen-X and Millennials. Gen-X valued "imaginative" less than the other two. Again, while useful, this study's findings were not specifically comparable to school leadership traits.

It is likely that leaders within different generational cohorts have more behaviors in common than not. For instance, although Baby Boomers and Gen-Xers appear to have different attitudes and different behavior patterns, they seem to not differ in their organizational commitment (McGuinness, 1999; Love, 2005). It is probable that many of the 21 leadership responsibilities investigated with the Balanced Leadership Profile will show more overlapping similarities between leaders than differences. Yet it is the analysis of these few possible differences that could be most interesting.

While Sessa (2007) did find some aforementioned differences, he also found that some attributes were similar across generations. For example, honesty, organizational knowledge, listening skills, and helping others were all commonalities.

Arsenault (2004) also found many similarities. All generations in his study stated that honesty is most important and that they admire leaders that tell the truth. Another similarity was how the generations ranked competence and loyalty. Each generation ranked these characteristics either second, third, or fourth in importance. Hence, each generation strongly felt that a successful leader must be capable, effective, know what he or she is doing, and promote high levels of loyalty.

Characteristics Unique to Each Generation.

Other characteristics found are specific to certain generational cohorts, but there is little research that considers how leaders in different generational cohorts are perceived by their subordinates (Sessa, 2007). Little attention has been paid to generational comparisons among principals and their values. Research has been devoted to the understanding of the multigenerational workplace outside of K-12 education (Holman, 2003). Thus, this area of research needs further investigating. Effective leaders with a generational perspective have the potential of heightening the job satisfaction and productivity of their constituents (Kupperschmidt, 2000; Pekala, 2001; Lambert, Walker, Zimmerman, Cooper, Lamber, & Gardner, 2003). They also may gain valuable insights that will enhance their ability to reflect on and improve their leadership efficacy.

Unlike the general characteristics of each generation given in previous sections, the following descriptions focus primarily on the leadership behaviors found to be characteristic of each generation in school leadership today. Publications about leadership disaggregated by generation have focused mainly on the generations most represented in leadership positions, mostly Gen-X and Baby Boomer. Other generations have received less attention in the literature.

Millennial Leadership Traits.

At the time of this publishing, the oldest Millennials were about thirty. While few Millennials were in significant leadership positions at this age, a few had already started to make their mark. "Ambition" seemed to be supported as being a more important leadership characteristic for Millennials than for Gen-Xers or Baby Boomers (Powell, 2003).

Many leadership traits of Millennials have not been well investigated. However, a number of strengths have been claimed by a handful of demographers and sociologists. Millennials are said to be rational, selfless, and competent in their leadership style (Strauss & Howe, 1992). They are also said to view frequent change as positive and desirable (Lyons, 2005). For Millennials, broadmindedness (i.e., the willingness to examine ideas and positions other than one's owns), shows statistical support as being important (Powell, 2003).

Millennials' top three job requirements are: 1; meaningful work that makes a difference to the world; 2. working with committed colleagues who share their values; and 3. meeting their personal goals (Allen, 2004). These values are reflected in the tremendous ability of Millennials to organize politically, both nationally and globally.

Most preliminary findings of Millennial leadership traits are complementary, but some weaknesses have been implied. Experts often point out the generation's intense collaborative impulse—born out of years of team projects at school as good for building consensus and communities, but can sometimes be an obstacle to leadership, which often requires making a quick, firm decision on one's own (Ruggeri, 2009).

Gen-X Leadership Traits.

Gen-Xers are in their midlife years of tough, in-the-fray leadership. They are the “middle managers” of the world. They engage in social and economic entrepreneurship and are effective leaders in crisis (Strauss & Howe, 1992). They are a widely researched generation. As more demographers and sociologists than ever before began researching generations in the 1980's, Gen-X was an attractive subject. While not all areas of Gen-X leadership are well known, it is the most thoroughly described generation in terms of work values and leadership traits. As mentioned previously, Gen-X was erroneously stereotyped by the popular press when they were still just teenagers and before significant researchers had weighed in. Today, these initial inaccuracies have been largely corrected, but many in the public still remember them and mistakenly hold them to be true. In analyzing Gen-Xers' work habits, Cole (1999) reported that they are not unmotivated and lazy as they were first categorized. Gen-Xers instead seek fun and meaning in

their work. They require short-term rewards and constant feedback. They are perceptive and practical in their leadership style (Strauss & Howe, 1992).

A number of researchers have described Gen-X leaders as life-long-learners who continually upgrade their credentials in order to ensure that their skill set stays current and viable in the work place. Examples include Mahedy (1994) who determined that most Gen-Xers value career self-reliance and Elsdon (1999) who contended that Gen-X leaders persistently strive to obtain and update their knowledge and develop their skills with the purpose of ensuring they remain highly employable.

Gen-Xers' competency and leadership skills help them to be fair and straightforward leaders (Zemke, Raines, & Filipczak, 2000). They lead by challenging the thinking and ideas of others to bring in the masses to the decision-making process (Salahuddin, 2010).

The desire to constantly learn more and become increasingly competent has made Gen-Xers very skeptical of those they view as less than fully competent. Unlike workers from previous generations, Gen-X workers do not assume authority exists or arises from position (Raines, 1997). They have little respect for, and less interest in, leaders who are unable to demonstrate that they can personally produce. In other words, this generation doesn't define leading as sitting in meetings and making profound vision statements, but instead as eliminating obstacles and giving employees what they need to work well and comfortably (Deal, 2001).

Gen-X leaders also have little patience for bureaucracy and government red tape. Tulgan (2000) expanded on the mind set of Gen-X in drawing attention to their performance; "Tell me what to do, give me the information, and then let me create." Researchers have found that Gen-X managers manage others the way they themselves would like to be managed. This includes giving employees the desired results and limitations of projects and then leaving them alone to complete the work. It also includes sharing credit, working with employees as a team, providing feedback when needed, and rewarding employees for a job well done (Woodward, 1999).

Gen-X leaders press to simplify the complex, narrow the bloated, and eliminate the unworkable. Their greatest skills are the capacity to observe, identify unmet needs, be "smooth" and conceal feelings when necessary, move quickly when the moment is right, and make sure that whatever people try does, in fact, work as intended. They believe that

the best way to win is by taking incredible risks. Gen-Xers are nobody's fools. If you really need something done, and you don't especially mind how it's done, these are the people to hire. They have the capacity to distinguish between mistakes that matter and those that don't. As leaders, they excel at cunning, flexibility, and deft timing. They are plainspoken, sensible, quick on their feet, and more inclined to deal than to argue. They are able on-site managers and "behind-the-scenes" facilitators (Strauss & Howe, 1992, p. 416).

Many researchers have remarked on Gen-X's leadership style. It is one of fairness, competence, and straightforwardness. Like other generations, they hold honesty as a core leadership value (Salahuddin, 2010). Other primary values include trust, loyalty, teamwork, and respect which reflects humanistic thinking and focuses on inspiring their followers' talents (Fisher, 2005). Gen-Xers' work ethic includes self-reliance, skepticism, financial savvy, balance, commitment reluctance, lack of attention to authority, acceptance of diversity, and knowledge of technology. They are attracted by organizations that are characterized by appreciation, flexibility, teamwork development, involvement, enjoyment, and credibility (Raines, 1997).

Gen-X leaders seem less ego-oriented and better able to work across traditional organizational and political divides (Kunreuther, 2008). They are relational, informal, creative, relaxed, divergent, passionate, questioning, collaborative, and willing to take risks (Bishop, 2004). They have been shown to be cunning, hard-to-fool realists who prefer to meet problems and adversaries one-on-one. They are perceptive and practical in their leadership style (Strauss & Howe, 1992).

Much has been said about Gen-Xers' desire for flexibility, shared decision making, and accurate and timely feedback (Hays, 1999; Miller & Yu, 2005). Similarly, supportiveness (i.e. enables others to accomplish goals), for Gen-Xers, was rated as a significantly ($p < .05$) important leadership characteristic by Hays. This also seems to suggest that leadership, in this group's opinion, is servant-natured. Effective leaders do what is necessary to enable others to accomplish their goals and objectives (Powell, 2003).

Some studies have come fairly close to using some of the leadership definitions from *School Leadership that Works* in investigating the behaviors of Gen-X principals. In one such study, Gen-X elementary school principals indicated high levels of agreement on five of fourteen

leadership statements related to work style: 1. critiquing ideas, thinking creatively, and questioning practices are necessary to guarantee the effectiveness of school policies and procedures; 2. an appealing superintendent/boss is one who is providing regular feedback; 3. being comfortable with change; 4. primary promotion considerations should be job competence; and 5. appealing jobs are those where teamwork is being emphasized (Holman, 2003).

Another study found that for the Gen-X cohort, the correlation coefficients for the leadership behavior factors of intellectual stimulation, individual consideration, and contingent reward had moderate strength. Contingent reward was more important in generating high job satisfaction for Gen-Xers than Millennials (Chan, 2005).

In summary, Gen-X leaders are strategic and savvy. Remembering how the "freedom" of open classrooms produced noisy chaos and gave them what others constantly tell them was a bad education; they have learned to be skeptical about one-size-fits-all school reform. More than anyone, they have developed a seasoned talent for getting the most out of a bad hand (Strauss & Howe, 1992). While they work hard to lead projects they are most vested in, their tendency for skepticism and extreme pragmatism may not make them good visionaries for the long term. They also tend to break the rules to achieve a desired outcome rather than go through official channels. This can lead to political troubles and an uneasy feeling of disorder among the staff.

Jones Leadership Traits.

As mentioned previously, Generation Jones is the least researched generation in the workplace today. This is mainly because only about half of demographers and sociologists acknowledge its existence as a unique generational cohort. The other portion has grouped Generation Jones with the Baby Boomer Generation. As such, there is little information about Generation Jones' specific leadership traits.

Nonetheless, a couple of authors have pointed out some aspects of Generation Jones' leadership style. They are relational, inclusive, collaborative, task-oriented, and highly productive (Bishop, 2004). They seem adept at keeping a steady course and keeping things running smoothly.

Generation Jones values attributes that suggest a desire for a global leadership image and dedication beyond one's self interests. They highly value trustworthiness. Although they value experience and a big-picture orientation, they also value clear focus. Finally, they value listening and encouraging rather than sharing leadership, and like others, they desire meaningful feedback (Sessa, 2007).

Generation Jones seems to have an average of Baby Boomer and Gen-X characteristics. Temporally, this makes sense. However, this research does aspire to add specific detail to the school leadership traits of Generation Jones.

Baby Boomer Leadership Traits.

The Baby Boomers have begun to retire in large numbers. But there are still many of them in the principal and school superintendent ranks. Some of their leadership traits are blurred with those of Generation Jones since some demographers do not break the two apart.

Baby Boomers were the primary force behind new business practices such as participative management, flattened pyramids, employee involvement, quality circles, team building, and empowerment (Deal, 2001). They value attributes that suggest a politically astute leader (*persuasive* and *diplomatic*) with experience and a big-picture orientation (*farsighted*). For them, trustworthiness is a big factor (*credible, trusted, dependable, candid and honest*), followed by sharing in the decision-making responsibility (*listens well, encouraging*) (Sessa, 2007).

Baby Boomer leaders like lots of communication and respect for each other's autonomy, but not necessary the autonomy of other generations they supervise (Conger, 1998 & 2001). They like a leadership style characterized by their consensus work value and ethic. Baby Boomers believe in the participative style of leadership; however, they have a difficult time implementing it in the workplace (Salahuddin, 2010). This may be because Baby Boomers do not delegate easily (Powell, 2003).

First wave Baby Boomers describe good leaders as responsible, able to control with authority, dutiful, loyal, decisive, and driven (Bishop, 2004). Idealist Baby Boomer leaders have

been cerebral and principled, but they also have been righteous and austere in their leadership style (Strauss & Howe, 1992).

According to Lovely (2010) fighting for change isn't as important to a mature Baby Boomer as it is to maintain the status quo. Seasoned Baby Boomer administrators tend to view the hierarchy as a safe, predictable structure. When direction comes from the top, subordinates don't have to shoulder too much responsibility or accept too much blame. However, Martin & Tuglan (2006) say that Baby Boomers pride themselves on being "change leaders," and one of the most urgent changes today is moving everyone of all ages away from the "this is my power, my knowledge, my skills" paradigm to the cross-generational partnerships needed for successful collaboration. Hopefully the findings from this research study will provide some knowledge that will help advance this kind of collaboration between the generations.

A particularly relevant study looked at Baby Boomer and Gen-X school principals. It found that Baby Boomer elementary school principals valued five leadership statements most and indicated high levels of agreement with Gen-X on four of five statements: 1. an appealing superintendent/boss is one who provides regular feedback; 2. It is important to be validated professionally by supervisors (differs from Gen-X); 3. a need to be comfortable with change, critiquing ideas, thinking creatively, and questioning practices are necessary to guarantee the effectiveness of school policies and procedures; 4. the primary promotion considerations should be job competence; and 5. an appealing job is one where teamwork is emphasized (Holman, 2003).

By now you have probably noticed that more often than not, leadership traits seem to be shared across multiple generations. This is especially true with the Baby Boomers since their generation overshadows Generation Jones. While these similarities unite us as leaders, it is the few differences that could be influenced by generational effects that may turn out to be the most intriguing.

Silent Leadership Traits.

Since the Silent Generation has been leading schools the longest, a good body of literature exists to shed light on their leadership characteristics. However, it also means that few of them are still leading schools.

Silent professionals account for the 1960s surge in the "helping professions" such as education. The Silents have been a proven generation of bureaucratizers (Strauss & Howe, 1992). The decisions of the senior people were never questioned by junior Silent Generation workers. There was always a very formal overtone to the workplace. Seniority almost always meant age as well as rank; your bosses were always older than you were (Conger, 1998).

Silent Generation managers coined the term the "organization man." They are loyal to their organizations and accustomed being given loyalty in return (Conger, 1998). They like to express a tough leader persona and believe in a command and control view of leadership, whereby strong leaders are viewed as integral to performance (Kupperschmidt, 2000; Zemke, Raines, & Filipczak, 2000; Lancaster & Stillman, 2003). They like to take charge and delegate with authority (Salahuddin, 2010).

Silents prefer a well-defined structure with respect for hierarchy and authority. They tend toward a directive style that is simple and clear. Silents value attributes of leaders that suggest a publicly impressive and dedicated leader with experience and a big-picture orientation (e.g., *global view, farsighted*) who shares in decision-making responsibility—through listening, teaching, delegation, and encouragement—and is trustworthy (*credible, trusted, candid and honest*) (Sessa, 2007).

Despite their tough leading style, they do have a soft side. Altruistic work values are significantly important to the Silent Generation (Lyons, Duxbury, & Higgins, 2005). Silents are process-fixated and pluralistic in their leadership style. For instance, they spearheaded the 1970s drive to create better municipal codes and long-range plans with community input. The term advocacy planning was coined by Paul Davidoff in his influential 1965 paper, "Advocacy and Pluralism in Planning" which acknowledged the political nature of planning and urged planners to

acknowledge that their actions are not value-neutral and encouraged minority and under-represented voices to be part of planning decisions. They are the caring open-minded expert. Their leaders are advocates of fairness and the politics of inclusion (Strauss & Howe, 1992). They also hold honesty as a core leadership value (Salahuddin, 2010).

While the Silent confess easily to mistakes, they are loath to admit that any mistake is final. They never quit trying to set things right. Aging Silent Leaders offer the grayer hues of public administration, deferring rather than solving core problems and only occasionally taking a breakaway risk. They prefer to ameliorate old policies rather than start over again from scratch. They prefer conciliation over crisis and trust electoral, judicial, or legislative process over principle. They are other-directed and believe in social compassion, pluralism, sympathy for the underdog, and procedural fairness. Their success in leadership hinges on their questionable ability to separate the fundamental from the aesthetic (Strauss & Howe, 1992, p. 395).

The Silent Generation considers the most important qualities of a leader to be perseverance, foresight, integrity, and honesty (Bishop, 2004). In the middle and on both sides of the political spectrum, the Silent would much prefer to discuss processes than outcomes. They excel at personal communication, defusing conflict by encouraging people to talk to each other (Strauss & Howe, 1992). While one is hard pressed to find many school leaders from the Silent Generation still on the job, we have much to learn from their legacy.

Leadership Capacities of Generations of School Leaders

The literature on generations and generational leadership is synthesized in Table 5 to reflect the 21 leadership responsibilities from Waters, Marzano, & McNulty (2003). Since this study is aligned with the 21 leadership responsibilities from Waters, Marzano, & McNulty (2003), it is easier to form conclusions about leadership capacities than it is with some of the literature that may not use the same nomenclature. Boxes left blank did not have enough evidence from the literature. Leadership responsibilities highlighted in bold rows/cells are those responsibilities found seem to be more related to leading 2nd order change.

Table 5: Leadership Responsibility Capacities from the Literature

Leadership Responsibilities	Silent Generation	Baby Boomers	Generation Jones	Gen-X	Millennials
1. Culture: Fosters shared beliefs and a sense of community and cooperation	<p>High Capacity - (Strauss & Howe, 1992)</p> <p>Low Capacity - (Bishop, 2004; Salahuddin, 2010)</p>	<p>High Capacity - (Eslinger, 2000; Eggebeen, 2006)</p> <p>Low Capacity - (Strauss & Howe, 1992; HR Focus, 2000; Bishop, 2004; Kunreuther, 2008)</p>	High Capacity - (Bishop, 2004)	<p>High Capacity - (Raines, 1997; Conger 1998; Woodward, 1999; Goben, 2003; Holman, 2003; Bishop, 2004; Fismer, 2005; Gravett & Throckmorton, 2007; Erickson, 2010)</p> <p>Low Capacity - (Strauss & Howe, 1992; Kupperschmidt, 2000; Lancaster & Stillman, 2003)</p>	High Capacity - (Strauss & Howe, 1992 & 2000; Alch, 2000; Zemke, Raines, & Filipczak, 2000; Raines, 2003; Bishop, 2004; Allen, 2004; Martin & Tulgan, 2006; Gravett & Throckmorton, 2007; Editors of New Strategist Publications, 2008)
2. Order: Establishes a set of standard operating procedures and routines	High Capacity - (Strauss & Howe, 1992; Eslinger, 2000; Kupperschmidt, 2000; Raines & Hunt, 2000; Zemke, Raines, & Filipczak, 2000; Lancaster & Stillman, 2003; Bishop, 2004; Lyons, Duxbury, & Higgins, 2005; Martin & Tulgan, 2006; Sessa, 2007)	High Capacity - (Eslinger, 2000; Bishop, 2004; Sessa, 2007)	High Capacity - (Sessa, 2007)	Low Capacity - (Strauss & Howe, 1992 & 2000; Raines, 1997; Martin & Tulgan, 2006; Gordinier, 2008)	High Capacity - (Strauss & Howe, 2000; Thielholdt, 2004)

Leadership Responsibilities	Silent Generation	Baby Boomers	Generation Jones	Gen-X	Millennials
3. Discipline: Protects teachers from issues and influences that would detract from their teaching time or focus					High Capacity - (Strauss & Howe, 2000)
4. Resources: Provides teachers with materials and professional development necessary for the successful execution of their jobs		High Capacity - (Deal, 2001)		High Capacity - (Strauss & Howe, 1992; Powell, 2003)	High Capacity - (Spears, 1995; Gage, 2005) Low Capacity - (Powell, 2003)
5. Involvement in curriculum, instruction, and assessment: Is directly involved in the design and implementation of curriculum, instruction, and assessment practices			High Capacity - (Bishop, 2004)	High Capacity - (Deal, 2001; Sessa, 2007; Salahuddin, 2010)	High Capacity - (Gage, 2005)

Leadership Responsibilities	Silent Generation	Baby Boomers	Generation Jones	Gen-X	Millennials
6. Focus: Establishes clear goals and keeps those goals in the forefront of the school's attention	High Capacity - (Kupperschmidt, 2000; Zemke, Raines, & Filipczak, 2000; Lancaster & Stillman, 2003; Bishop, 2004)	High Capacity - (Kiechel, 1989; Bishop, 2004; Lyons, Duxbury, & Higgins, 2005)	High Capacity - (Wong, 2000; Sessa, 2007)	High Capacity - (Hladun, 1990; Arsenault, 2004; Martin & Tulgan, 2006; Gravett & Throckmorton, 2007; Sessa, 2007)	High Capacity - (Strauss & Howe, 1992; Zemke, Raines, & Filipczak, 2000; Martin & Tulgan, 2001; Raines, 2003; Arsenault, 2004; Sessa, 2007)
7. Knowledge of curriculum, instruction, and assessment: Is knowledgeable about current curriculum, instruction, and assessment practices	High Capacity - (Strauss & Howe, 1992; Sessa, 2007)	High Capacity - (Sessa, 2007)	High Capacity - (Sessa, 2007)	High Capacity - (Hladun, 1990; Losyk, 1997; Raines, 1998; Cufau, 2000; Kupperschmidt, 2000; Zemke, Raines, & Filipczak, 2000; Deal, 2001; Hessen & Lewis, 2001; Holman, 2003; Muetzel, 2003; Sessa, 2007; Editors of New Strategist Publications, 2008)	High Capacity - (Strauss & Howe, 1992; Sessa, 2007)
8. Visibility: Has quality contact and interactions with teachers and students			Low Capacity - (Fink & Brayman, 2006)	Low Capacity - (Fink & Brayman, 2006)	

Leadership Responsibilities	Silent Generation	Baby Boomers	Generation Jones	Gen-X	Millennials
9. Contingent rewards: Recognizes and rewards individual accomplishments		High Capacity - (Holman, 2003)		High Capacity - (Raines, 1997; Cole, 1999; Woodward, 1999; Muetzel, 2003; Chan, 2005; Fisser, 2005; Lyons, Duxbury, & Higgins, 2005)	High Capacity - (Lancaster & Stillman, 2003; Chan, 2005; Lyons, Duxbury, & Higgins, 2005; Martin & Tulgan, 2006; Gravett & Throckmorton, 2007; Coggins, 2010)
10. Communication : Establishes strong lines of communication with teachers and among students	High Capacity - (Strauss & Howe, 1992; Conger, 1998)	High Capacity - (Holman, 2003)	High Capacity - (Sessa, 2007)	High Capacity - (Strauss & Howe, 1992; Muchnick, 1996; Holman, 2003; Muetzel, 2003; Fisser, 2005)	
11. Outreach: Is an advocate and spokesperson for the school to all stakeholders					Low Capacity - (Lovely, 2010)

Leadership Responsibilities	Silent Generation	Baby Boomers	Generation Jones	Gen-X	Millennials
12. Input: Involves teachers in the design and implementation of important decisions and policies	<p>High Capacity - (Strauss & Howe, 1992; Martin & Tulgan, 2006; Sessa, 2007)</p> <p>Low Capacity - (Conger, 1998; Kopperschmidt, 2000; Zemke, Raines, & Filipczak, 2000; Lancaster & Stillman, 2003; Gravett & Throckmorton, 2007; Salahuddin, 2010)</p>	High Capacity - (Wagenknecht-Ivey, 1997; Deal, 2001; Powell, 2003; Gravett & Throckmorton, 2007; Sessa, 2007)	High Capacity - (Bishop, 2004; Sessa, 2007)	High Capacity - (Raines, 1997; Cole, 1999; Hays, 1999; Woodward, 1999; Tulgan, 2000; Goben, 2003; Muetzel, 2003; Miller & Yu, 2005; Gravett & Throckmorton, 2007; Sessa, 2007; Salahuddin, 2010)	High Capacity - (Raines, 2003; Martin & Tulgan, 2006; Gravett & Throckmorton, 2007; Ruggeri, 2009)
13. Affirmation: Recognizes and celebrates school accomplishments and acknowledges failures		High Capacity - (Sessa, 2007)		<p>High Capacity - (Woodward, 1999; Zemke, Raines, & Filipczak, 2000)</p> <p>Low Capacity - (Gordinier, 2008)</p>	High Capacity - (Strauss & Howe, 1992; Martin & Tulgan, 2001; Lancaster and Stillman, 2002; Markley, 2002)
14. Relationship: Demonstrates an awareness of the personal aspects of teachers and staff	High Capacity - (Strauss & Howe, 1992; Arsenault, 2004; Martin & Tulgan, 2006)	High Capacity - (Eslinger, 2000; Raines & Hunt, 2000; Arsenault, 2004)	High Capacity - (Muller, 1997; Bishop, 2004)	High Capacity - (Wong, 2000; Miller & Yu, 2005)	High Capacity - (Strauss & Howe, 1992; Raines, 2003; Gage, 2005; Gravett & Throckmorton, 2007; Sessa, 2007)

Leadership Responsibilities	Silent Generation	Baby Boomers	Generation Jones	Gen-X	Millennials
15. Change agent: Is willing to and actively challenges the status quo	Low Capacity - (Clarke, 1970; Strauss & Howe, 1992; Zemke, Raines, & Filipczak, 2000)	High Capacity - (Hludan 1990; Holman, 2003) Low Capacity - (Lovely, 2010)	High Capacity - (Martin & Tulgan, 2006)	High Capacity - (Strauss & Howe, 1992; Rosen, 2001; Goben, 2003; Holman, 2003; Muetzel, 2003; Bishop, 2004; Martin & Tulgan, 2006; Kunreuther, 2008; Salahuddin, 2010)	High Capacity - (Lovern, 2001; Sandfort & Haworth, 2001; Powell, 2003; Lyons, Duxbury, & Higgins, 2005; Martin & Tulgan, 2006; Kunreuther, 2008) Low Capacity - (Strauss & Howe, 2000)
16. Optimize: Inspires and leads new and challenging innovations		High Capacity - (Eslinger, 2000; Holman, 2003; Arsenault, 2004)	High Capacity - (Coll, 2007) Low Capacity - (Strauss & Howe, 1992)	High Capacity - (Strauss & Howe, 1992 & 2000; Raines & Hunt, 2000; Deal, 2001; Holman, 2003; Powell, 2003; Arsenault, 2004; Bishop, 2004; Martin & Tulgan, 2006; Sessa, 2007; Erickson, 2010)	High Capacity - (Powell, 2003; Lyons, Duxbury, & Higgins, 2005; Sessa, 2007)
17. Ideals and beliefs: Communicates and operates from strong ideals and beliefs about schooling	High Capacity - (Eslinger, 2000; Koppersmidt, 2000; Zemke, Raines, & Filipczak, 2000; Lancaster & Stillman, 2003; Lyons, Duxbury, & Higgins, 2005)	High Capacity - (Strauss & Howe, 1992 & 2000; Lyons, Duxbury, & Higgins, 2005)		High Capacity - (Gravett & Throckmorton, 2007)	High Capacity - (Gage, 2005)

Leadership Responsibilities	Silent Generation	Baby Boomers	Generation Jones	Gen-X	Millennials
18. Monitors and evaluates: Monitors the effectiveness of school practices and their impact on student learning	High Capacity - (Kupperschmidt, 2000; Zemke, Raines, & Filipczak, 2000; Lancaster & Stillman, 2003) Low Capacity - (Strauss & Howe, 1992)	Low Capacity - (Hladun, 1990)		High Capacity - (Hladun, 1990; Conger, 1998; Raines, 1998; Woodward, 1999; Tulgan, 2000; Raines & Hunt, 2000; Goben, 2003; Gravett & Throckmorton, 2007)	High Capacity – (Gravett & Throckmorton, 2007; Coggins, 2010)
19. Flexibility: Adapts his or her leadership behavior to the needs of the current situation and is comfortable with dissent	High Capacity - (Strauss & Howe, 1992) Low Capacity - (Gravett & Throckmorton, 2007)	Low Capacity - (Martin & Tulgan, 2006; Gravett & Throckmorton, 2007)	High Capacity - (Martin & Tulgan, 2006)	High Capacity - (Strauss & Howe, 1992; Raines, 1997; Conger, 1998; Hays, 1999; Woodward, 1999; Tulgan, 2000; Buckley, 2001; Deal, 2001; Goben, 2003; Muetzel, 2003; Thielfoldt, 2004)	High Capacity - (Gage, 2005; Martin & Tulgan, 2006) Low Capacity - (Strauss & Howe, 2000; Twenge & Campbell, 2008)
20. Situational awareness: Is aware of the details and undercurrents in the running of the school and uses this information to address current and potential problems	High Capacity - (Strauss & Howe, 1992)			High Capacity - (Strauss & Howe, 1992; Raines, 1998; Tulgan, 2000; Martin & Tulgan, 2006; Kunreuther, 2008; Erickson, 2010)	

Leadership Responsibilities	Silent Generation	Baby Boomers	Generation Jones	Gen-X	Millennials
21. Intellectual stimulation: Ensures faculty and staff are aware of the most current theories and practices and makes the discussion of these a regular aspect of the school's culture	High Capacity - (Strauss & Howe, 1992)	High Capacity - (Holman, 2003; Sessa, 2007)		High Capacity - (Holtz, 1995; Clurman, 1997; Losyk, 1997; Raines, 1997; Conger 1998; Elsdon, 1999; Munk, 1999; Goben, 2003; Holman, 2003; Chan, 2005; Lyons, Duxbury, & Higgins, 2005; Editors of New Strategist Publications, 2008)	High Capacity - (Powell, 2003; Lyons, Duxbury, & Higgins, 2005; Martin & Tulgan, 2006)

This analysis depicts how some areas of the literature are well studied while others are very ambiguous. This synthesis also reflects trends and generalizations of generational schemata that may lead to insights into possible influences on school change leadership. This study will focus these descriptions down to the specific areas related to leadership responsibilities when leading school change initiatives.

Chapter 3 – Methodology

This study used quantitative methods to investigate possible differences in leadership capacity between five generations of principals. Quantitative research methods and statistical analysis provide numerical representation for the purpose of describing and explaining phenomena (possible generational influences on school change leadership). This method was chosen because it provides a way to objectively describe and synthesize possible differences using large sets of data. In social research, Cohen & Manion (1980) describe quantitative research as that employs empirical methods and empirical statements. They state that an empirical statement is defined as a descriptive statement about what “is” the case in the “real world” rather than what “ought” to be the case. Therefore, this method is very useful for descriptive studies like this one.

The first part of this study looked at the differences between what principals estimated the order of change to be for their school improvement initiatives and what their teachers personally perceived the order of the change to be. These differences were investigated for all principals overall and for each generational grouping of principals. The second part of this study looked at the perceptions teachers had of their principals’ leadership when their principals were leading 1st or 2nd order change. Again, this was investigated for all principals overall and for each generational grouping of principals.

Research Questions and Methods

The purpose of this descriptive quantitative study was to explore possible correlations of generational influences and principals’ leadership of change. To do so, this study used the

Balanced Leadership Profile® online survey to gauge the leadership efficacy of principals as perceived by the teachers they led. Hence, the following four research questions were proposed:

In paired comparisons of principals with the teachers they lead:

1. Do statistically significant differences exist between all principals' perceptions of the order of school change (1st or 2nd) and that of their teachers?
2. Do statistically significant differences exist between generational groupings of principals' perceptions of the order of school change (1st or 2nd) and that of their teachers when analyzed by principals' generation?

As perceived by principals' teachers:

3. Do statistically significant differences exist in teacher perceptions of 1st order change leadership capacity of their principals, broken into five generational groupings of principals, and compared to all other principals combined, using mean Likert scale scores for each of the 21 leadership responsibilities correlated with 1st order change for each group of principals leading 1st order change?
4. Do statistically significant differences exist in teacher perceptions of 2nd order change leadership capacity of their principals, broken into five generational groupings of principals, and compared to all other principals combined, using mean Likert scale scores for each of the 21 leadership responsibilities, and especially the 11 responsibilities factored with 2nd order change, for each group of principals leading 2nd order change?

Balanced Leadership Profile™ Technical Design, Validity, & Reliability

About the Profile.

To determine the answers to the research questions above, this research used the existing survey data from the Balanced Leadership Profile®. It is a research-based feedback tool designed to give principals the information they need to go beyond managing their schools to actually leading instructional improvements that increase student achievement. It can be found online at www.educationleadershipthatworks.org. The current Balanced Leadership Profile survey

is the result of Mid-continent Research for Educational and Learning's (McREL) initiatives that included the development and field testing of self-reported principal survey items designed to address identified leadership indicators and subsequent factor analysis investigations.

The Balanced Leadership Profile lets principals self-evaluate their performance against the 21 responsibilities of highly effective instructional leaders identified in McREL's research, *School Leadership that Works: From Research to Results* (Marzano, Waters, & McNulty, 2005). This survey works well within the theoretical framework of this study.

Theoretical framework.

According to *Educational Research: Quantitative, Qualitative, and Mixed Approaches* by Johnson & Christensen (2004) the purpose of descriptive research is to provide an accurate description of the status or characteristics of a situation/phenomenon and the relationships that exist among the variables. In this case, the researcher investigated whether or not there were differences in perceived capacity to lead 1st and 2nd order change according to the generation of the principal.

To begin, this research attempted to find out if the perceptions of change order were similar or different between the principals' and their staffs' overall and between the different generations of principals. Then the teacher perceptions of each of the 21 leadership responsibilities were compiled for each of the five generations of principals. Comparing these perceptions against each other revealed if any large differences existed in the perceived leadership capacity among the generational cohorts. Then each generational cohort was compared to the mean scores of all other generations of principals combined. Each of these comparisons included two groupings. One for 1st order change leadership and one for 2nd order change leadership for each of the 21 leadership responsibilities.

It made sense to compare the mean ratings of all principals (all generations except the one being compared) against the mean ratings of each generational cohort in order to reduce the effects of some confounding variables such as academic preparation and level of experience. For instance, perhaps Millennial Generation principals were/are better trained as instructional leaders

to effectively assist and mentor teachers through their involvement in curriculum, instruction, and assessment decisions and development (leadership responsibility #5) than Baby Boomer Generation principals. By using the average of all other principals as the benchmark to compare *Involvement in Curriculum, Instruction, and Assessment* capacity when leading change, the unwanted influences of uncontrolled variables were narrowed.

Finally, this research did not attempt to establish a causal relationship between principals' generational cohort and leadership capacities. Too many confounding and uncontrolled variables exist to establish a causal relationship. However, this research did investigate the general capacity and tendencies teachers perceive different generations of principals to exhibit when leading different orders of change.

Survey Procedures.

The survey was conducted as part of arranged leadership professional development with McREL, and the researcher received permission to use these data for this study. Principals used the Balanced Leadership Profile® to complete a self-assessment which allowed them to assess the extent to which they were fulfilling the leadership responsibilities identified in *School Leadership that Works* (2005). As part of this reflection, the principals also provided their estimation of the order of the change initiative they were leading for the majority of the staff as 1st or 2nd order. If the principal chose to gain the input of the staff, the survey was forwarded to them as a link in an email message. School staff members then took the same survey, offering feedback on their principal's leadership by indicating the magnitude of change for themselves as individuals as well as multiple ratings of the principal's leadership capacity according to all 21 leadership responsibilities. Thus, they provided principals with a more in-depth picture of their performance as instructional leaders.

Reporting.

Each of the 21 leadership responsibilities was displayed with a mean score for the principal, supervisor, and teachers who responded to the survey. For this study, it was the principals' and the teachers' perception of change order and the teachers' perceptions of

leadership capacity that were used in two separate comparisons (1st or 2nd order change) by generations and then as comparisons against all others. All mean scores were based on responses to the questions in the *Balanced Leadership Profile* survey and reflect perceptions related to the order of change for a specific improvement initiative. Each of the 21 leadership responsibilities associated with 1st order change were displayed with means for *All Principals* and each generation of principals. Also, in addition to reporting on all 21 leadership responsibilities when principals were perceived as leading 2nd order change, this research looked closely at the 11 of the 21 leadership responsibilities that Marzano, Waters, & McNulty (2005) found to be associated with 2nd order change.

Technical Summary.

The findings about the *Balanced Leadership Profile* that follow were the initial results of an ongoing program of research related to its reliability and validity. At present, these findings support the use of the *Balanced Leadership Profile* by principals for purposes of their professional development.

The *Balanced Leadership Profile* was first field tested in the spring of 2005 with a volunteer group of principals and teachers who completed the survey. Ongoing data are also collected from principals, teachers, and principals' supervisors in schools and districts nationwide through an online survey system created for the *Balanced Leadership Profile* program. Senior researchers at McREL conducted an analysis of the data from the field test sample. It indicated that the items and the survey as a whole functioned well.

They also compiled itemized statistics for all items in the *Balanced Leadership Profile*. Statistics include the percentage of respondents in each response category (e.g., Strongly Disagree, Disagree, etc.), mean, standard deviation, and correlation with the scale total where the scale total is the respondent's score on all the items within a particular leadership responsibility. In general, item means ranged from approximately 3.20 to approximately 4.60. Item standard deviation ranged from 0.64 to 1.21. Item-total correlations ranged from 0.50 to 0.74 except for one item from *Discipline* with an item-total correlation of 0.31, two items from *Outreach* with

correlations of 0.35 and 0.31, respectively, and one item from *Change Agent* with an item-total correlation of 0.24.

As stated above, each of the 21 leadership responsibilities comprises an individual scale. Analytical statistics were computed for each of these 21 leadership responsibility scales, including mean values, standard deviations, internal consistency (Cronbach's coefficient alpha), and the standard error of measurement. Scale means ranged from approximately 4.33 to 3.66. Scale standard deviations ranged from approximately 0.50 to approximately 0.80. Internal consistency was between 0.70 and 0.87 for all leadership responsibility scales except the following: *Discipline*, comprised of 4 items, had a coefficient alpha of 0.69. *Change Agent*, comprised of 4 items, had a coefficient alpha of 0.65. Coefficient alpha was 0.63 for the 4 items of *Outreach*. Standard errors of measurement ranged from 0.87 to 1.61. Overall, the data have shown to be useful, reliable, and valid in most circumstances.

Quantitative Research Design

Only data that included both principals and paired teacher responses were compiled from the database. This immediately reduced the data by a large amount since many principals took the self-assessment, but did not pass on the survey to their teachers.

The analysis for this descriptive research began with a scrubbing of the data to exclude outlier and incomplete/inconclusive data cases. First, cases that contained non-responses were disregarded. An assumption was made that a principal non-response means that they chose not to answer the generational identifying question. An assumption was made that a teacher non-response means they did not finish the survey. An example might be that a teacher answered the first 12 questions and then left the rest of the survey blank. This reduced the data set by about 30%.

Ten questions were used in the Balanced Leadership Profile to determine if a principal or teacher thought that a change initiative was 1st or 2nd order. Some principals and teachers answered the questions in such a manner that neither 1st nor 2nd order perception could be

determined. These “mixed” order change principal and teacher data pairs were also scrubbed from the data group to make sure that only 1st or 2nd order change was considered. As they answered the ten questions that factored with 1st or 2nd order change, some answered all or most questions with “3” ratings and therefore their perceived change order could not be determined. This reduced the data set by about 25%. This may have increased the variability of the remaining data if these “mixed” response teachers filled out the rest of the leadership ratings with many “3” ratings as well.

Also removed were a small number of cases in which the teachers’ generations were not well represented. This tended to occur in the Millennial and Silent generation groups when a Millennial principal seemed to have a disproportionate number of Millennial generation teachers or a Silent generation principal seemed to have a disproportionate number of Silent generation teachers. A case is a number of ratings that a teacher has provided to their principal according to questions asked about 21 leadership responsibilities. The cases also contain information about the number of years of experience of the teachers. Based on the average age of college graduation, an assumption was used. This assumption was that most teachers with less than 8 years of experience were Millennials, 9-22 years were Gen-X, 23-34 years were Generation Jones, and over 34 years were Baby Boomer or Silent Generation teachers. Any school sets of data that contained 50% or more teachers that fell into one of these groupings was considered unrepresentative of all generations of teachers and therefore, may empathize too strongly with their principal’s leadership style. This data was still used in the overall average of all teachers combined, but not as ratings with individual paired principals. There were very few of these cases removed since most principals did have representative staffs. This reduced the data set by less than 1%.

Next, the first and second research questions were considered. In paired comparisons of principals with the teachers they lead:

1. Do statistically significant differences exist between all principals’ perceptions of the order of school change (1st or 2nd) and that of their teachers? and

2. Do statistically significant differences exist between generational groupings of principals' perceptions of the order of school change (1st or 2nd) and that of their teachers when analyzed by principals' generation?

This analysis was fairly straight forward. The percentage of teachers that agreed with the principal's estimate of change order for the majority of the staff was compared across the five generations. Then the data was analyzed to determine if significant differences existed between the teacher and principal perceptions of change order for each generational group.

After analyzing the differences between the principals' and teachers' impression of change order, the analysis of the teachers' Likert scores began. Each score was connected with one of the 21 leadership responsibilities. This analysis was used to answer the 3rd and 4th research questions:

As perceived by principals' teachers:

3. Do statistically significant differences exist in teacher perceptions of 1st order change leadership capacity of their principals, broken into five generational groupings of principals, and compared to all other principals combined, using mean Likert scale scores for each of the 21 leadership responsibilities correlated with 1st order change for each group of principals leading 1st order change?

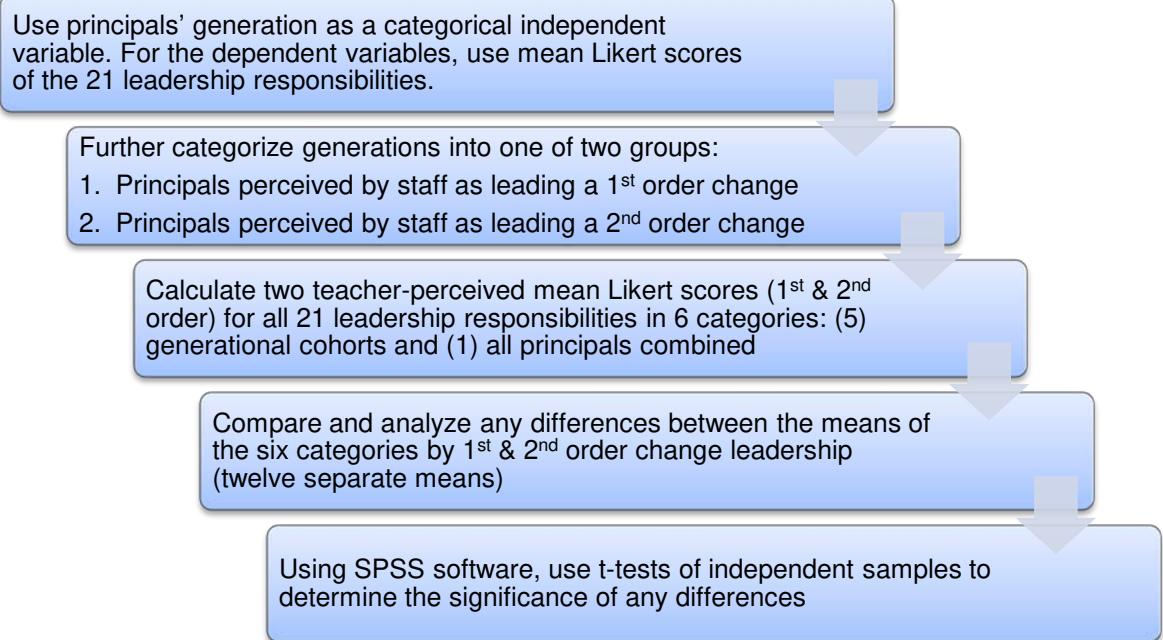
Finally, for 2nd order change, research question 4 asks:

4. Do statistically significant differences exist in teacher perceptions of 2nd order change leadership capacity of their principals, broken into five generational groupings of principals, and compared to all other principals combined, using mean Likert scale scores for each of the 21 leadership responsibilities, and especially the 11 responsibilities factored with 2nd order change, for each group of principals leading 2nd order change?

To answer these questions, the principal's generation was assigned as a categorical independent variable and mean Likert scores for the 21 leadership responsibilities as dependent variables. The generations were further categorized into two groups, each by those principals perceived as leading 1st order change and those perceived as leading 2nd order change. Any

differences between the mean Likert scores of teacher perceptions between generational cohorts, and compared to all other principal means of the 21 leadership responsibilities, were then compared and analyzed for significance in two groupings, which were 1st and 2nd order change. A normal distribution of ratings and standard deviations ranging from 0.9–1.2 allowed for comparisons using statistical analysis software to perform t-tests of independent samples to determine the significance of any differences.

In summary, this 2nd phase of data analysis proceeded according to the following steps:



The following data analysis plans were used to organize the flow of the data analysis and to ensure that the data was collected in such a way to answer all four research questions.

Figure 1: Data Analysis Plan for Research Questions 1 and 2

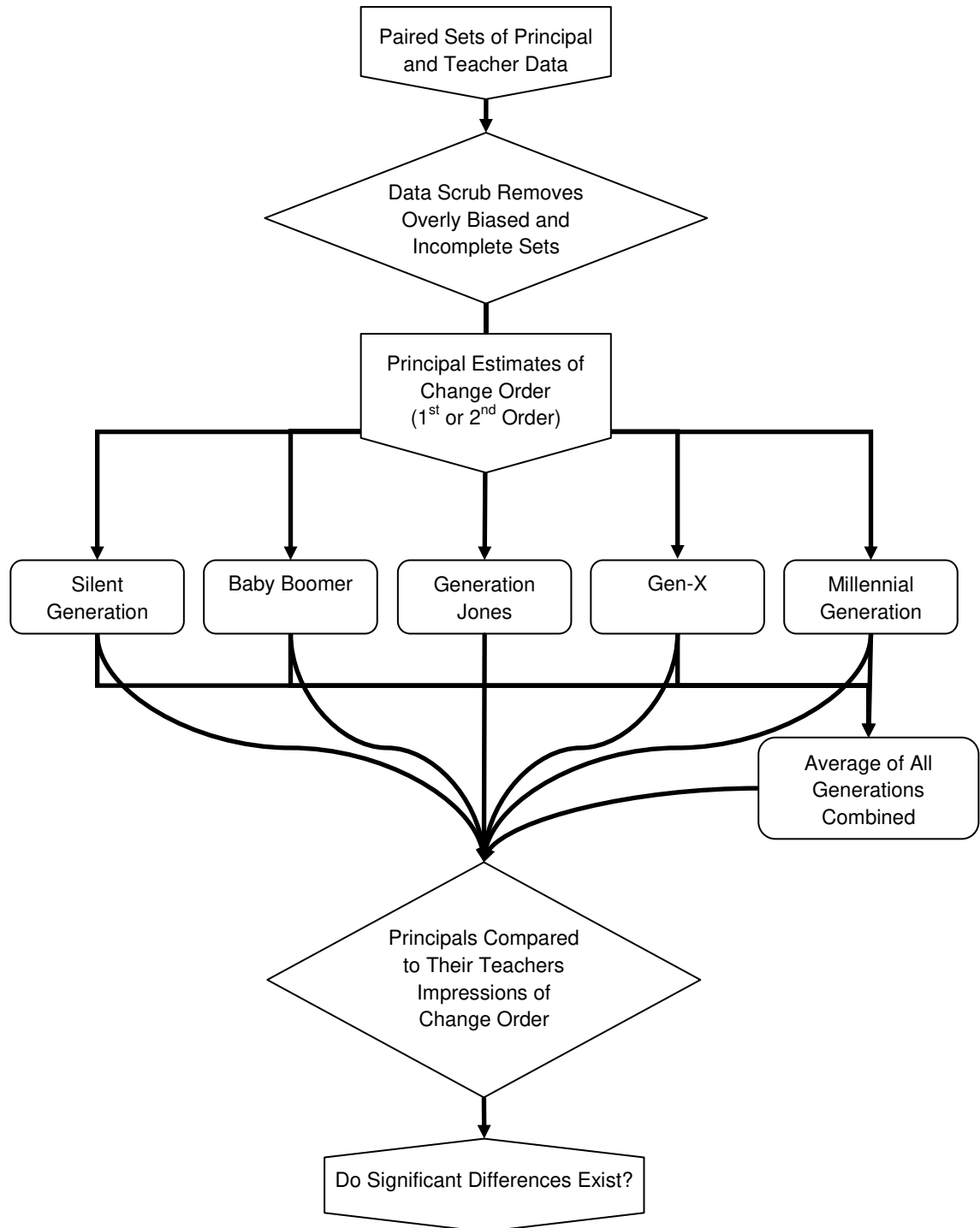
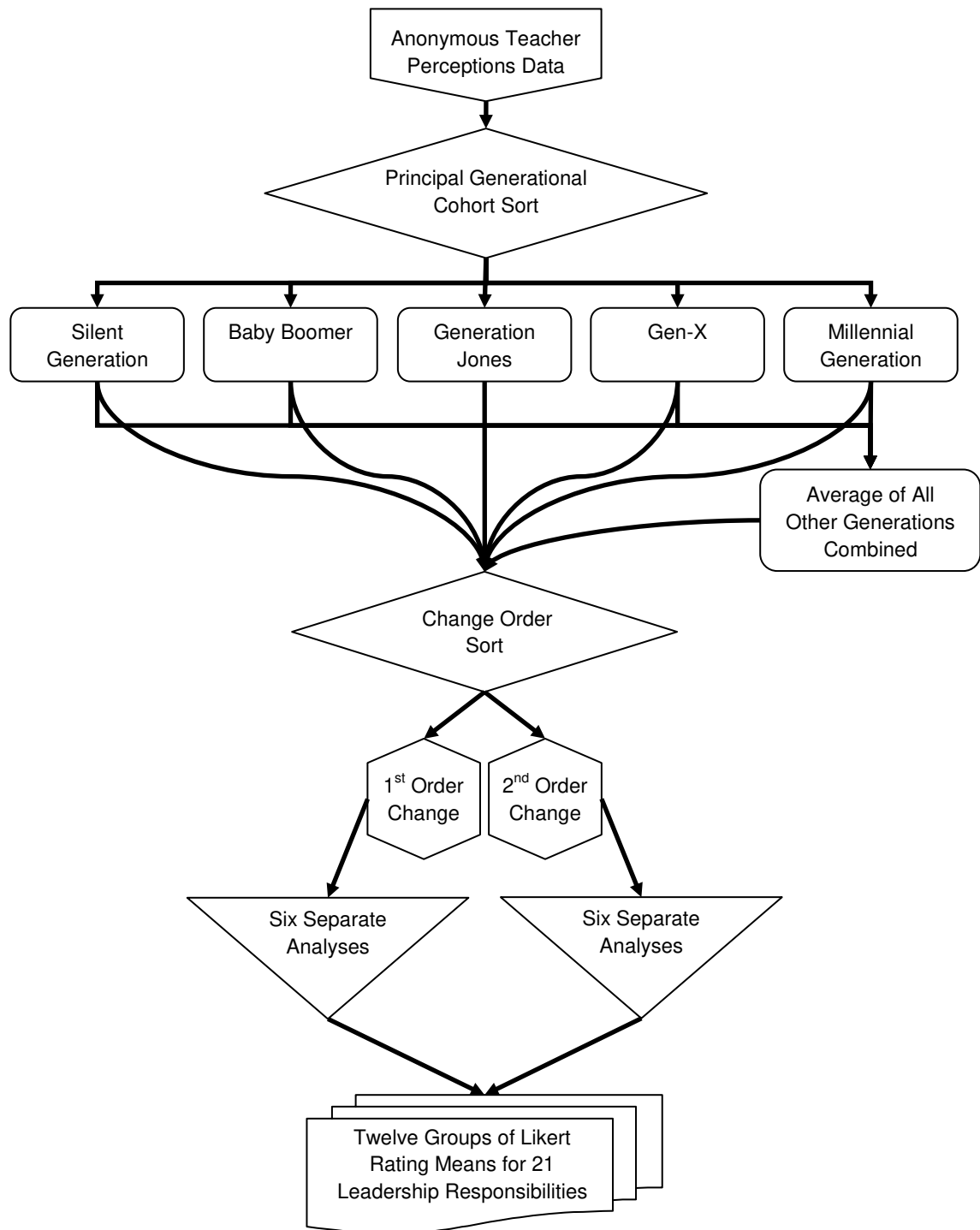


Figure 2: Data Analysis Plan for Research Questions 3 and 4



Sample and Confidentiality.

The raw data sample size was 3,931 total principals with 11,426 sets of teacher responses. These educators came from Kindergarten through 12th grade schools from about half of the 50 states in the U.S.A. Each of these sets consists of 10 scores pertaining to change order and 82 scores pertaining to the 21 leadership responsibilities (3-6 per responsibility). The principals' generation is known, but the teachers' can only be estimated by their known years of experience. By generational cohort of the principals, there were 85 Millennial, 1,473 Gen-X, 1,458 Generation Jones, 876 Baby Boomers, and 39 Silent Generation principals in the raw data group (before data scrub). These numbers were reduced by the fact that the majority of principals did not forward the survey on to their teachers. Most merely take the survey for their own personal reflection without asking for the input of their teachers. Therefore, the usable data groups were much smaller. Unfortunately, Millennial and Silent Generation principals asked their teachers to take the survey at much lower rates than the other three generations. This, combined with the removal of incomplete cases, caused the usable sample size of principals and teacher responses for Millennial and Silent Generations principals to be very small in comparison to the other three generations. Since there were fewer principals in the profession from these generations in the first place, this caused their sample sizes to go below acceptable levels.

The actual usable data samples are shown in the following tables 6 and 7. The first Table 6 shows the numbers of principals in each generation that were rated by teachers. The second Table 7 shows the number of teachers that rated the generations of principals in Table 6.

Table 6: Principal Sample Sizes for 1st and 2nd Order Change Estimations

All Principals	Millennial Generation	Gen-X	Jones Generation	Baby Boomer Generation	Silent Generation
435	5	126	166	130	8

Table 7: Teacher Sample Sizes for 1st and 2nd Order Change Perceptions

All Teachers Compared to All Principals	Compared to Millennial Generation Principals	Compared to Gen-X Principals	Compared to Jones Generation Principals	Compared to Baby Boomer Generation Principals	Compared to Silent Generation Principals
7,175	49	1,976	2,392	1,870	54

Table 10: Teacher Rating Sample Sizes for Principals Leading 1st Order Change

Leadership Responsibility (# survey questions)	All Principals	All Principal Except Millennials	All Principal Except Gen-X	All Principal Except Generation Jones	All Principal Except Baby Boomers	All Principal Except Silent	Millennial Principals	Gen-X Principals	Generation Jones Principals	Baby Boomer Principals	Silent Generation Principals
Affirmation (3)	16,329	16,233	11,151	10,176	11,559	16,197	96	5,178	6,153	4,770	132
Change Agent (4)	21,772	21,644	14,868	13,568	15,412	21,596	128	6,904	8,204	6,360	176
Communication (3)	16,329	16,233	11,151	10,176	11,559	16,197	96	5,178	6,153	4,770	132
Contingent Reward (4)	21,772	21,644	14,868	13,568	15,412	21,596	128	6,904	8,204	6,360	176
Culture (6)	32,658	32,466	22,302	20,352	23,118	32,394	192	10,356	12,306	9,540	264
Discipline (4)	21,772	21,644	14,868	13,568	15,412	21,596	128	6,904	8,204	6,360	176
Flexibility (4)	21,772	21,644	14,868	13,568	15,412	21,596	128	6,904	8,204	6,360	176
Focus (6)	32,658	32,466	22,302	20,352	23,118	32,394	192	10,356	12,306	9,540	264
Ideals and Beliefs (4)	21,772	21,644	14,868	13,568	15,412	21,596	128	6,904	8,204	6,360	176
Input (3)	16,329	16,233	11,151	10,176	11,559	16,197	96	5,178	6,153	4,770	132
Intellectual Simulation (4)	21,772	21,644	14,868	13,568	15,412	21,596	128	6,904	8,204	6,360	176
Involvement in CIA (3)	16,329	16,233	11,151	10,176	11,559	16,197	96	5,178	6,153	4,770	132
Knowledge of CIA (4)	21,772	21,644	14,868	13,568	15,412	21,596	128	6,904	8,204	6,360	176
Monitor and Evaluate (4)	21,772	21,644	14,868	13,568	15,412	21,596	128	6,904	8,204	6,360	176
Optimize (4)	21,772	21,644	14,868	13,568	15,412	21,596	128	6,904	8,204	6,360	176
Order (3)	16,329	16,233	11,151	10,176	11,559	16,197	96	5,178	6,153	4,770	132
Outreach (4)	21,772	21,644	14,868	13,568	15,412	21,596	128	6,904	8,204	6,360	176
Relationships (4)	21,772	21,644	14,868	13,568	15,412	21,596	128	6,904	8,204	6,360	176
Resources (3)	16,329	16,233	11,151	10,176	11,559	16,197	96	5,178	6,153	4,770	132
Situation Awareness (5)	27,215	27,055	18,585	16,960	19,265	26,995	160	8,630	10,255	7,950	220
Visibility (3)	16,329	16,233	11,151	10,176	11,559	16,197	96	5,178	6,153	4,770	132

Table 11: Teacher Rating Sample Sizes for Principals Leading 2nd Order Change

Leadership Responsibility (# survey questions)	All Principals	All Principal Except Millennials	All Principal Except Gen-X	All Principal Except Generation Jones	All Principal Except Baby Boomers	All Principal Except Silent	Millennial Principals	Gen-X Principals	Generation Jones Principals	Baby Boomer Principals	Silent Generation Principals
Affirmation (3)	2,649	2,628	1,896	1,626	1,812	2,631	21	750	1,020	837	18
Change Agent (4)	3,532	3,504	2,528	2,168	2,416	3,508	28	1,000	1,360	1,116	24
Communication (3)	2,649	2,628	1,896	1,626	1,812	2,631	21	750	1,020	837	18
Contingent Reward (4)	3,532	3,504	2,528	2,168	2,416	3,508	28	1,000	1,360	1,116	24
Culture (6)	5,298	5,256	3,792	3,252	3,624	5,262	42	1,500	2,040	1,674	36
Discipline (4)	3,532	3,504	2,528	2,168	2,416	3,508	28	1,000	1,360	1,116	24
Flexibility (4)	3,532	3,504	2,528	2,168	2,416	3,508	28	1,000	1,360	1,116	24
Focus (6)	5,298	5,256	3,792	3,252	3,624	5,262	42	1,500	2,040	1,674	36
Ideals and Beliefs (4)	3,532	3,504	2,528	2,168	2,416	3,508	28	1,000	1,360	1,116	24
Input (3)	2,649	2,628	1,896	1,626	1,812	2,631	21	750	1,020	837	18
Intellectual Simulation (4)	3,532	3,504	2,528	2,168	2,416	3,508	28	1,000	1,360	1,116	24
Involvement in CIA (3)	2,649	2,628	1,896	1,626	1,812	2,631	21	750	1,020	837	18
Knowledge of CIA (4)	3,532	3,504	2,528	2,168	2,416	3,508	28	1,000	1,360	1,116	24
Monitor and Evaluate (4)	3,532	3,504	2,528	2,168	2,416	3,508	28	1,000	1,360	1,116	24
Optimize (4)	3,532	3,504	2,528	2,168	2,416	3,508	28	1,000	1,360	1,116	24
Order (3)	2,649	2,628	1,896	1,626	1,812	2,631	21	750	1,020	837	18
Outreach (4)	3,532	3,504	2,528	2,168	2,416	3,508	28	1,000	1,360	1,116	24
Relationships (4)	3,532	3,504	2,528	2,168	2,416	3,508	28	1,000	1,360	1,116	24
Resources (3)	2,649	2,628	1,896	1,626	1,812	2,631	21	750	1,020	837	18
Situation Awareness (5)	4,415	4,380	3,160	2,710	3,020	4,385	35	1,250	1,700	1,395	30
Visibility (3)	2,649	2,628	1,896	1,626	1,812	2,631	21	750	1,020	837	18

Mid-continent Research for Education and Learning's Balanced Leadership Profile™ is a service that schools and school districts license in order to give principals a 360° perspective on their change leadership. It includes feedback from the principal's supervisor (usually a superintendent or assistant superintendent) and the staff (mostly teachers) the principal leads. This cross section of principals comes from a wide range of school types and locations throughout the United States. What distinguishes this cross-section from a truly random selection of principals is that this group comes from districts that have decided to seek professional development for their leaders and have a willingness to request feedback from their staffs regarding their leadership capacity to lead change according to the 21 leadership responsibilities.

This research does not disclose any identifying information about these principals. Each principal has the option of answering or not answering the generation question when they set up the survey for their staff. Their staff is also not identified. The principal only receives the data in total. This research uses these anonymous data to calculate a mean Likert score for each generational cohort.

Data Collection, Disaggregation, and Analysis.

The data were collected online using McREL's Balanced Leadership Profile® survey. The principals self assessment portion of the survey was given to principals as part of their professional development. However, the teacher surveys required an additional fee, which tended to reduce the number of principals that passed on the survey to the teachers.

First, principals set-up the survey and estimated the order of change for their school improvement initiatives. Each initiative had to be identified as 1st or 2nd order change, not a mix of both. This enabled a comparison between two types of change. These data were then used to answer research questions 1 and 2 according to the data analysis plans in Figure 1. Then an analysis was conducted to answer research questions 3 and 4 using the demographical data that the principals included in the set-up, specifically, a question to determine the principal's generation and the type of change initiative they were leading. Then the analysis used these data in combination with the staff's ratings of the principal's capacity to lead change according to the

21 leadership responsibilities. Principals collected these data for the online system by forwarding an anonymous email link (provided by McREL researchers) to all staff.

As educators took the survey, they first decided if they thought that their principal's change initiative was 1st or 2nd order for them as individuals, not as a whole for their school (data used for research questions 1 and 2). Then they used a 1-5 Likert scale to rate the effectiveness of the principal to lead change according to the 21 leadership responsibilities (data used for research questions 3 and 4). They were not actually asked directly if the initiative was a 1st or 2nd order change. They were asked a series of ten questions about change, the answers to which correspond to 1st or 2nd order change.

For research questions 1 and 2, each generation of principals' estimation of change (1st or 2nd order) was compared to their teachers' opinion of the order of change for their leader's school improvement initiative. If a teacher's choice of 1st or 2nd order change was inconclusive, they felt the initiative was mixed and thus, their set of data was excluded from the analyzed data. Percentages were calculated for each generation of principals and their paired teachers for both 1st and 2nd order change. Then the differences between the principals' estimations and the teachers' perceptions were calculated and compared across generations and to the average of all other generations combined.

For research questions 3 and 4, an analysis of the leadership capacity perceptions of teachers on each generation of their principals was conducted. As seen on the aforementioned data analysis plans, the data were disaggregated by generational cohort and as a total group of *All Principals*. Then it was split into two groups for 1st and 2nd order-change. The result is 12 (6 × 6) tables of data on the perceived capacity of principals to lead two orders of change according to the 21 leadership responsibilities. These data were broken into numerical mean Likert scores shown in Appendix B.

The analysis of the data used these mean Likert scores that were calculated by dividing the total of all ratings for each of the 21 leadership responsibilities in each of the 12 groups of

data by the total number of ratings. Then the data were analyzed for significant differences using statistical software to compare means using Independent Samples t-tests.

For example, consider a hypothetical group of 70 Gen-X principals that led change initiatives in their schools and asked their staffs to fill out the survey. For this group of 70 principals, 1,200 staff members (mostly teachers) felt that the principals were leading 2nd order change and 400 felt that the initiative was 1st order change. Then the staff answered the survey questions to determine their perceptions of their principal's capacity to lead the change initiative according to the 21 leadership responsibilities. This scenario resulted in two groups of Gen-X data. A similar process was conducted for the other 4 generational cohorts and the group of principals in total, by order of change. Finally, any differences were determined and significance calculated.

When means were compared, t-tests for significant difference were calculated at the 99% confidence level. Since the sample sizes were reduced more than anticipated and variability may have decreased as a result of the data scrubbing, a 99% confidence interval was chosen to compare the differences in means. A 99% interval encompasses a greater range of values than a 95% interval. This way this research was more certain that the true population fell within 99% certainty, and the probability that the true population mean was *not* inside that interval was less than 1%. This typically resulted in differences between percentages and means of ± 0.08 or more. Finally, a generational cohort had to have at least 25 principals within the cohort being rated, regardless of the number of teacher ratings, for the results of that cohort analysis to be considered reliable and meaningful.

As a last comparison, the teachers' perceptions were compared to the self-ratings of the principals' in twelve groups, *All Principals* and each of the generations of principals by 1st and 2nd order change. While this study is focused on how the teachers rate the leadership capacity of their leaders to lead 1st and 2nd order change and if/how that differs by generation of principals, it is useful to compare how closely principals rate themselves compared to their teachers and how

certain responsibilities compare such as *Change Agent*. This final comparison was also used to add insight to the other data analyses.

Assumptions and Anticipated Limitations.

It is not possible for this study to prove the existence of generational cohorts or to draw causal inferences related to their influences on school leadership. Rather, the purpose is to explore possible significant differences between principals' perceptions of change order compared to their staff and in their teacher-perceived capacity to lead change according to disaggregation by their generational cohort. Whether or not a principal's generation definitively influences their perceptions of change order compared to that of their teachers, or if their generation is related to their capacities to lead change, is not within the scope of this study to determine.

It's also assumed that grouping leaders by generation is a productive way to categorize them in order to shed light on their tendencies to lead in certain ways. Nonetheless, this research does not assume that a generational category fully describes any one individual. Rather, it attempts to provide some insight into tendencies that may influence some aspects of leadership of change initiatives in a school setting. Martin and Tulgan (2006) stated,

Certainly we believe that stereotyping people according to age is as misguided and counterproductive as stereotyping them according to gender, race, culture, or religion. Still, our research since the early 1990s, backed by our extensive work with people in hundreds of organizations, tells us that it is highly instructive to look at the trends in attitudes and behavior that define generational identities (Martin & Tulgan, 2006, p. 26).

Studying leadership by generation is difficult due to the many other possible influences on leadership behavior. It is impossible to account for all of the covariants. Yet, because members of a birth cohort share the experiences of growing up and aging together within a similar cultural framework, it is possible that the unique intersection of biography and history produce what demographers refer to as cohort effects. A cohort effect refers to a distinctive formative experience that members of a birth cohort (or set of birth cohorts) share that lasts throughout their lives. It is very difficult to draw conclusions from empirical data about such phenomena, given the confounding of cohort effects with age effects (Alwin, 2006). Generational

effects potential confounding with other effects, however, does not mean they do not exist, only that it is difficult to adduce evidence on their behalf.

Earlier-born cohorts not only grew up in a different era, they are now also older and more experienced. By contrast, cohorts born more recently are younger and have less experience. So, if one is looking at a phenomenon that is influenced both by the amount of experience one has, as well as the particular slice of history in which one participated when growing up, the results of empirical analyses can be quite puzzling (Alwin, 2006). Leadership abilities, as well as other's (teachers) perceptions of leaders, are both likely to be influenced by age and experience.

The online survey does not ask teachers about any age/generation identifying information. The large cross-sectional sample should help mitigate possible staff biases for overall averages, unless there is a larger grouping of teachers in some generational/age cohorts. A larger sample size helps stabilize the average of the data.

Finally, the sample sizes of the Millennial (youngest) and Silent (oldest) generations were a challenge to collect. At the time of the data collection (2006-2011), there were few Millennial Generation principals in the profession. The combination of low initial numbers and a lower proportional than average of these generations asking their teachers to take the survey, made the sample sizes of these new and senior principals very small compared to the other three generations.

Chapter 4 – Findings

The findings of this study reveal the results of the data analysis required to make meaningful conclusions about the four research questions. A number of interesting results were found. A large gap was uncovered between how principals and teachers perceived change. An interesting similarity between all groups was evident; they all had very similar top and bottom five leadership responsibility rankings. Another interesting finding showed that teachers tended to rate the leadership capacity of their principals higher overall when they believed their principals were leading a 1st order change, but tended to rate them lower overall when they believed the change was 2nd order. Also notable were results found when differences between generations of principals were analyzed. Gen-X principals were perceived by their teachers to have somewhat less leadership capacity to lead 1st order changes but much more leadership capacity to lead 2nd order changes compared to other generations, while the opposite seemed to occur for Generation Jones principals. These and other findings about change leadership are presented in the following chapter and Appendix B – Tables and Figures.

Further discussions of possible interpretations and other reflections on the findings will follow in Chapter 5. Findings for the Millennial and Silent Generations were rarely presented in this chapter due to inadequate sample sizes of rated principals in these two groups.

Research Questions and Findings

The following section provides succinct findings concerning the research questions. An in-depth discussion regarding possible meanings of the findings will continue in Chapter 5.

Research Question 1.

Research questions 1 and 2 pertain to 1st and 2nd order change. In paired comparisons of principals with the teachers they lead:

1. Do statistically significant differences exist between all principals' perceptions of the order of school change (1st or 2nd) and that of their teachers?

The results showed that the statistically significant differences between the principals' estimation of the change order of their school improvement initiative and the average of how teachers personally perceived the order of the change initiative were striking. These statistically significant differences ranged from +/- 58.63% for Generation Jones principals and their teachers to +/- 64.33% for Gen-X principals and their teachers. For *All Principals*, the average difference was +/- 60.46%. As depicted in Tables 10 and 11 in Appendix B, principals greatly overestimated the proportion of staff that perceived the change initiative as 2nd order change and conversely underestimated the proportion of their staff that perceived the change initiative as 1st order change.

This indicated that principals and teachers did not usually perceive the type of change similarly. There were many possible reasons for this finding. Principals could be more conscious of what 2nd order change entails and thus more likely to rate it; teachers may have a different and/or inaccurate understanding of the types of change and thus what was being asked of them; and/or the principals may have not given enough detail about the change initiative to the teachers for them to fully realize how large and complex the change was actually going to be when it was fully implemented. Nonetheless, this statistically significant difference was so large that it implies that a disconnect exists between how principals and teachers evaluate types of change and what it takes to implement them.

The data used principals paired with teacher who perceived the order of change similarly. The large difference in how principals and teachers perceived the change order caused a large reduction in the usable data and subsequent sample sizes.

Research Question 2.

In paired comparisons of principals with the teachers they lead:

2. Do statistically significant differences exist between generational groupings of principals' perceptions of the order of school change (1st or 2nd) and that of their teachers when analyzed by principals' generation?

When the differences between the principals' estimations and their teachers' perceptions of change order, by principal generation, were compared to the combined means of all other principals and between each other, a statistically significant difference was found. This comparison excluded each generation's data from the large group of *All Principals*, one at a time, for the generation being compared. These comparisons are shown in Tables 10 and 11 in Appendix B. While the difference between principals and teachers perceptions for all groups was obviously significant, only one significant difference existed based on the principals' generational cohort. Gen-X principals overestimated the change as 2nd order for the majority of their staff by + 64.33% (and thus underestimated it as 1st order) compared to their teacher's perceptions. This was compared to the average percent overestimation of 2nd order by all other principals combined of + 58.85%. Comparing the two percentages showed that Gen-X principals over/underestimated the order of change, compared to the perceptions of their teachers by $\pm 5.48\%$, compared to all other principals (depending on whether you were consider 1st or 2nd order change). The differences for the other generations were either too small or the sample sizes of the principals (Millennial & Silent) were too small for the difference to be considered significant. For instance, Baby Boomer Generation principals were within 0.01 of the difference for all other principals and their teachers' perceptions, thus, there was not a significant difference for the Baby Boomer cohort compared to all other principals combined, (*All Principals* minus the Baby Boomer Generation data).

Research Question 3.

Research questions 3 and 4 pertain to 1st and 2nd order change leadership across 21 leadership responsibilities. As perceived by principals' teachers:

3. Do statistically significant differences exist in teacher perceptions of 1st order change leadership capacity of their principals, broken into five generational groupings of principals, and compared to all other principals combined, using mean Likert scale scores for each of the 21 leadership responsibilities correlated with 1st order change for each group of principals leading 1st order change?

Statistically significant differences were found between many of the generations of principals and *All Principals* when leading 1st order change initiatives in the mean Likert scale scores for many of the 21 leadership responsibilities. However, these differences were not considered reliable and meaningful for Millennial and Silent generation cohorts of principals due to small principal sample sizes.

While certain leadership responsibilities were found to be significantly different between the generations, the averages of all 21 responsibilities were not significantly different. As depicted in Table 20, Appendix B, the 21 means of Likert ratings for each leadership responsibility were averaged together to give one overall change leadership capacity mean for *All Principals* as well as each generation. Under 1st order change conditions, these averages were 3.96 for Gen-X, 3.98 for Baby Boomer, and 4.03 for Jones Generation principals (on the 1-5 Likert scale). *All Principals* averaged a 4.00 Likert scale score across all 21 leadership responsibilities. The differences between these means when leading 1st order changes were less than +/- 0.08 and not considered significant or meaningful.

Rankings of Leadership Responsibility Mean Ratings – 1st Order Change.

Table 12, Appendix B shows how teachers in this study perceived the capacity of *All Principals* to lead 1st order change, from highest to lowest capacity mean rating. For *All Principals*, teachers rated *Outreach*, *Ideals & Beliefs*, *Optimize*, *Resources*, and *Focus* as the top five responsibilities when leading 1st order change. Conversely, the teachers rated *Relationships*, *Intellectual Stimulation*, *Discipline*, *Input*, and *Involvement in Curriculum/Instruction/Assessment* as the bottom five responsibilities for *All Principals* when leading 1st order change.

As shown on Tables 14, 16, and 18, Gen-X, Jones, and Baby Boomer principals have very similar top and bottom five ranked responsibilities compared to all other principals when leading 1st order change. This indicates that while some generations of principals may be rated higher or lower than average in some areas, there was general consistency in which leadership responsibilities that teachers perceived to be the highest and lowest capacity for all principals, regardless of their generational cohort group.

According to the aforementioned data tables and definitions of the top five rated responsibilities, it seems that, in general, when principals were thought to be leading 1st order changes, teachers in this study perceived them to be highly focused on a change initiative, based on specific and strongly held ideals and beliefs, that principals want to optimize through outreach to all stakeholders and by providing needed resources. On the other hand, the findings indicated that compared to the other leadership responsibilities, teachers in this study may have felt that their principals had less leadership capacity to ensure that the change initiative was based on research-informed practices and informed by meaningful teacher input. Also according to the leadership responsibility definitions, teachers in this study seemed to believe that their principals did not have relatively high leadership capacity in building professional relationships and insulating teachers from frivolous distractions while implementing the 1st order change. Finally, according to the bottom five ranked responsibilities, teachers seemed to feel that their principals could be more involved in the implementation of curriculum, instruction, and assessment issues when leading 1st order change.

Differences in Perceived 1st Order Change Leadership Capacity.

Tables 24-44, Appendix B are comparison tables of the generations and all other generations of principals combined compared with teacher perception means of 1st order change leadership capacity, according to the 21 leadership responsibilities. Below are findings of statistically significant differences in teacher perceptions of 1st order change leadership capacity found between different generations of principals.

Gen-X – 1st Order Change.

When leading 1st order change, Gen-X principals were consistently perceived by their teachers as having slightly lower than average leadership capacity in 5 of the 21 leadership responsibilities by – 0.08 or more compared to all other principals combined, (*All Principals* minus the Gen-X data). They were not rated as having higher capacity in any of the 21 leadership responsibilities by + 0.08 or more when leading 1st order change. Interestingly, Gen-X principals showed an opposite trend when teachers viewed them as leading 2nd order change. These results seem to be influenced by the difference in the order of change, as 2nd order teacher perceptions were consistently higher than average in 17 of 21 responsibilities for Gen-X. This difference was also interesting because this group includes many of the same principals rated in the 1st order group. This was possible because some teachers thought their principal was leading 1st order change while others thought he/she was leading 2nd order change. Therefore, the same principal can be rated in both 1st and 2nd order change groups, but by different teachers.

For 1st order change leadership, findings indicated that teachers perceived Gen-X principals as having lower than average leadership capacity in *Focus* [– 0.11 (p<.001) as shown on Table 31], *Monitor & Evaluate* [– 0.09 (p<.001) as shown on Table 37], *Ideals & Beliefs* [– 0.08 (p<.001) as shown on Table 32], *Knowledge of Curriculum/Instruction/Assessment* [– 0.08 (p<.001) as shown on Table 36], and *Order* [– 0.08 (p<.001) as shown on Table 39]. Of all of these, only a weakness in *Order* was predicted for Gen-X, based on the review of literature by Strauss & Howe (1992 & 2000), Raines (1997), Martin & Tulgan (2006), and Gordinier (2008).

It was useful to compare these five lower rated responsibilities to Gen-X principals' self-ratings under 1st order change conditions. As shown on Figure 8, Appendix B, Gen-X principals tended to rate themselves lower in *Monitor & Evaluate* by – 0.13 (p<.001) and *Focus* by – 0.09 (– (p<.001) compared to the perception of their teachers. They tended to rate themselves higher in *Order* by + 0.20 (p<.001) and *Ideals & Beliefs* by + 0.13 (p<.001). They rated themselves very similar to their teachers in *Knowledge of Curriculum/Instruction/Assessment*. This could indicate that while these areas were perceived as lower than other generations for Gen-X, as 1st order

change leaders, they were cognizant of it in three of five areas. However, they may not realize that their teachers rate them lower in *Order* and *Ideals & Beliefs*. This could indicate that the average Gen-X principal should focus on improving their capacity to establish clear sets of standard operating procedures and routines as well as communicating and operating from strong ideals and beliefs about schooling when leading 1st order change.

The five aforementioned 0.08 to 0.11 statistically significant differences in teacher-perceived average leadership capacity may not seem large. However, since five means were found to be significantly lower than average and none higher, an overall connection between leadership capacity and change order for Gen-X principals is plausible. This overall pattern may be more significant than each individual leadership responsibility finding.

The Gen-X principals fit with the general pattern of *All Principals* in that their teacher-perceived leadership capacity ratings significantly decreased when leading 2nd order change [–0.26 ($p < .001$) for Gen-X as shown on Table 20, Appendix B].

Finally, this researcher wanted to know how closely Gen-X rated themselves in overall 1st order change leadership capacity. Figure 8, Appendix B, indicated that on average, Gen-X principals tended to rate themselves significantly higher than the perceptions of their teachers when leading 1st order change by + 0.09 ($p < .001$).

Jones Generation – 1st Order Change.

When leading 1st order change, Jones Generation principals were consistently perceived by the mean ratings of their teachers as having higher than average leadership capacity in 3 of the 21 leadership responsibilities by + 0.08 or more compared to all other principals combined, (*All Principals* minus the Generation Jones data). They were not rated as having lower capacity in any of the 21 leadership responsibilities by – 0.08 or more when leading 1st order change. The opposite trend occurred when Generation Jones was perceived as leading 2nd order change. These results seem to be influenced by the difference in the order of change as 2nd order means were consistently lower than average in 15 of 21 responsibilities for teacher perception means on

this generation (with none rated higher), including many of the same principals in both groups. The 2nd order results will be discussed in a latter section.

For 1st order change leadership, findings indicated that teachers perceived Jones Generation principals to have higher than average leadership capacity in *Monitor & Evaluate* [+ 0.09 ($p < .001$) as shown on Table 37], *Visibility* [+ 0.09 ($p < .001$) as shown on Table 44] and *Involvement in Curriculum/Instruction/Assessment* [+ 0.08 ($p < .001$) as shown on Table 35]. This last finding is congruent with Bishop, (2004) who predicted Jones Generation to be strong in *Involvement in Curriculum/Instruction/Assessment* based on the review of the literature.

It was useful to compare these three higher rated responsibilities to Generation Jones principals' self-ratings. As shown on Figure 10, Appendix B, Jones Generation principals tended to rate themselves higher in *Visibility* by + 0.29 ($p < .001$) and *Involvement in Curriculum/Instruction/Assessment* by + 0.13 ($p < .001$) compared to the perception of their teachers. However, they tended to rate themselves lower than their teachers in *Monitor & Evaluate* by – 0.13 ($p < .001$). This could indicate that two of these three areas perceived as strengths for Generations Jones, as 1st order change leaders, are well known to be strong for them but two areas are overestimated and one underestimated by Generation Jones principals leading 1st order change. The difference in opinions about *Monitor & Evaluate* could indicate that teachers see Generation Jones as doing plenty of strong work in this area while the Generation Jones principals still see room for more emphasis and improvement in the responsibility of *Monitor & Evaluate*.

The three aforementioned 0.08 to 0.09 statistically significant differences in teacher-perceived average leadership capacity may not seem large. However, since three means were found to be higher than average and none lower, an overall connection between leadership capacity and change order for Jones Generation principals is plausible. This overall pattern may be more significant than each individual leadership responsibility finding.

The Jones Generation principals also fit with the general pattern of *All Principals* in that their teacher-perceived leadership capacity ratings decreased when leading 2nd order change [–

0.51 ($p < .001$) for Jones Generation as shown on Table 20, Appendix B]. But this decrease in perceived leadership capacity was significantly larger compared to the other generations.

Finally, this research wanted to know how closely Generation Jones rated themselves in overall 1st order change leadership capacity. Figure 10, Appendix B, indicated that on average, Generation Jones principals tended to rate themselves higher than the perceptions of their teachers when leading 1st order change by + 0.13 ($p < .001$).

Baby Boomer Generation – 1st Order Change.

When leading 1st order change, Baby Boomer Generation principals had means very similar to the means of *All Principals* with one notable exception. They were perceived by teachers as having lower than average leadership capacity in *Visibility* [– 0.14 ($p < .001$) as shown on Table 44, Appendix B]. They were not rated as having higher capacity in any of the 21 leadership responsibilities by + 0.08 or more. *Visibility* is when principals are present throughout the school and in classrooms on a regular basis to ensure they have quality contact and interactions with teachers and students. The review of the literature did not provide any discernible predictions in the area of *Visibility* for Baby Boomer Generation education leaders. This indicated perception of lower than average capacity in *Visibility* was only present when Baby Boomer principals were leading 1st order change.

It was useful to compare this one lower rated responsibility to Baby Boomer Generation principals' self-rating. As shown on Figure 12, Appendix B, Baby Boomer Generation principals tended to rate themselves higher in *Visibility* by + 0.31 ($p < .001$) compared to the perception of their teachers. This could indicate that while this area was perceived as low for Baby Boomer Generation 1st order change leaders, it was not evident to the average leader. In other words, the average Baby Boomer principal may not have realized that teachers in this study did not perceive them to have a high capacity in *Visibility*. They may believe that their presence in classrooms and throughout the schools is quite adequate while teachers may feel that it should be increased.

Like the others, Baby Boomer principals follow the same general pattern of *All Principals* in that their teacher-perceived leadership capacity decreased when leading 2nd order change [-0.39 ($p<.001$) for Baby Boomer Generation as shown on Table 20, Appendix B].

Again, this research sought to understand how closely Baby Boomer Generation self evaluations looked for overall 1st order change leadership capacity compared to teachers. Figure 12, Appendix B, indicated that on average, Baby Boomer Generation principals tended to rate themselves higher than the perceptions of their teachers when leading 1st order change by $+0.14$ ($p<.001$).

Research Question 4.

As perceived by principals' teachers:

4. Do statistically significant differences exist in teacher perceptions of 2nd order change leadership capacity of their principals, broken into five generational groupings of principals, and compared to all other principals combined, using mean Likert scale scores for each of the 21 leadership responsibilities, and especially the 11 responsibilities factored with 2nd order change, for each group of principals leading 2nd order change?

Statistically significant differences do exist between many of the generations of principals when compared to *All Principals* leading 2nd order change initiatives in the mean Likert scale scores for many of the 21 leadership responsibilities and, in particular, for the 11 responsibilities factored with 2nd order change.

As depicted on Table 20, Appendix B, the 21 means of teacher perceptions for each leadership responsibility were averaged together to give one overall change leadership capacity Likert rating for *All Principals* and each principal generation when leading 2nd order change. Excluding Millennial and Silent generation principals (due to small sample sizes), these averages from lowest to highest were 3.52 for Jones Generation, 3.59 for Baby Boomer, and 3.70 for Gen-X principals under 2nd order change conditions. *All Principals* averaged a 3.60 Likert scale score across all 21 leadership responsibilities. Compared to all other principals, the perceived decline in

Baby Boomer principals' average 2nd order change rating was about the same as that of all principals. However, the statistically significant decline in average perceptions for Generation Jones principals was greater compared to all other principals. On the contrary, the perceived decline for Gen-X principals was significantly less compared to all other principals. The overall teacher-perceived declines in the means of all 21 leadership responsibilities when principals led 2nd order change were:

- – 0.40 ($p < .001$) for All Principals,
- – 0.51 ($p < .001$) for Jones Generation,
- – 0.39 ($p < .001$) for Baby Boomer Generation, and
- – 0.26 ($p < .001$) for Gen-X.

These findings indicated that teachers in this study tended to rate Gen-X principals significantly higher in 2nd order change leadership capacity compared to the average of all other principals. Conversely, the findings indicated that teachers in this study tended to rate Generation Jones principals significantly lower in 2nd order change leadership capacity compared to the average of all other principals. The teacher perceptions of overall average leadership capacity of these two generational cohorts of principals seemed to be influenced by the type (1st or 2nd order) of change they were leading. This was not the case with Baby Boomer Generation principals. The overall mean of means for 2nd order change was not significantly different for Baby Boomer Generation principals (3.59) when compared to all other principals combined (3.60).

Rankings of Leadership Responsibility Mean Ratings – 2nd Order Change.

Table 13, Appendix B indicated how teachers in this study perceived the capacity of *All Principals* to lead 2nd order changes from highest to lowest ranking of leadership responsibility means. Similar to the 1st order change rankings for *All Principals*, teachers rated *Outreach, Ideals & Beliefs, Optimize, Focus, and Knowledge of Curriculum/Instruction/Assessment* as the top five responsibilities that principals had the highest capacity in when leading 2nd order change. Also similar to the 1st order change rankings, teachers rated *Relationships, Order, Discipline, Involvement in Curriculum/Instruction/Assessment, and Input* as the bottom five responsibilities

for principals, when leading 2nd order change. While the order of change did seem to be related to an overall teacher-perceived decline in leadership capacity (1st to 2nd order), it did not seem to have any significant influence on how the top and bottom five leadership capacity perception means were ranked for *All Principals*. However, certain responsibilities did rank a little differently by generation.

As shown on Tables 15, 17, and 19 in Appendix B, Gen-X, Jones, and Baby Boomer principals have very similar top and bottom five ranked responsibilities compared to all other principals when leading 2nd order change. This indicates that, while some generations of principals were rated higher or lower than average in some areas, there was general consistency in which leadership responsibilities that teachers perceived to be the highest and lowest capacity for all principals, regardless of their generational cohort group.

According to the aforementioned data tables and top five rated responsibilities, it seems that, in general, when principals were thought to be leading 2nd order change, teachers in this study may have perceived them to be highly focused on a change initiative based on specific and strongly held ideals and beliefs that principals want to optimize through outreach to all stakeholders and by building strong knowledge of curriculum, instruction, and assessment practices. While the first part of this finding was similar for 1st order change leadership, this last part pertaining to building knowledge was different for 2nd order change leadership. This seems logical since 2nd order change often requires the attainment of more new knowledge than 1st order change.

Looking at the bottom five ranked responsibilities for 2nd order change leadership showed a different pattern. The findings indicated that compared to the other leadership responsibilities, teachers may feel that their principals have less leadership capacity to ensure that the change does not disrupt the smooth operations of the school and classroom and that the change is informed by meaningful teacher input. Also, teachers in this study seemed to perceive that their principals had relatively low leadership capacity in building professional relationships and low capacity in insulating teachers from frivolous distractions as they implement 2nd order change.

Finally, teachers in this study seemed to feel that their principals should be more involved in the implementation of curriculum, instruction, and assessment issues when leading 2nd order change compared to the other responsibilities. These conclusions were similar to 1st order change rankings with the exception of the aspect related to “disrupting the smooth operations of the school and classroom.” This difference seems logical due to the nature of 2nd order change being typically more disruptive than 1st order change. The rankings for the findings pertaining to the 2nd order change conditions for each generation follow below.

Gen-X (Table 15).

Gen-X principals had very similar top and bottom rankings in teacher-perceived mean ratings of 2nd order change leadership capacity with one notable exception. Gen-X principals were rated considerably higher in *Change Agent* compared to all other principals combined. At a mean Likert rating of 3.81, Gen-X principals were ranked and rated higher than any other generation in *Change Agent* by a significant margin of + 0.24 ($p < .001$). None of the literature reviewed implied this area would be low for Gen-X. In fact, 9 sources, Strauss & Howe (1992), Rosen (2001), Goben (2003), Holman (2003), Muetzel (2003), Bishop (2004), Martin & Tulgan (2006), Kunreuther (2008), and Salahuddin (2010) unanimously implied that *Change Agent* is a potentially high area of leadership capacity for Gen-X. It seems that teachers in this study agreed with these researchers.

Generation Jones (Table 17) and Baby Boomer Generation (Table 19).

Generation Jones and Baby Boomer Generation principals also had very similar top and bottom ranked responsibilities compared to all other principals leading 2nd order change initiatives with no significant exceptions. This indicates that teachers perceived their highest and lowest leadership capacities very similarly when compared to each other and the average of *All Principals* when leading 2nd order change. While their rankings were the same, their actual rating means were often different.

11 Leadership Responsibilities Factored with 2nd Order Change.

After analyzing each generation, it was helpful to look at differences by a comparison of the eleven responsibilities factored with 2nd order change by Waters, Marzano, and McNulty (2003), as shown on Table 3, Chapter 2. These eleven leadership responsibilities are thought to be especially important when leading 2nd order change. Therefore, analyzing them in particular might show some differences that were not as evident when all 21 responsibilities were averaged together.

On Table 21, Appendix B, as a group, these eleven responsibilities did not seem to show any patterns in rankings or to be affected differently than all 21 leadership responsibilities combined in terms of teacher perceptions of change leadership capacity. However, noticeable differences emerged from the findings when the eleven leadership responsibilities were analyzed in two subgroups of the seven leadership responsibilities positively factored with 2nd order change (*Ideals & Beliefs, Optimize, Knowledge of Curriculum/Instruction/Assessment, Monitor & Evaluate, Change Agent, Flexibility, and Intellectual Stimulation*) and the four leadership responsibilities negatively factored with 2nd order change (*Input, Communication, Culture, and Order*).

7 of 11 Leadership Responsibilities Positively Factored with 2nd Order Change.

As shown in Table 22, Appendix B, the seven of eleven leadership responsibilities that Waters, Marzano, and McNulty (2003) found to be positively factored with 2nd order change tended to indicate less teacher-perceived declines in mean leadership capacity ratings than the overall average of all 21 leadership responsibilities when 1st order change leadership was compared to 2nd order. All three generations of principals with large enough sample sizes (Gen-X, Jones, and Baby Boomer) followed this trend. This indicates that teachers perceived these seven responsibilities more favorably than the combination of all 21 leadership responsibilities. This makes sense because Waters, Marzano, and McNulty (2003) found these responsibilities to be very important for 2nd order change leadership, but not areas in which teachers felt leadership capacity was particularly low. This indicates that principals generally realize that these are

important responsibilities for change and are therefore perceived by teachers to be exhibiting high leadership capacity in these responsibilities compared to all 21 combined.

4 of 11 Leadership Responsibilities Negatively Factored with 2nd Order Change.

Also depicted on Table 23, Appendix B, four of eleven leadership responsibilities were found by Waters, Marzano, and McNulty (2003) to be negatively factored with 2nd order change, (*Input, Communication, Culture, and Order*). These four tended to have greater declines in mean leadership capacity ratings than the overall average of all 21 leadership responsibilities when 1st order change leadership was compared to 2nd order. All three generations of principals with large enough sample sizes (Gen-X, Jones, and Baby Boomer) followed this trend. This indicates that teachers perceived these four responsibilities less favorably than the combination of all 21 leadership responsibilities. Furthermore, these four responsibilities had the largest four individual declines in leadership capacity means between 1st and 2nd order change, when the means were compared for *All Principals* on Table 13, Appendix B. These four perceived declines in leadership capacity were *Input* – 0.51 ($p < .001$), *Communication* – 0.46 ($p < .001$), *Culture* – 0.46 ($p < .001$), and *Order* – 0.45 ($p < .001$). This pattern confirms the findings of Waters, Marzano, and McNulty (2003) that these four responsibilities are negatively factored with 2nd order change. This could indicate that while principals do pay attention to these responsibilities when leading change, they are difficult responsibilities to fulfill during large transformational changes.

When each generation was examined for patterns around the four of eleven responsibilities that Waters, Marzano, and McNulty (2003) found to be negatively correlated with 2nd order change (Table 3, Chapter 2), analysis of Gen-X, Jones, and Baby Boomer Generation principals indicated patterns similar to *All Principals*. As in the group of *All Principals*, these three generations also showed large declines in teacher perceptions about leadership capacity in *Input, Communication, Culture, and Order* when compared across 1st and 2nd order change leadership. While the pattern was similar for all three of these generations, the teacher-perceived amount of leadership capacity decline was significantly different for each generational cohort of principals. As shown on Table 23, Appendix B, Gen-X had an average drop in mean ratings of leadership

capacity for these four responsibilities of – 0.34 ($p < .001$) as compared to Baby Boomer principals' – 0.49 ($p < .001$) decline and Jones principals' – 0.57 ($p < .001$) decline in the combined perceived leadership capacity means for *Input*, *Communication*, *Culture*, and *Order*. While the Silent and Millennial generation data indicated similar declines in teacher ratings, comparing these groups to the other generations was not reliable or meaningful due their small sample sizes.

Differences in Perceived 2nd Order Change Leadership Capacity.

Tables 45-65, Appendix B are comparison tables of the generations and all other generations of principals combined between teacher perception means of 2nd order change leadership capacity according to the 21 leadership responsibilities. Below are findings of statistically significant differences in teacher perceptions of 2nd order change leadership capacity found between generations of principals.

Gen-X – 2nd Order Change.

When leading 2nd order change, Gen-X principals were consistently perceived by the mean ratings of teachers as having significantly higher than average leadership capacity in 17 of the 21 leadership responsibilities by + 0.08 or more compared to all other principals combined, (*All Principals* minus the Gen-X data). They were not rated as having lower capacity in any of the 21 leadership responsibilities by – 0.08 or more when leading 2nd order change initiatives. Interestingly, findings indicated that Gen-X principals seemed to exhibit an opposite trend when teachers thought their Gen-X principals were leading 1st order change. These results seem to be influenced by the order of change.

For 2nd order change leadership, findings indicate that teachers perceived Gen-X principals as having higher than average leadership capacity in *Change Agent* [+ 0.23 ($p < .001$) as shown on Table 46], *Resources* [+ 0.21 ($p < .001$) as shown on Table 63], *Flexibility* [+ 0.19 ($p < .001$) as shown on Table 51], *Involvement in Curriculum/Instruction/Assessment* [+ 0.19 ($p < .001$) as shown on Table 56], *Input* [+ 0.18 ($p < .001$) as shown on Table 55], *Visibility* [+ 0.18 ($p < .002$) as shown on Table 65], *Intellectual Stimulation* [+ 0.16 ($p < .001$) as shown on Table 55], *Optimize* [+ 0.16 ($p < .001$) as shown on Table 59], *Affirmation* [+ 0.15 ($p < .002$) as shown on Table

45], *Knowledge of Curriculum/Instruction/Assessment* [+ 0.15 ($p < .001$) as shown on Table 57], *Monitor and Evaluate* [+ 0.15 ($p < .001$) as shown on Table 58], *Communication* [+ 0.13 ($p < .011$) as shown on Table 47], *Culture* [+ 0.13 ($p < .001$) as shown on Table 49], *Contingent Reward* [+ 0.12 ($p < .004$) as shown on Table 48], *Focus* [+ 0.12 ($p < .001$) as shown on Table 52], *Ideals and Beliefs* [+ 0.10 ($p < .012$) as shown on Table 53], and *Situational Awareness* [+ 0.10 ($p < .005$) as shown on Table 64].

A pattern seems evident when Gen-X principals lead 2nd order change with 17 means of leadership capacity perceived to be higher than average and none lower. Combine this with the finding that five means were lower than average when Gen-X led 1st order change with none higher, and an overall connection between leadership capacity and change order for Gen-X principals seems likely.

It was useful to compare these seventeen highly-rated responsibilities to Gen-X principals' self-ratings under 2nd order change conditions. As shown on Figure 9, Appendix B, Gen-X principals tended to rate themselves significantly lower compared to teachers in four areas: *Focus* by -0.22 ($p < .001$), *Intellectual Stimulation* by -0.15 ($p < .001$), *Change Agent* by -0.12 ($p < .001$), and *Monitor and Evaluate* by -0.11 ($p < .005$). These 2nd order statistically significant differences could indicate that these four areas of perceived strength for Gen-X as 2nd order change leaders are not necessarily areas Gen-X principals are fully satisfied with in terms of their own self-ratings. Perhaps they are areas that Gen-X school leaders find especially important and want to improve, despite the higher perception ratings of teachers.

Also shown on Figure 9, Appendix B, rather than lower self-ratings, Gen-X principals tended to rate themselves significantly higher compared to teachers in eleven areas: *Flexibility* by $+0.37$ ($p < .001$), *Communication* by $+0.37$ ($p < .001$), *Input* by $+0.35$ ($p < .001$), *Situational Awareness* by $+0.32$ ($p < .001$), *Visibility* by $+0.32$ ($p < .001$), *Contingent Reward* by $+0.25$ ($p < .001$), *Optimize* by $+0.24$ ($p < .001$), *Involvement in Curriculum/Instruction/Assessment*, by $+0.20$ ($p < .001$), *Ideals and Beliefs* by $+0.18$ ($p < .001$), *Knowledge of Curriculum/Instruction/Assessment* by $+0.09$ ($p < .011$), and *Affirmation* by $+0.08$ ($p < .012$). This could indicate that while these eleven

areas are perceived as strong by teachers and their Gen-X principals, Gen-X principals may think that they are stronger in these areas than their teachers perceive them to be.

Gen-X principals self-rated themselves very similar to their teachers in the areas of *Resources* and *Culture*. This could indicate that these two areas perceived as strengths for Gen-X are responsibilities in which they are very in-tune with their teachers on in terms of leadership capacity to lead 2nd order change.

Gen-X principals also fit with the general pattern of all principals in that their leadership capacity ratings decreased from 1st to 2nd order change [-0.26 ($p<.001$)] for Gen-X as shown on Table 20, Appendix B]. This indicates that teachers may tend to rate their principals in general less favorably under 2nd order change conditions.

Overall, the data depicted on Figure 9, Appendix B, indicates that on average, Gen-X principals tended to rate themselves significantly higher by $+0.14$ ($p<.005$) than the 2nd order perceptions of their teachers.

Jones Generation – 2nd Order Change.

When leading 2nd order change, Jones Generation principals were consistently perceived by the mean ratings of teachers as having lower than average leadership capacity in fifteen of the 21 leadership responsibilities by -0.08 or more compared to all other principals combined, (*All Principals* minus the Generation Jones data). They were not rated as having a higher capacity in any of the 21 leadership responsibilities by $+0.08$ or more by their teachers. These results seem to be influenced by the difference in the order of change, as the 1st order ratings were higher than average in three of 21 responsibilities with none lower for this generation, which included many of the same principals in each of the 1st and 2nd order groups.

For 2nd order change leadership, findings indicate that teachers perceived Jones Generation principals as having lower than average leadership capacity in *Involvement in Curriculum/Instruction/Assessment* [-0.17 ($p<.001$)] as shown on Table 56], *Knowledge of Curriculum/Instruction/Assessment* [-0.17 ($p<.001$)] as shown on Table 57], *Visibility* [-0.17 ($p<.001$)] as shown on Table 65], *Communication* [-0.16 ($p<.001$)] as shown on Table 47],

Resources [– 0.16 ($p < .001$) as shown on Table 63], *Flexibility* [– 0.15 ($p < .006$) as shown on Table 51], *Focus* [– 0.15 ($p < .001$) as shown on Table 52], *Ideals and Beliefs* [– 0.15 ($p < .001$) as shown on Table 53], *Change Agent* [– 0.14 ($p < .001$) as shown on Table 46], *Monitor and Evaluate* [– 0.14 ($p < .001$) as shown on Table 58], *Intellectual Stimulation* [– 0.13 ($p < .002$) as shown on Table 55], *Relationships* [– 0.13 ($p < .003$) as shown on Table 62], *Culture* [– 0.11 ($p < .001$) as shown on Table 49], *Optimize* [– 0.11 ($p < .005$) as shown on Table 59], and *Situational Awareness* [– 0.10 ($p < .004$) as shown on Table 64].

A pattern seems evident when Generation Jones principals lead 2nd order change, with fifteen teacher-perceived means of leadership capacity being lower than average and none rated higher. Combine this with the finding that three means were higher than average when Generation Jones led 1st order change with none lower, and a general connection between leadership capacity and change order for Generation Jones principals seems likely.

It was useful to compare these fifteen lower rated responsibilities to Generation Jones principals' self-ratings. As shown on Figure 11, Appendix B, Generation Jones principals tended to rate themselves significantly higher compared to teachers in *Flexibility* by + 0.65 ($p < .001$), *Communication* by + 0.63 ($p < .001$), *Visibility* by + 0.57 ($p < .001$), *Situational Awareness* by + 0.52 ($p < .001$), *Relationships* by + 0.50 ($p < .001$), *Optimize* by + 0.48 ($p < .001$), *Involvement in Curriculum/Instruction/Assessment* by + 0.46 ($p < .001$), *Resources* by + 0.35 ($p < .001$), *Knowledge of Curriculum/Instruction/Assessment* by + 0.32 ($p < .001$), *Culture* by + 0.30 ($p < .001$), *Monitor and Evaluate* by + 0.13 ($p < .001$), *Change Agent* by + 0.12 ($p < .005$), *Intellectual Stimulation* by + 0.12 ($p < .005$), and *Ideals and Beliefs* by + 0.11 ($p < .011$). This could indicate that these fourteen areas, as perceived by teachers to be of lower capacity, are not areas that average Generation Jones principals realized were valued highly by teachers when leading 2nd order change.

On average, the self-ratings of Generation Jones principals were very similar to their teachers' ratings in *Focus*. This could indicate that this aspect of teacher-perceived low capacity is one the average Generation Jones principal is in sync with their teachers on, in terms of

leadership capacity to lead 2nd order change, and is also an area they may see as needing some improvement.

Generation Jones principals also fit with the general pattern of all principals in that their leadership capacity ratings decreased from 1st to 2nd order change [-0.51 ($p < .001$)] for Jones Generation as shown on Table 20, Appendix B]. However, this decrease in perceived capacity was significantly larger compared to the other generations. This further indicates that teachers may tend to rate their principals in general less favorably under 2nd order change conditions, and especially Generation Jones.

Finally, Figure 11, Appendix B, indicated that on average, Generation Jones principals tended to rate themselves significantly higher than the perceptions of their teachers when leading 2nd order change by $+0.39$ ($p < .001$). This was a very similar result compared to Baby Boomer principals, but nearly three times as much as the $+0.14$ ($p < .001$) overrating by Gen-X principals.

Baby Boomer Generation – 2nd Order Change.

When leading 2nd order change, Baby Boomer Generation principals had means very similar to the means of *All Principals* with no exceptions. While statistically significant differences were found when Baby Boomer principals were compared to some of the other generational cohorts, no significant differences in teacher-perceived leadership capacities were found between Baby Boomer principals and *All Principals*. In other words, they were perceived as being very near the average when leading 2nd order change. In regards to their self assessments, Figure 13, Appendix B, indicated that on average, Baby Boomer principals tended to rate themselves significantly higher than the perceptions of their teachers when leading 2nd order change by $+0.38$ ($p < .001$). This was a very similar amount compared to Generation Jones principals, but nearly three times as much as the $+0.14$ ($p < .001$) overrating by Gen-X principals.

Leadership Responsibility Findings

The following descriptions show each leadership responsibility with summaries of noteworthy results under 1st or 2nd order change conditions. Sample sizes of principal self-ratings

were large enough to analyze findings from all generations except for Millennial and Silent Generations principals under 1st order change conditions. However, sample sizes for self-ratings of Millennial and Silent Generation principals were large enough to analyze under 2nd order change conditions. Teacher perceptions for Millennial and Silent Generation principals were considered unreliable due to small sample sizes of rated principals and were therefore not depicted in the findings under 1st or 2nd order conditions.

Findings by Leadership Responsibility – 1st Order Change.

Statistically significant findings found for any of the 21 leadership responsibilities under 1st order change conditions are described below. Definitions of the leadership responsibilities below are from the work of Waters, Marzano, and McNulty (2003). Few significant differences were found under 1st order conditions. However, under 2nd order change conditions, larger differences were found.

1. Affirmation (1st Order Change).

Definition: recognizes and celebrates school accomplishments and acknowledges failures. *All Principals* tended to rate themselves higher on average compared to teachers by + 0.15 ($p < .001$). All generations followed this trend. Teachers did not rate any generation of principals significantly higher or lower than the others in this area under 1st order change conditions.

2. Change Agent (1st Order Change).

Definition: is willing to and actively challenges the status quo. *All Principals* tended to rate themselves lower on average compared to teachers by – 0.17 ($p < .001$). All generations followed this trend. Teachers did not rate any generation of principals significantly higher or lower than the others in this area under 1st order change conditions.

3. Communication (1st Order Change).

Definition: establishes strong lines of communication with teachers and among students. *All Principals* tended to rate themselves higher on average compared to teachers by + 0.32 ($p < .001$). All generations followed this trend. This responsibility had one of the four largest

differences between principal and teacher opinions. This could indicate that under 1st order change conditions, principals in general think they are establishing strong lines of communication more than teachers think they are. Teachers did not rate any generation of principals significantly higher or lower than the others in this area under 1st order change conditions.

4. Contingent Rewards (1st Order Change).

Definition: recognizes and rewards individual accomplishments. *All Principals* tended to rate themselves higher on average compared to teachers by + 0.21 ($p < .001$). All generations followed this trend. Teachers did not rate any generation of principals significantly higher or lower than the others in this area under 1st order change conditions.

5. Culture (1st Order Change).

Definition: fosters shared beliefs and a sense of community and cooperation. *All Principals* tended to rate themselves higher on average compared to teachers by + 0.21 ($p < .001$). All generations followed this trend. Teachers did not rate any generation of principals significantly higher or lower than the others in this area under 1st order change conditions.

6. Discipline (1st Order Change).

Definition: protects teachers from issues and influences that would detract from their teaching time or focus. *All Principals* tended to rate themselves higher on average compared to teachers by + 0.21 ($p < .001$). All generations followed this trend. This was one of the lowest five rated responsibilities by teachers. However, teachers did not rate any generation of principals significantly higher or lower than the others in this area under 1st order change conditions.

7. Flexibility (1st Order Change).

Definition: adapts his or her leadership behavior to the needs of the current situation and is comfortable with dissent. *All Principals* tended to rate themselves higher on average compared to teachers by + 0.22 ($p < .001$). All generations followed this trend. Teachers did not rate any generation of principals significantly higher or lower than the others in this area under 1st order change conditions.

8. Focus (1st Order Change).

Definition: establishes clear goals and keeps those goals in the forefront of the school's attention. *All Principals* tended to rate themselves higher on average compared to teachers by + 0.21 ($p < .001$). All generations followed this trend. This was one of the top five rated responsibilities by teachers. Teachers did not rate any generation of principals significantly higher than the others in this area, but they did rate one as significantly lower.

Teachers perceived Gen-X principals as having – 0.11 ($p < .001$) less capacity on average than all other principals in this area under 1st order change conditions. Gen-X principals also self-rated themselves relatively low in this responsibility at an average of 3.94. This could indicate that under 1st order change conditions, average Gen-X principals do not seem to establish clear goals and keep those goals in the forefront of the school's attention as well as some other generations according to teacher perceptions.

9. Ideals and beliefs (1st Order Change).

Definition: communicates and operates from strong ideals and beliefs about schooling. *All Principals* tended to rate themselves higher on average compared to teachers by + 0.10 ($p < .011$). All generations followed this trend. This was one of the top five rated responsibilities by teachers. Teachers did not rate any generation of principals significantly higher than the others in this area, but they did rate one as significantly lower.

Teachers perceived Gen-X principals as having – 0.08 ($p < .001$) less capacity on average than all other principals in this area under 1st order change conditions. This could indicate that under 1st order change conditions, average Gen-X principals may possess strong Ideas and Beliefs, but seem not to be use them as often with teachers as some other principals. Or, perhaps what the average Gen-X principal sees as a strong ideal or belief, is viewed as less consequential by their teachers.

10. Input (1st Order Change).

Definition: involves teachers in the design and implementation of important decisions and policies. *All Principals* tended to rate themselves higher on average compared to teachers by +

0.28 ($p < .001$). All generations followed this trend. This responsibility had one of the four largest differences between principal and teacher opinions. This could indicate that principals in general think they are involving teachers in the design and implementation of important decisions and policies more than teachers think they are. This was also one of the lowest five rated responsibilities by teachers. However, teachers did not rate any generation of principals significantly higher or lower than the others in this area under 1st order change conditions.

11. Intellectual Stimulation (1st Order Change).

Definition: ensures faculty and staff are aware of the most current theories and practices and makes the discussion of these a regular aspect of the school's culture. *All Principals* tended to rate themselves lower on average compared to teachers by -0.20 ($p < .001$). All generations followed this trend. This was one of the lowest five rated responsibilities by teachers. However, teachers did not rate any generation of principals significantly higher or lower than the others in this area under 1st order change conditions.

12. Involvement in Curriculum, Instruction, and Assessment (1st Order Change).

Definition: is directly involved in the design and implementation of curriculum, instruction, and assessment practices. *All Principals* tended to rate themselves higher on average compared to teachers by $+0.13$ ($p < .001$). All generations followed this trend. This was one of the lowest five rated responsibilities by teachers. While still a low rated responsibility, teachers did rate Generation Jones principals significantly higher than other generations in this area under 1st order change conditions.

Teachers perceived Generation Jones principals as having $+0.08$ ($p < .001$) higher capacity on average than *All Principals*, Gen-X, and Baby Boomers under 1st order change conditions. This could indicate that under 1st order change conditions, average Generation Jones principals seem slightly more involved in the design and implementation of curriculum, instruction, and assessment practices than some other generations.

13. Knowledge of Curriculum, Instruction, and Assessment (1st Order Change).

Definition: is knowledgeable about current curriculum, instruction, and assessment practices. *All Principals* tended to rate themselves very similarly to teachers in this area. All generations followed this trend. Teachers did not rate any generation of principals significantly higher than the others in this area, but they did rate one as significantly lower.

Teachers perceived Gen-X principals as having – 0.08 ($p < .001$) less capacity on average than all other principals in this area, especially Generation Jones. This could indicate that under 1st order change conditions, teachers perceive average Gen-X principals as slightly less knowledgeable in curriculum, instruction, and assessment practices than some other generations.

14. Monitors and Evaluates (1st Order Change).

Definition: monitors the effectiveness of school practices and their impact on student learning. *All Principals* tended to rate themselves lower on average compared to teachers by – 0.12 ($p < .001$). All generations followed this trend.

Teachers rated Generation Jones principals significantly higher and Gen-X lower than the others in this area under 1st order change conditions. Teachers perceived Generation Jones principals as having + 0.09 ($p < .001$) higher capacity on average than *All Principals* in this area, especially Gen-X. Generation Jones principals did not rate themselves significantly high or low in this area. This could indicate that under 1st order change conditions, teachers perceived average Generation Jones principals as slightly more adept at monitoring the effectiveness of school practices and their impact on student learning than some other generations.

Teachers perceived Gen-X principals as having – 0.09 ($p < .001$) less capacity on average than all other principals in this area, especially Generation Jones. Gen-X principals did rate themselves relatively low in this area at an average of 3.86. This could indicate that under 1st order change conditions, average Gen-X principals seemed slightly less adept at monitoring the

effectiveness of school practices and their impact on student learning than some other generations and are aware of their need to increase their capacity in this responsibility.

15. Optimize (1st Order Change).

Definition: inspires and leads new and challenging innovations. *All Principals* tended to rate themselves higher on average compared to teachers by + 0.10 ($p < .001$). All generations followed this trend. This was one of the top five rated responsibilities by teachers. However, teachers did not rate any generation of principals significantly higher or lower than the others in this area under 1st order change conditions.

16. Order (1st Order Change).

Definition: establishes a set of standard operating procedures and routines. *All Principals* tended to rate themselves higher on average compared to teachers by + 0.24 ($p < .001$). All generations followed this trend. This responsibility had one of the four largest differences between principal and teacher opinions. This could indicate that principals in general think they are establishing a set of standard operating procedures and routines more than teachers think they are. Teachers did not rate any generation of principals significantly higher than the others in this area, but they did rate one as significantly lower.

Teachers perceived Gen-X principals as having – 0.08 ($p < .001$) less capacity on average than all other principals in this area especially Baby Boomers. Gen-X principals did rate themselves relatively low in this area at an average of 4.04. This could indicate that under 1st order change conditions, teachers perceived that average Gen-X principals seem slightly less adept at establishing a set of standard operating procedures and routines than some other generations, but it that average Gen-X principals do seem aware of the need to increase their capacity in this responsibility.

17. Outreach (1st Order Change).

Definition: is an advocate and spokesperson for the school to all stakeholders. *All Principals* tended to rate themselves very similarly to teachers in this area. All generations followed this trend. This was one of the top five rated responsibilities by teachers. However,

teachers did not rate any generation of principals significantly higher or lower than the others in this area under 1st order change conditions.

18. Relationship (1st Order Change).

Definition: demonstrates an awareness of the personal aspects of teachers and staff. *All Principals* tended to rate themselves higher on average compared to teachers by + 0.17 ($p < .001$). All generations followed this trend. This was one of the lowest five rated responsibilities by teachers. However, teachers did not rate any generation of principals significantly higher or lower than the others in this area under 1st order change conditions.

19. Resources (1st Order Change).

Definition: provides teachers with materials and professional development necessary for the successful execution of their jobs. Gen-X principals tended to rate themselves very similarly to teachers in this area while all other generations rated themselves higher by about + 0.11 ($p < .001$). This could indicate that Gen-X principals may be more in accord with teachers concerning the need to provide resources than other generations. This was one of the top five rated responsibilities by teachers. However, teachers did not rate any generation of principals significantly higher or lower than the others in this area under 1st order change conditions.

20. Situational Awareness (1st Order Change).

Definition: is aware of the details and undercurrents in the running of the school and uses this information to address current and potential problems. *All Principals* tended to rate themselves higher on average compared to teachers by + 0.16 ($p < .001$). All generations followed this trend. Teachers did not rate any generation of principals significantly higher or lower than the others in this area under 1st order change conditions.

21. Visibility (1st Order Change).

Definition: has quality contact and interactions with teachers and students. *All Principals* tended to rate themselves higher on average compared to teachers by + 0.24 ($p < .001$). All generations followed this trend. This responsibility had one of the four largest differences between principal and teacher opinions. This could indicate that principals in general may think

they are providing enough quality contact and interactions with teachers and students more than teachers think they are.

Teachers rated Generation Jones principals significantly higher and Baby Boomers lower than the others in this area under 1st order change conditions. Teachers perceived Generation Jones principals as having + 0.09 ($p < .001$) higher capacity than the average of *All Principals* and Baby Boomers in particular. However, they were not considered significantly higher than Gen-X principals in particular. This may indicate a difference in the way Gen-X and Jones principals were trained compared to Baby Boomer principals.

Along with the high ratings of teachers, Generation Jones principals rated themselves relatively high in this area at an average of 4.40. This could indicate that under 1st order change conditions, average Generation Jones principals are perceived as slightly more adept at providing enough quality contact and interactions with teachers and students than average Baby Boomer principals.

Teachers perceived average Baby Boomer principals as having – 0.14 ($p < .001$) less capacity on average than all other principals in this area, but Baby Boomers rated themselves much higher than teachers by + 0.31 ($p < .001$). This could indicate that under 1st order change conditions, average Baby Boomer principals may be perceived as slightly less adept at providing enough quality contact and interactions with teachers and students than some other generations, but they see themselves as much more adequate in this area under 1st order change conditions than teachers see them.

Findings by Leadership Responsibility – 2nd Order Change.

Findings for each of the 21 leadership responsibilities under 2nd order change conditions are described below. Definitions of the leadership responsibilities below are from Waters, Marzano, and McNulty (2003). Compared to 1st order change, the transformational and disruptive nature of 2nd order change seems to have brought to light some more poignant results.

1. Affirmation (2nd Order Change).

Definition: recognizes and celebrates school accomplishments and acknowledges failures. *All Principals* tended to rate themselves higher by + 0.27 ($p < .001$), on average, when compared to teachers. All generations followed this trend except Gen-X which tended to rate themselves higher compared to teachers, yet significantly less so at about ¼ the amount of any of the other generations by + 0.08 ($p < .011$).

Teachers rated Gen-X principals significantly higher than the others in this area. Teachers perceived Gen-X principals as having + 0.15 ($p < .002$) higher capacity on average than *All Principals* in this area, especially Generation Jones. However, Gen-X principals rated themselves lower than other generations in this area under 2nd order change conditions, indicating that they may see more potential for growth in this area. These higher teacher ratings could indicate that under 2nd order change conditions, average Gen-X principals seem slightly more willing to recognize and celebrate school accomplishments and acknowledges their school's shortcomings.

2. Change Agent (2nd Order Change).

Definition: is willing to and actively challenges the status quo. The average of *All Principals'* self-rating was very similar to the average teacher perception ratings in this area. However, average Gen-X principals tended to rate themselves lower by about – 0.17 ($p < .001$) while average Generation Jones and Baby Boomers principals tended to rate themselves higher by about + 0.14 ($p < .001$). This could indicate a generational gap in which some principals want slightly more change while others think they are already leading enough change compared to their teachers' perceptions.

Teachers rated Gen-X principals significantly higher and Generation Jones lower than the others in this area under 2nd order change conditions. Teachers perceived Gen-X principals as having + 0.23 ($p < .001$) higher capacity on average than *All Principals* in this area, especially when compared to Generation Jones and Baby Boomers. This large statistically significant difference could be a contributing factor to Gen-X principals' overall perceived propensity for 2nd

order change. This result seems to imply that, under 2nd order change conditions, teachers perceived their average Gen-X principals as slightly more willing, and actively challenging, the status quo.

Teachers perceived Generation Jones principals as having – 0.14 ($p < .001$) less capacity on average than all other principals in this area, especially Gen-X. This could indicate that under 2nd order change conditions, average Generation Jones principals may be perceived as slightly less willing to occasionally challenge the status quo compared to some other generations. Generation Jones principals did not rate themselves especially high or low in this area, as compared to the other generations. The Baby Boomer principals rated themselves the highest (3.76), but their teachers (3.60) did not completely agree with such high ratings as they rated them significantly lower.

3. Communication (2nd Order Change).

Definition: establishes strong lines of communication with teachers and among students. This responsibility was found to be negatively factored with 2nd order change by Waters, Marzano, and McNulty (2003). *All Principals* tended to substantially rate themselves higher by + 0.49 ($p < .001$) on average, when compared to teachers in this area. All generations followed this trend. This responsibility had one of the four largest differences between principal and teacher opinions with the largest over-ratings found in the Jones and Baby Boomer Generation cohorts. This could indicate that under 2nd order change conditions, principals in general think they are establishing strong lines of communication more often than teachers seem to perceive them to be.

Teachers rated Gen-X principals significantly higher and Generation Jones lower than the others in this area under 2nd order change conditions. Teachers perceived Gen-X principals as having + 0.13 ($p < .011$) higher capacity on average than *All Principals* in this area, especially Generation Jones. This result seems to imply that teachers may perceive their average Gen-X principals as slightly more adept at establishing strong lines of communication with teachers and among students than some other generations.

Teachers perceived Generation Jones principals as having -0.16 ($p < .001$) less capacity on average than all other principals in this area, especially Gen-X. This could indicate that under 2nd order change conditions, teacher perceive average Generation Jones principals as slightly less adept at establishing strong lines of communication with teachers and among students than some other generations.

4. Contingent Rewards (2nd Order Change).

Definition: recognizes and rewards individual accomplishments. *All Principals* tended to rate themselves higher by $+0.35$ ($p < .001$), on average, when compared to teachers. All generations followed this trend.

Teachers rated Gen-X principals significantly higher than the others in this area under 2nd order change conditions. Teachers perceived Gen-X principals as having $+0.12$ ($p < .001$) higher capacity on average than all other principals in this area, especially Generation Jones. Gen-X principals did not rate themselves especially high or low in this area. This could indicate that under 2nd order change conditions, teachers perceive average Gen-X principals as recognizing and rewarding individual accomplishments slightly more than some other generations.

5. Culture (2nd Order Change).

Definition: fosters shared beliefs and a sense of community and cooperation. This responsibility was found to be negatively factored with 2nd order change by Waters, Marzano, and McNulty (2003).

All Principals tended to rate themselves higher by $+0.21$ ($p < .001$), on average, when compared to teachers. However, average Gen-X principals tended to rate themselves very similarly to their teachers while average Generation Jones and Baby Boomer Generation principals tended to rate themselves higher by about $+0.32$ ($p < .001$). This could indicate a generational gap in how some generations perceive the fostering of shared beliefs and sense of community and cooperation in their schools under 2nd order change conditions. Perhaps average Generation Jones and Baby Boomer principals see this as an important area but their teachers

seem to believe that their average Generation Jones and Baby Boomer principals are not putting this responsibility into practice as much as these principals think they are.

Teachers rated Gen-X principals significantly higher and Generation Jones lower than the others in this area under 2nd order change conditions. Teachers perceived Gen-X principals as having + 0.13 ($p < .001$) higher capacity on average than *All Principals* in this area, especially Generation Jones and Baby Boomer principals. This result seems to imply that, under 2nd order change conditions, teachers perceive their average Gen-X principals as slightly more adept at fostering shared beliefs and a sense of community and cooperation than some other generations.

Teachers perceived Generation Jones principals as having – 0.11 ($p < .001$) less capacity on average than all other principals in this area, especially Gen-X. This could indicate that under 2nd order change conditions, teacher perceive average Generation Jones principals as significantly less adept at fostering shared beliefs and a sense of community and cooperation than some other generations.

6. Discipline (2nd Order Change).

Definition: protects teachers from issues and influences that would detract from their teaching time or focus. *All Principals* tended to rate themselves higher by + 0.35 ($p < .001$), on average, when compared to teachers. All generations followed this trend. This was one of the lowest five rated responsibilities by teachers. However, teachers did not rate any generation of principals significantly higher or lower than the others in this area under 2nd order change conditions.

7. Flexibility (2nd Order Change).

Definition: adapts his or her leadership behavior to the needs of the current situation and is comfortable with dissent. *All Principals* tended to substantially rate themselves higher by + 0.55 ($p < .001$), on average, when compared to teachers. All generations followed this trend. This responsibility had one of the four largest differences between principal and teacher opinions with the largest over-ratings found in the Jones and Baby Boomer Generation cohorts. This could indicate that under 2nd order change conditions, principals in general think they are adapting their

leadership behavior to the needs of the current situation and are comfortable with dissent more than teachers think they are.

Teachers rated Gen-X principals significantly higher and Generation Jones lower than the others in this area. Teachers perceived Gen-X principals as having + 0.19 ($p < .001$) higher capacity on average than *All Principals* in this area, especially when compared to Generation Jones and Baby Boomer principals. This result seems to imply that, under 2nd order change conditions, teachers perceive their average Gen-X principals as slightly more willing to adapt their leadership behavior to the needs of the current situation and are slightly more comfortable with dissent than some other generations. Managing personal transitions created by 2nd order change is not the same as managing change (Bridges, 1991). It requires flexibility in leadership approaches. This indicates that they must be flexible in their approach to leadership and differentiate their leadership behaviors by being directive or non-directive as needed. It also indicates that they must find a balance between setting direction for the school and listening to beliefs and opinions that differ and even sometimes oppose their own. This finding might indicate a high capacity perception of flexible transition management of Gen-X principals compared to the other generations.

Teachers perceived Generation Jones principals as having – 0.15 ($p < .006$) less capacity on average than all other principals in this area, especially Gen-X. This could indicate that under 2nd order change conditions, teachers perceive average Generation Jones principals as significantly less willing to adapt their leadership behavior to the needs of the current situation and are perceived as less comfortable with dissent than some other generations.

8. Focus (2nd Order Change).

Definition: establishes clear goals and keeps those goals in the forefront of the school's attention. The average of *All Principals'* self-rating was very similar to the average teacher perception ratings in this area under 2nd order change conditions. All generations followed this similar rating except Gen-X principals. Average Gen-X tended to rate themselves lower by about – 0.22 ($p < .001$) in this area. This could indicate that while teachers may find Gen-X's

establishment of clear goals sufficient and that those goals are at the forefront of the school's attention, the average Gen-X principal feels that this area still needs some more improvement.

This was one of the top five rated responsibilities by teachers. Teachers rated Gen-X principals significantly higher and Generation Jones lower than the others in this area under 2nd order change conditions. Teachers perceived Gen-X principals as having + 0.12 ($p < .001$) higher capacity on average than *All Principals* in this area, especially when compared to Generation Jones principals. This result seems to imply that, under 2nd order change conditions, teachers perceive their average Gen-X principals as slightly more adept at establishing clear goals and keeping those goals in the forefront of the school's attention than some other generations.

Teachers perceived Generation Jones principals as having – 0.15 ($p < .001$) less capacity on average than all other principals in this area, especially Gen-X and Baby Boomers. This could indicate that under 2nd order change conditions, teachers perceive average Generation Jones principals as slightly less adept at establishing clear goals and keeping those goals in the forefront of the school's attention than some other generations.

9. Ideals and Beliefs (2nd Order Change).

Definition: communicates and operates from strong ideals and beliefs about schooling. This was one of the top five rated responsibilities by teachers. *All Principals* tended to rate themselves higher by + 0.35 ($p < .001$), on average, when compared to teachers. All generations followed this trend. Baby Boomer principals rated themselves highest in this area at an average of 4.42, indicating a possibly strong desire to hold strong ideals and beliefs about schooling and to apply them in their leadership. The review of the literature on Baby Boomers was very clear about how strongly they tended to hold their ideals and beliefs.

Teachers rated Gen-X principals significantly higher and Generation Jones lower than the others in this area. Teachers perceived Gen-X principals as having + 0.10 ($p < .012$) higher capacity on average than *All Principals* in this area, especially Generation Jones principals. This result seems to imply that, under 2nd order change conditions, teachers perceive their average

Gen-X principals as slightly more clear about communicating and operating from strong ideals and beliefs about schooling with their staff than some other generations.

Teachers perceived Generation Jones principals as having -0.14 ($p<.001$) less capacity on average than all other principals in this area, especially Gen-X and Baby Boomers. This could indicate that under 2nd order change conditions, teachers perceive average Generation Jones principals as slightly less likely to be clear in their communications about their plans to operate from strong ideals and beliefs about schooling with their staff than some other generations.

10. Input (2nd Order Change).

Definition: involves teachers in the design and implementation of important decisions and policies. This responsibility was found to be negatively factored with 2nd order change by Waters, Marzano, and McNulty (2003). *All Principals* tended to significantly rate themselves higher by $+0.55$ ($p<.001$), on average, when compared to teacher ratings. All generations followed this trend. However, Generation Jones and Baby Boomers principals tended to self-rate their capacity higher in this area by about twice as much as Gen-X principals.

This responsibility had one of the four largest differences between principal and teacher opinions with the largest overratings found in the Jones and Baby Boomer Generational cohorts. This could indicate that under 2nd order change conditions, principals in general think that they are involving teachers in the design and implementation of important decisions and policies significantly more than teachers prefer.

This was also one of the lowest five rated responsibilities by teachers. However, teachers rated Gen-X principals significantly higher than *All Principals*, Generation Jones, and Baby Boomers in this area under 2nd order change conditions. Teachers perceived Gen-X principals as having $+0.18$ ($p<.001$) higher capacity on average than *All Principals*, Generation Jones, and Baby Boomer principals in this area. This result seems to imply that, under 2nd order change conditions, teachers perceive their average Gen-X principals as involving teachers in the design and implementation of important decisions and policies somewhat more often than other generations.

11. Intellectual Stimulation (2nd Order Change).

Definition: ensures faculty and staff are aware of the most current theories and practices and makes the discussion of these a regular aspect of the school's culture. The average of *All Principals'* self-rating was very similar to the average teacher perception ratings in this area. However, average Gen-X principals tended to rate themselves lower by about -0.12 ($p<.001$) and average Jones and Baby Boomer principals tended to rate themselves higher by about $+0.12$ ($p<.001$). This could indicate a generational gap in which average Gen-X principals want to provide slightly more intellectual stimulation to faculty and staff while average Generation Jones and Baby Boomer principals think they are already providing enough compared to their teachers' perceptions.

Teachers rated Gen-X principals significantly higher and Generation Jones lower than the others in this area under 2nd order change conditions. Teachers perceived Gen-X principals as having $+0.13$ ($p<.001$) higher capacity on average than *All Principals* in this area, especially Generation Jones principals. This result seems to imply that, under 2nd order change conditions, teachers perceive their average Gen-X principals as making slightly more sure they are aware of the most current theories and practices and making the discussion of these a slightly more regular aspect of the school's culture than some other generations.

Teachers perceived Generation Jones principals as having -0.13 ($p<.002$) less capacity on average than all other principals in this area, especially Gen-X. This could indicate that under 2nd order change conditions, teachers perceive average Generation Jones principals as ensuring slightly less awareness of the most current theories and practices and how to make the discussion of these a slightly less regular aspect of the school's culture than some other generations.

12. Involvement in Curriculum, Instruction, and Assessment (2nd Order Change).

Definition: is directly involved in the design and implementation of curriculum, instruction, and assessment practices. *All Principals* tended to rate themselves higher by $+0.35$ ($p<.001$), on average, when compared to teachers. All generations followed this trend. While average Gen-X

principals did rate themselves higher by + 0.20 ($p < .001$), this was less than half of the over-ratings by Jones and Baby Boomer principals.

This was also one of the lowest five rated responsibilities by teachers. However, teachers rated Gen-X principals significantly higher and Generation Jones lower than the others in this area. Teachers perceived Gen-X principals as having + 0.19 ($p < .001$) higher capacity on average than *All Principals* in this area, especially when compared to Generation Jones principals. This result seems to imply that, under 2nd order change conditions, teachers perceive their average Gen-X principals as possibly more involved in the design and implementation of curriculum, instruction, and assessment practices than some other generations.

Teachers perceived Generation Jones principals as having – 0.17 ($p < .001$) less capacity on average than all other principals in this area, especially when compared to Gen-X. This could indicate that, under 2nd order change conditions, average Generation Jones principals seem slightly less involved in the design and implementation of curriculum, instruction, and assessment practices than some other generations according to teacher perceptions.

13. Knowledge of Curriculum, Instruction, and Assessment (2nd Order Change).

Definition: is knowledgeable about current curriculum, instruction, and assessment practices. *All Principals* tended to rate themselves higher by + 0.22 ($p < .001$), on average, when compared to teachers. All generations followed this trend. While average Gen-X principals did rate themselves higher by + 0.09 ($p < .001$), average Jones and Baby Boomer principals rated themselves higher by about three times as much.

This was also one of the top five rated responsibilities by teachers. However, teachers rated Gen-X principals significantly higher and Generation Jones lower than the others in this area under 2nd order change conditions. Teachers perceived Gen-X principals as having + 0.15 ($p < .001$) higher capacity on average than *All Principals* in this area, especially when compared to Generation Jones principals. This result seems to imply that, under 2nd order change conditions, teachers perceived their average Gen-X principals as slightly more knowledgeable about current curriculum, instruction, and assessment practices than some other generations.

Teachers perceived Generation Jones principals as having -0.17 ($p<.001$) less capacity on average than all other principals in this area, especially Gen-X and Baby Boomers. This could indicate that under 2nd order change conditions, teachers perceive average Generation Jones principals as slightly less knowledgeable about current curriculum, instruction, and assessment practices than some other generations.

14. Monitors and Evaluates (2nd Order Change).

Definition: monitors the effectiveness of school practices and their impact on student learning. The average of *All Principals'* self-rating was very similar to the average teacher perception ratings in this area. However, average Gen-X principals tended to rate themselves lower by about -0.14 ($p<.001$) while Jones and Baby Boomer principals tended to rate themselves higher by about $+0.11$ ($p<.001$). This could indicate a generational gap in which average Jones and Baby Boomer principals believe they are doing enough to monitor the effectiveness of school practices and their impact on student learning while average Gen-X principals might feel that more should be done in this area when compared to the average perceptions of their teachers.

Teachers rated Gen-X principals significantly higher and Generation Jones lower than the others in this area under 2nd order change conditions. Teachers perceived Gen-X principals as having $+0.15$ ($p<.001$) higher capacity on average than *All Principals* in this area, especially when compared to Generation Jones principals. This result seems to imply that, under 2nd order change conditions, teachers perceive their average Gen-X principals as monitoring the effectiveness of school practices and their impact on student learning slightly more than some other generations.

Teachers perceived Generation Jones principals as having -0.14 ($p<.001$) less capacity on average than all other principals in this area, especially Gen-X. This could indicate that under 2nd order change conditions, teachers perceive average Generation Jones principals as seeming to monitor the effectiveness of school practices and their impact on student learning slightly less than some other generations.

15. Optimize (2nd Order Change).

Definition: inspires and leads new and challenging innovations. *All Principals* tended to rate themselves higher by + 0.38 ($p < .001$), on average, when compared to teachers. All generations followed this trend.

This was also one of the top five rated responsibilities by teachers. However, teachers rated Gen-X principals significantly higher and Generation Jones lower than the others in this area. Teachers perceived Gen-X principals as having + 0.16 ($p < .001$) higher capacity on average than *All Principals* in this area, especially when compared to Generation Jones and Baby Boomer principals. This result seems to imply that, under 2nd order change conditions, teachers perceive their average Gen-X principals as inspiring and leading new and challenging innovations somewhat more than some other generations.

Teachers perceived Generation Jones principals as having – 0.11 ($p < .005$) less capacity on average than all other principals in this area, especially when compared to Gen-X. This could indicate that under 2nd order change conditions, teachers perceive their average Generation Jones principals as inspiring and leading new and challenging innovations slightly less often than some other generations.

16. Order (2nd Order Change).

Definition: establishes a set of standard operating procedures and routines. This responsibility was found to be negatively factored with 2nd order change by Waters, Marzano, and McNulty (2003). *All Principals* tended to rate themselves higher by + 0.30 ($p < .001$), on average, when compared to teachers. All generations followed this trend. But, the average Generation Jones and Baby Boomer Generation principals rated themselves higher by about four times as much as Gen-X principals in this area under 2nd order change conditions. This may indicate that Gen-X principals are more in sync with teachers on the relative importance of this responsibility.

This was one of the lowest five rated responsibilities by teachers. However, teachers did not rate any generation of principals significantly higher or lower than the others in this area.

17. Outreach (2nd Order Change).

Definition: is an advocate and spokesperson for the school to all stakeholders. *All Principals* tended to rate themselves higher by + 0.24 ($p < .001$), on average, when compared to teachers. All generations followed this trend. But, the average Generation Jones and Baby Boomer Generation principals rated themselves higher by about three times as much as Gen-X principals in this area. This may indicate that Gen-X principals are more in sync with teachers on the relative importance of this responsibility.

This was one of the top five rated responsibilities by teachers. However, teachers did not rate any generation of principals significantly higher or lower than the others in this area under 2nd order change conditions.

18. Relationship (2nd Order Change).

Definition: demonstrates an awareness of the personal aspects of teachers and staff. *All Principals* tended to rate themselves higher by + 0.37 ($p < .001$), on average, when compared to teachers. All generations followed this trend. But, the average Generation Jones and Baby Boomer Generation principals rated themselves higher by about two times as much as Gen-X principals in this area. This was also one of the lowest five rated responsibilities by teachers. Teachers did not rate any generation of principals significantly higher than the others in this area, but they did rate one as significantly lower.

Teachers perceived Generation Jones principals as having – 0.13 ($p < .003$) less capacity on average than all other principals in this area especially when compared to Gen-X. This could indicate that under 2nd order change conditions, teachers perceive Generation Jones principals as demonstrating less of an awareness of the personal aspects of teachers and staff than some other generations.

19. Resources (2nd Order Change).

Definition: provides teachers with materials and professional development necessary for the successful execution of their jobs. *All Principals* tended to rate themselves higher by + 0.25 ($p < .001$), on average, when compared to teachers. However, Gen-X rated themselves the same

as the teacher perceptions while Generation Jones and Baby Boomer principals tended to rate themselves higher by about + 0.38 ($p < .001$). This could indicate a generational gap in which the average Gen-X principal believes that slightly more materials and professional development are necessary for the successful execution of the teachers' jobs when compared to the average Generation Jones and Baby Boomers principals who may believe that they are already providing enough resources compared to their teachers' perceptions.

Teachers rated Gen-X principals significantly higher and Generation Jones lower than the others in this area under 2nd order change conditions. Teachers perceived Gen-X principals as having + 0.21 ($p < .001$) higher capacity on average than *All Principals* in this area, especially Generation Jones and Baby Boomer principals. This result seems to imply that, under 2nd order change conditions, teachers perceive Gen-X principals as providing slightly more materials and professional development necessary for the successful execution of the teachers' jobs than some other generations.

Teachers perceived Generation Jones principals as having – 0.16 ($p < .001$) less capacity on average than all other principals in this area, especially Gen-X. This could indicate that under 2nd order change conditions, teachers perceive Generation Jones principals as providing slightly less materials and professional development for the successful execution of the teachers' jobs than some other generations.

20. Situational Awareness (2nd Order Change).

Definition: is aware of the details and undercurrents in the running of the school and uses this information to address current and potential problems. *All Principals* tended to substantially rate themselves higher by + 0.44 ($p < .001$), on average, when compared to teacher ratings. All generations followed this trend. This responsibility had one of the four largest differences between principal and teacher opinions with the largest overratings found in the Jones and Baby Boomer Generational cohorts. This could indicate that under 2nd order change conditions, principals in general think they're more aware of the details and undercurrents in the running of

the school than teachers think they are and that they use this information to address current and potential problems more than teachers believe they do.

Teachers rated Gen-X principals significantly higher and Generation Jones lower than the others in this area under 2nd order change conditions. Teachers perceived Gen-X principals as having + 0.10 ($p < .005$) higher capacity on average than *All Principals* in this area, especially Generation Jones. This result seems to imply that teachers perceive their average Gen-X principals as slightly more adept at being aware of the details and undercurrents in the running of the school and using this information to address current and potential problems than some other generations.

Teachers perceived Generation Jones principals as having – 0.10 ($p < .004$) less capacity on average than all other principals in this area, especially Gen-X. This could indicate that under 2nd order change conditions, teachers perceive average Generation Jones principals as slightly less adept at being aware of the details and undercurrents in the running of the school and using this information to address current and potential problems than some other generations.

21. Visibility (2nd Order Change).

Definition: has quality contact and interactions with teachers and students. *All Principals* tended to rate themselves higher by + 0.43 ($p < .001$), on average, when compared to teacher ratings. All generations followed this trend.

Teachers rated Gen-X principals significantly higher and Generation Jones lower than the others in this area under 2nd order change conditions. Teachers perceived Gen-X principals as having + 0.18 ($p < .002$) higher capacity than *All Principals* in this area, especially Generation Jones. This result seems to imply that, under 2nd order change conditions, teachers perceive Gen-X principals as having quality contact and interactions with teachers and students slightly more often than some other generations.

Teachers perceived Generation Jones principals as having – 0.14 ($p < .001$) less capacity on average than all other principals in this area, especially Gen-X. This could indicate that under

2nd order change conditions, teachers perceive average Generation Jones principals as having less quality contact and interactions with teachers and students than some other generations.

The next chapter contains a discussion of these findings, relates some of the more significant findings to the information found in the review of the literature, and offers suggestions for future research.

Chapter 5 – Discussion and Conclusions

Generational influences are one of many aspects that may affect the capacity to lead change in schools. The goal of this study was to explore principal and teacher perceptions of leadership and change disaggregated by the generation of the leader. This awareness may help school leaders consider the effectiveness of actions relative to their generation. This awareness also may help educators adopt new behaviors and use reflective practice as a professional development strategy.

From a school organizational perspective, an understanding of possible generational influences on school leaders' capacity to lead change might improve the organization as a whole. It may also increase the efficacy of the individual leader as he/she becomes more aware of any positive and/or negative generational influences on change leadership.

This chapter discusses possible interpretations and conclusions. Five main areas are discussed: 1. descriptions of five major conclusions; 2. differences in change order perceptions between generations of principals and their teachers; 3. synopses of all principals' and each generation of principals' change leadership characteristics; 4. reflections on assumptions and limitation; and 5. recommendations for further research.

Five Major Conclusions

While many of the 21 Leadership Responsibilities investigated indicated more overlapping similarities than differences between the cognitive schemata of generations, some very interesting differences did appear. The previously discussed analysis and results include many details and statistics, but they can be compiled into five major conclusions:

1. A significant gap seems to exist between how principals judge the order of change they were leading and how their teachers perceived the same change. This gap was significantly + 5.48% ($p < .001$) more for Gen-X principals than all others.
2. While average ratings often differed, there was no apparent change order or generational influence on the top and bottom five leadership responsibility rankings for *All Principals*, and each generation group. The rankings were very similar for each group. Teachers rated the top five as *Outreach, Ideals & Beliefs, Optimize, Focus, and Knowledge of Curriculum/Instruction/Assessment* and the bottom five as *Relationships, Order, Discipline, Involvement in Curriculum/Instruction/Assessment, and Input*.
3. Principals tended to self-rate their leadership capacity significantly higher than average compared to their teachers' ratings, especially when they were thought to be leading 2nd order change. This occurred about three times more frequently in Generation Jones and Baby Boomer cohorts than the Gen-X cohort.
4. Teachers seemed to rate the leadership capacity of their Gen-X principals significantly lower than average in some responsibilities when they felt their principals were leading 1st order change. Conversely, teachers seemed to rate the leadership capacity of their Gen-X principals significantly higher than average in many responsibilities when they felt their principals were leading 2nd order change. This was especially evident in significantly high ratings for the responsibility of *Change Agent*.
5. Teachers seemed to rate the leadership capacity of their Generation Jones principals significantly higher than average when they felt their principals were leading 1st order change. Conversely, teachers seemed to rate the leadership capacity of their Generation Jones principals significantly lower than average when they felt their principals were leading 2nd order change.

Related to the first major conclusion, it seems that, regardless of one's generation, many principals and teachers do not report the order of change similarly. Based on these findings, it would appear that principals should not assume that teachers are experiencing the implications of

change in a similar manner as their leaders and should conduct formative assessments to gain a deeper understanding of exactly how the teacher are perceiving the order of change. These assessments may then allow them to adjust their leadership styles accordingly, using situational leadership approaches.

The second major conclusion focuses on aspects that teachers rate as the highest and lowest leadership responsibilities. Regardless of generation or order of change, it is helpful for principals to be aware of these areas and investigate how their teachers perceive their leadership in order to improve their own capacity to lead. For instance, if *Input* was the lowest rated leadership responsibility for *All Principals*, it was seen as an area of concern for teachers and should be looked closely at by principals as an opportunity for improvement.

The third major conclusion pertains especially when principals are leading 2nd order change. Principals in general, and especially Generation Jones and Baby Boomers, tended to rate their leadership capacity higher than their teachers. Principals in these groups may have a slightly more idealistic view of their 2nd order change leadership compared to their teachers. These results should assist principals in seeking feedback from teachers during 2nd order change initiatives and use situational leadership to assist teachers through the transition and may ease some of their concerns related to their principals' change leadership capacity.

The fourth major conclusions centers on Gen-X. Often, research findings lead to more questions. In this case, Gen-X principals should ask themselves how closely their personality matches with the cognitive schemata of Gen-X school leadership. If it matches closely, then they should reflect upon their leadership and ask themselves if teachers perceive them to lead better under 2nd order change conditions than 1st order change conditions. And if so, why is there a difference in perceptions? The answers to these questions may motivate Gen-X principals to improve their change leadership capacity.

The fifth major conclusions centers on Generation Jones. Like Gen-X, Generation Jones principals should ask themselves how closely their personality matches with the cognitive schemata of Generation Jones school leadership. If it matches closely, then they should reflect

upon their leadership and ask themselves if teachers perceive them to lead better under 1st order change conditions than 2nd order change conditions and if so, why? Again, the answers to these questions may motivate Generation Jones principals to improve their change leadership capacity.

Together, these major conclusions are useful in many ways. The professional development of principals may improve if supervisors have a more holistic understanding of the characteristics of those principals when they lead different orders of change. For instance, it would seem that principals tend to rate themselves higher in many leadership responsibilities than teachers do. Exploring the nature of this discrepancy may lead to a deeper understanding of what teachers want and need to be successful.

Understanding the generational tendencies of one's generation may help principals use reflective practice to improve their capacity to lead change. Principals could improve their change leadership capacity through reflective practice if they understand all of the influences on their leadership behavior including generational. The more a leader is aware of one's internal and external influences on their leadership tendencies, the more one may understand how their leadership can be improved. For instance, if Generation Jones principals are aware of their perceived lower than average capacity to lead 2nd order change, they can take more intentional steps to improve their change leadership such as concentrating on the responsibilities that are most vital for 2nd order change. Just because they fall within the birth ranges of Generation Jones, does not mean that they must mirror its general characteristics. As individuals, they can influence their own destiny and use the generational information to inform change in their own leadership practices.

Another use of these findings centers on the professional relationships between organizational leaders and subordinate leaders. Organizational leaders can build enriched professional relationships with their subordinate leaders by understanding the generational perspectives held by those subordinates. This way they can differentiate their leadership in order to set their principals up for success. For example, if Baby Boomer principals in general tend not to be as visible in classrooms as other generations, it may not be due to any lack of effort on their

part. It may just be an old influence from their principal preparation training. These principals can be advised or given new professional development that makes them more comfortable as hands-on instructional leaders and more visible throughout the school and in classrooms.

Under the informed leadership of the superintendent, an understanding of possible generational influences on school leaders' capacity to lead change may improve the organization as a whole. It may also increase the efficacy of the individual leader as he/she becomes more self-aware of any positive and/or negative generational influences on change leadership.

The next section on General Conclusions discusses specific areas such as change order and each generation. In addition to the major conclusions above, these areas also indicate significant differences in change leadership.

Implications

Change Order Summary.

Researchers such as Michael Fullan (2001), Ronald Heifetz & Martin Linsky (2002), Richard Beckhard & Wendy Pritchard (1992), William Bridges (1991), Frances Hesselbein & Rob Johnston (2002), David Nadler et. al. (1994), and Everett Rogers (2003) define 1st order change as those that involve the routine changes that go along with standard school management practices. They are the straightforward revisions, modifications, and adjustments a leader makes to keep an organization running smoothly. They also tend to be less stressful to implement. On the other hand, 2nd order changes don't just transform the processes, but also create new ones. These 2nd order changes require new learning, changes in value structures, and situational leadership. They are usually more difficult and stressful to implement than 1st order changes. These changes happen less often, but are the type needed to keep schools from becoming obsolete, complacent, and/or unimaginative as expectations and methods change for teaching and learning. Ideas for 2nd order change come from many different people who want schools to be innovative, resourceful, efficient, and inspired. This section focuses on the possible insights this study may have regarding school change theory.

In order to classify the change type, teachers rated a series of weighted statements according to their level of agreement about aspects of 1st or 2nd order change. They were not asked directly if the change was 1st or 2nd order. When the average ratings of teachers that felt the change was 1st order was compared to those that felt the change was 2nd order, all principals received significantly lower ratings on average when they were judged to be leading 2nd order change compared to 1st order change. In other words, teachers did not think as highly of their principals under 2nd order change conditions compared to 1st order change conditions.

The data clearly showed that the teacher rating means of leadership capacity in all areas declined on average when the principals were thought to be leading 2nd order change as compared to the perceptions of leadership capacity for principals thought to be leading 1st order change. Given the nature of 2nd order change, this was not a surprising finding. As mentioned earlier, the findings of Waters, Marzano, and McNulty (2003) indicated that the teacher perceptions of four leadership responsibilities are negatively factored with 2nd order change. These leadership responsibilities are *Communication*, *Culture*, *Order*, and *Input*. In this study, the teacher rating means of these four leadership responsibilities tended to have greater declines in mean leadership capacity ratings than the overall average of all 21 leadership responsibilities when 1st order change leadership was compared to 2nd order change leadership. This trend was evident in all groups. This indicated that teachers perceived their principal's capacity for these four responsibilities less favorably than the combination of all 21 leadership responsibilities. When leading 2nd order change, principals should be acutely aware of these four responsibilities and how teachers perceive them.

All of the generations seriously overestimated the order of change as 2nd order compared to the perceptions of their teachers (or the teachers underestimated the change). There were many possible reasons for this large gap between principals' estimations and teacher perceptions of change order. Often, before asking teachers to take the Balanced Leadership Profile survey, principals received extensive professional development in change leadership including the concepts of 1st and 2nd order change. The principals may have been more cognizant of 1st and 2nd

order change concepts and thus they may have been more likely to classify the change as 2nd order for the majority of their staff.

All Principals and Generational Cohort Summaries.

Regardless of the order of change, *All Principals* were rated by their teachers most highly in a combination of five of six leadership responsibilities: *Outreach, Ideals and Beliefs, Optimize, Resources, Focus, and Knowledge of Curriculum/Instruction/Assessment*. Compared to *All Principals'* self-ratings under 1st order change conditions, principals tended to agree with the teacher ratings that *Outreach, Ideals and Beliefs, and Optimize* were the areas in which they had the most leadership capacity when leading 1st order change. However, principals' perceptions differed with teacher ratings on the *Resources* and *Focus* leadership responsibilities and instead, felt that *Communication* and *Visibility* were among their top five highest capacity leadership responsibilities. This was not a large disagreement as most teachers did rank these two areas in the upper half of all 21 leadership responsibilities.

While teacher-perceived rankings for the top five leadership responsibilities for *All Principals* were similar for 1st vs. 2nd order change, the principals' self-ratings were different under 1st and 2nd order change conditions. *All Principals* and all generations tended to rate themselves higher under 1st order change conditions compared to teacher ratings. However, four leadership responsibilities regularly deviated from this trend; principals tended to rate themselves lower compared to teacher perceptions in *Change Agent, Focus, Intellectual Stimulation, and Monitor and Evaluate* by – 0.09 to – 0.20. Under 1st order change conditions, this could indicate a greater desire of principals compared to teachers for focused and significant change based on research-informed decision making, consistent monitoring, and evaluation of the change's implementation. In other words, when you are leading only 1st order change, you may long for 2nd order change.

Under 2nd order change conditions, *All Principals* self-rated themselves highest in *Outreach, Ideals and Beliefs, Optimize, Flexibility, and Visibility*. The first three of these were consistent with the teacher-perceived ratings, while the last two responsibilities (*Flexibility* and

Visibility) were not. On average, teachers rated *Visibility* 7th and *Flexibility* 11th out of 21 responsibilities for *All Principals*.

The four responsibilities of *Input*, *Situational Awareness*, *Communication*, and *Flexibility* showed the largest four declines between the principals' self-ratings and teacher ratings, under 2nd order change conditions, by approximately – 0.51 ($p < .001$). This should be of concern to all principals. When leading 2nd order change, it behooves any principal to pay close attention to these four responsibilities and to realize that teachers may not view the principal's leadership capacity as highly in these areas as the principals may think. Also, three of these four are part of the group of eleven leadership responsibilities that Waters, Marzano, and McNulty (2003) found to be especially factored with 2nd order change (except *Situational Awareness*).

In addition to these general conclusions about *All Principals*, there were also some notable differences seen by generation of principal. The summaries below highlight statistically significant differences between *All Principals* and each generational cohort.

Millennial Generation.

The review of the literature described the Millennial Generation as a confident group longing for change. It also depicted them as capable of significant collaborative efforts such as shared leadership and political reform. This research does not confirm or dispute this description. Unfortunately, sample sizes were small for this generation and no statistically significant conclusions can be drawn from the teacher perception data on Millennial Generation principals leading change.

The only semi-reliable data for this generation in this study comes from the Millennial principals' self-ratings of their 2nd order change leadership with a sample size of 90 principal responses (1st order change samples were still too small). Under 2nd order change conditions, they rated themselves highest in *Ideals and Beliefs*, *Outreach*, *Optimize*, *Visibility*, and *Communication*. Based on these self-ratings, average Millennial Generation principals seem to think of themselves most highly as a sociable generation of principals that communicate and operate from strong ideals and beliefs about schooling as they inspire and lead new and

challenging innovations, while serving as strong school advocates and spokespersons for all stakeholders.

Unfortunately, no further conclusions about this generation can be drawn from the teacher perception data because it was unreliable, due to small sample sizes.

Gen-X.

The review of the literature described Gen-X as shrewd and skilled at change. It also depicted them as practical, analytical, skeptical, and demanding. They are said to want and give flexibility in their management style. They also are known to use a decisive, yet creative approach to problem solving. This research seems to confirm their propensity for leading substantial change and their tendency to be flexible leaders as both of these areas were rated significantly higher for Gen-X than other generations.

Under 1st order conditions, Gen-X principals rated themselves higher on average by + 0.09 ($p < .001$) for all responsibilities compared to teacher perception averages. While slightly less than the overratings of Generation Jones and Baby Boomer principals, it was a similar difference. However, under 2nd order change conditions, Gen-X principals tended to rate themselves higher by + 0.14 ($p < .001$) compared to teacher perception averages. Like all other generations of principals, they rate themselves higher more often under 2nd order conditions than 1st order conditions, but Gen-X principals rated themselves higher at about $\frac{1}{3}$ the amount of Generation Jones and Baby Boomer principals, when compared to teacher perceptions, under 2nd order conditions. This could mean that Gen-X principals have a slightly more pragmatic understanding of how their teachers view their leadership capacity under 2nd order change condition than some other generations.

Regardless of change order, Gen-X principals rated themselves highest in the same top five areas as *All Principals*. However, under 1st order change conditions, teachers' averages indicated that *Resources* was at a high capacity for Gen-X principals and was one of the top five leadership responsibilities, although Gen-X principals did not rate it in their top five, rating *Communication* more highly instead. Under 2nd order change conditions, teachers' indicated that

Resources and *Change Agent* were at a high capacity for Gen-X principals and were two of the top five leadership responsibilities, while Gen-X principals did not self-rate these in their top five. It would seem that teachers in this study felt that their Gen-X principals were very willing to lead change and provide the necessary resources to do so.

When Gen-X principals answered the survey questions on change order, they determined what they thought level of change was for the majority of their staff, based on their current change initiative. As shown on Table 10, Appendix B, all of the generations seriously overestimated the order of change as 2nd order compared to the perceptions of their teachers (or the teachers underestimated the change). As shown on Table 11, Appendix B, Gen-X significantly overestimated by + 5.48% ($p < .001$) more than the average of all the other generations of principals. This probably means that Gen-X principals often wanted to lead 2nd order changes and thought that more of the changes they led were 2nd order, but their teachers did not always see it that way. The teachers tended to view many of the changes Gen-X principals thought were major 2nd order changes as more routine 1st order changes. Perhaps since Gen-X principal's were perceived as having higher than average capacity to lead 2nd order change in many areas, a significant number of teachers felt less anxious about the change and thus rated it as a 1st order change.

Under 1st order change conditions, teachers perceived Gen-X principals as having significantly less than average capacity in five of the 21 leadership responsibilities. They were perceived as average in the other sixteen responsibilities. For 1st order change leadership, teachers perceived Gen-X principals as having lower than average leadership capacity in *Focus* – 0.11 ($p < .001$), *Ideals & Beliefs* – 0.08 ($p < .001$), *Knowledge of Curriculum/Instruction/Assessment* – 0.08 ($p < .001$), *Monitor & Evaluate* – 0.09 ($p < .001$), and *Order* – 0.08 ($p < .001$). This implies that average Gen-X principals may not have been at their best, when compared to other generations, when they were leading the common and routine changes required to keep a school organization running smoothly, especially in the aforementioned five leadership responsibilities. However, quite the opposite seems to be the case when Gen-X principals were leading 2nd order change.

The overall decline in the mean teacher ratings of all 21 leadership responsibilities when Gen-X principals were leading 2nd order change was – 0.26 ($p < .001$). This was not as large as the declines seen in the Baby Boomer and Jones groups which ranged from – 0.39 to – 0.51 respectively (see Table 20, Appendix B). As for the four leadership responsibilities Waters, Marzano, and McNulty (2003) found to be negatively factored with 2nd order change (*Input, Communication, Culture, and Order*), Gen-X had an average teacher-perceived decline in means of leadership capacity for these four responsibilities of – 0.34 ($p < .001$) when compared to the declines seen in Baby Boomer principals' – 0.49 ($p < .001$) and Jones principals' – 0.57 ($p < .001$) in the combined perceived leadership capacity means. It would seem that while all principals may struggle with maintaining high levels of leadership capacity during 2nd order change (as opposed to 1st order change), Gen-X principals may experience less of decline in perceived leadership capacity than some other generations.

Under 2nd order change conditions, Gen-X principals were rated considerably higher in *Change Agent* compared to *All Principals*. At a mean Likert rating of 3.81, Gen-X principals were ranked and rated higher than any other generation in *Change Agent* by a significant margin + 0.23 ($p < .001$). A pattern seems evident when Gen-X principals led 2nd order change with seventeen means of leadership capacity perceptions found to be higher than average and none lower. While 1st order changes did not seem to bring out the best in Gen-X principals, they did seem more adept than some generations at leading 2nd order changes, as perceived by their teachers.

From the seventeen leadership responsibilities that Gen-X principals were rated as having significantly higher leadership capacity in under 2nd order change conditions, *Change Agent* + 0.23 ($p < .001$), *Flexibility* + 0.19 ($p < .001$), *Input* + 0.18 ($p < .001$), *Involvement in Curriculum/Instruction/Assessment* + 0.19 ($p < .001$), *Resources* + 0.21 ($p < .001$), and *Visibility* + 0.18 ($p < .002$) were the top five, compared to the other generations. These five fit nicely together for leading significant changes in schools and serving as an instructional leader. They also seem

to be a reflection of the major themes prevalent in many of Gen-Xers' principal preparation programs.

Declining to follow the plant manager model grounded in empiricism, predictability, and scientific certainty, principal preparation programs redesigned their content to reflect transformational leadership that empowers others to bring about positive changes in schools. These programs recognized new roles for school leaders (e.g., facilitators, mentors, and coaches) requiring preparation that emphasizes curriculum and instruction, teaching and learning, the social context of education, school culture, and ethics (McCarthy, 2002, p. 206).

Evidently, teachers did not think as highly of Gen-X principals when the routine 1st order changes were occurring, but when 2nd order changes were needed, Gen-X seemed to shine. Yet they did not rate themselves as highly as some other generations. Gen-X may take change for granted (Rosen 2001; Kunreuther, 2008).

Generation Jones.

Breaking the traditional Baby Boomer Generation into two different groups is controversial. However, the review of the literature showed differences between the leading edge and trailing edge of the traditional Baby Boomer cohort, so it looked likely that this large group may not be homogeneous in its characteristics. The results of this study found enough statistically significant differences between Generation Jones and Baby Boomer principals to justify treating them as two distinct generational cohorts. Interestingly, the widely reported generation gap between Gen-X and the traditionally larger Baby Boomer group (encompassing Generation Jones), seemed to be more evident in this study between Gen-X and Generation Jones. Differences between Gen-X and this study's definition of Baby Boomers were less prevalent.

The review of the literature described Generation Jones as a skeptical group that grew up during times of difficult change. It also depicted them as yearning for better opportunities in work and family life. They are said to prefer compromise and cooperation over confrontation and revolution. They also are known to use a pragmatic approach to problem solving. This research seems to help confirm their purported harmonious management style.

Under 1st order conditions, Generation Jones principals rated themselves higher on average by + 0.13 ($p < .001$) for all responsibilities, when compared to teacher perceptions.

However, this number tripled under 2nd order change conditions where Generation Jones principals tended to rate themselves higher by + 0.39 ($p < .001$) compared to teacher perceptions. Like all other generations of principals, they rated themselves higher more often under 2nd order conditions than 1st order conditions, but Generation Jones principals rated themselves higher the most compared to other generations of principals, when compared to teacher perceptions under 2nd order conditions. Although, overratings by Baby Boomers were a close 2nd place at + 0.38 ($p < .001$) under 2nd order conditions. This may indicate a disconnect between how Generation Jones principals see themselves and how teachers rate them under 2nd order change leadership conditions.

Regardless of change order, Generation Jones principals rated themselves highest in the same top five areas as *All Principals*. However, under 1st order change conditions, teachers' averages indicated that *Focus* and *Resources* were at a high capacity for Generation Jones principals and were two of the top five leadership responsibilities, while Generation Jones principals did not rate them in their top five, rating *Communication* and *Visibility* more highly instead. This may mean that teachers are more satisfied with the focus and resources provided under 1st order Jones leadership conditions but that Jones principals are more concerned about their communication and visibility when leading 1st order change.

As shown on Table 10, Appendix B, all of the generations seriously overestimated the order of change as 2nd order compared to the perceptions of their teachers (or the teachers underestimated the change). However, Generation Jones principals overestimated less than all the other generational cohorts at a + 58.63% overestimation of 2nd order change implications. This was still a large overestimation, but other generations overestimated slightly more in the 60-64% range. This might imply that Generation Jones was slightly less inclined to label a change initiative as 2nd order, when compared to other generations of principals. Like the other generations of principals, teachers tended to view many of the changes Generation Jones principals viewed as major 2nd order changes, as more routine 1st order changes.

Under 1st order change conditions, teachers perceived Generation Jones as having significantly higher than average capacity in three of the 21 leadership responsibilities. They were perceived as average in the other eighteen responsibilities. For 1st order change leadership, teachers perceived Generation Jones principals as having higher than average leadership capacity in *Monitor & Evaluate* + 0.09 ($p < .001$), *Involvement in Curriculum/Instruction/Assessment* + 0.08 ($p < .001$), and *Visibility* + 0.09 ($p < .001$). This implies that average Generation Jones principals may be at their best, compared to other generations of principals, when they are leading the common and routine changes that are required to keep a school organization running smoothly, especially in the aforementioned three leadership responsibilities. However, quite the opposite seems to be the case when Generation Jones was leading 2nd order change. These three responsibilities also seem to fit well with an emphasis on being visible and involved in the classroom, which was likely a major theme of most Generation Jones' principal preparation programs.

The overall decline in the teacher-perceived means of all 21 leadership responsibilities when Generation Jones principals were leading 2nd order change was -0.51 ($p < .001$). This statistically significant difference in perceived leadership capacity was the largest compared to the other generations. As for the four leadership responsibilities Waters, Marzano, and McNulty (2003) found to be negatively factored with 2nd order change (*Input, Communication, Culture, and Order*), Generation Jones had an average decline in mean teacher ratings of -0.57 ($p < .001$) in their combined perceived leadership capacity. Again, this was the biggest decline among all of the generations.

When leading 2nd order change, Jones Generation principals were consistently perceived to have lower than average leadership capacity in fifteen of the 21 leadership responsibilities and average capacity in the other six, as compared to all other principals combined, (*All Principals* minus the Generation Jones data). A pattern seemed to emerge when Generation Jones principals led 2nd order change. While 1st order changes may have brought out the best in

average Generation Jones principals, 2nd order change leadership did not seem to be as strong for Generation Jones, as perceived by their teachers.

Of the fifteen leadership responsibilities that teachers perceived Generation Jones principals to have significantly lower leadership capacity in under 2nd order change conditions, *Involvement in Curriculum/Instruction/Assessment* – 0.17 ($p < .001$), *Knowledge of Curriculum/Instruction/Assessment* – 0.17 ($p < .001$), *Visibility* – 0.17 ($p < .001$) *Communication* – 0.16 ($p < .001$), and *Resources* – 0.16 ($p < .001$) were the lowest five compared to the other generations.

Again, this may be a reflection on their principal preparation, which occurred predominately in the 1980s and early 1990s. Perhaps “instructional leadership” took hold before “transformation change” themes did in principal preparation programs. “The prevalent managerial paradigm, under which administrators were trained, was not to challenge the status quo, but to maintain it, not to reconceptualize schools, but to reproduce them” (Cambron-McCabe, Mulkeen, & Wright, 1991, p. 202).

Baby Boomer Generation.

The review of the literature characterized the Baby Boomer Generation as driven and transcendent. It also depicted them as in conflict between their altruistic and narcissistic natures. It is said that that they espouse the virtues of collaborative leadership, but find it difficult to put into practice. They are also supposedly known to use a philosophical approach to problem solving. This research does not confirm nor dispute this description.

Under 1st order conditions, Baby Boomer Generation principals overrated their leadership capacity compared to teacher ratings by + 0.13 ($p < .001$) for all responsibilities. However, under 2nd order change conditions, Baby Boomer Generation principals tended to rate themselves significantly higher by + 0.38 ($p < .001$), when compared to teacher perception averages. Like all other generations of principals, they tended to rate themselves higher more often under 2nd order conditions than 1st order conditions, but this generation tended to overrate their 2nd order leadership capacity more than all generations except Generation Jones.

Regardless of change order, Baby Boomer Generation principals rated themselves highest in the same top five areas as *All Principals* with no significant deviations (*Outreach, Ideals and Beliefs, Optimize, Communication, and Visibility*).

As shown on Table 10, Appendix B, all of the generations seriously overestimated the order of change as 2nd order compared to the perceptions of their teachers (or the teachers underestimated the change). Baby Boomer Generation principals overestimated 2nd order change implications by + 60.46% compared to the perceptions of their staff. This was very close to the average of *All Principals*' overestimation. Like the other generations, teachers tended to view many of the changes Baby Boomer Generation principals thought were major 2nd order changes, as more routine 1st order changes.

Under 1st order change conditions, teachers perceived Baby Boomer principals as having average capacity in all 21 leadership responsibilities with one exception. They were perceived as significantly below average in *Visibility* – 0.14 ($p < .001$). Perhaps this lower rating in *Visibility* was due to the principal preparation training received by Baby Boomer principals. They may not have emphasized making the rounds in classrooms and the school in general as much as today's principal preparation programs do. Previous models of principal training may have focused on building management. Many of today's programs emphasize instructional leadership philosophies in their principal preparation curricula. However, "historically, principals have managed buildings without appreciating the value of collaborating with teachers to improve instructional practices," (Banta & Sapp, 2010, p. 41).

The overall decline in the means of all 21 leadership responsibilities when Baby Boomer Generation principals were leading 2nd order change was – 0.39 ($p < .001$). This decrease in perceived leadership capacity was average, when compared to the other generations. As for the four leadership responsibilities Waters, Marzano, and McNulty (2003) found to be negatively factored with 2nd order change (*Input, Communication, Culture, and Order*), Baby Boomers had an average decline in mean ratings of leadership capacity for these four responsibilities of – 0.49

($p < .001$) in their combined perceived leadership capacity means. This was a large decline, but not as large and the Jones Generations' decline of -0.57 ($p < .001$).

When leading 2nd order change, Baby Boomer Generation principals were consistently perceived as having average leadership capacity in all 21 leadership responsibilities. While statistically significant differences were found when Baby Boomer principals were compared one-to-one with some of the other generational cohorts, no significant differences were found between Baby Boomers and *All Principals* in means of perceived leadership capacity.

This implies that average Baby Boomer Generation principals are usually on par with *All Principals* when leading the common and routine changes that are required to keep a school organization running smoothly and when leading the 2nd order transformational changes sometimes needed for dramatic improvement. The exception being that the average Baby Boomer principal may not realize that teachers may not perceive them as having a high capacity in *Visibility*.

It was interesting to discover how similarly or dissimilarly Baby Boomers principals were rated compared to Jones Generation principals since many sociologists and demographers are not convinced that these two are truly separate generational cohorts. Under 1st order change conditions, statistically significant differences were found between these two generations in the leadership responsibilities of *Change Agent*, *Involvement in Curriculum/Instruction/Assessment*, *Monitor and Evaluate*, and *Visibility*. Under 2nd order change conditions, statistically significant differences were found between these two generations in the leadership responsibilities of *Focus*, *Ideals and Beliefs*, and *Knowledge of Curriculum/Instruction/Assessment*. These differences support the theories of some demographers and sociologies who believe they are separate generations. Thus, they also support this research's decision to treat them as two distinct generational cohorts.

Silent Generation.

The review of the literature described the Silent Generation as a group that considers the most important qualities of a leader to be perseverance, foresight, integrity, and honesty. They

are said to prefer discussions of process over outcomes. They are thought to be good diplomats, defusing conflict by encouraging people to talk to each other. This research does not confirm nor dispute this description.

The only semi-reliable data for this generation in this study comes from the Silent Generation principals' self-ratings of 2nd order change with a sample size of 39 principal responses. Unfortunately, the large majority of these principals did not pass this survey on to their teachers, so the teacher sample size was only six teacher responses for 2nd order change. The data for 1st order change was better for teacher perceptions with forty-four responses, but only two Silent Generation principals self-rated their leadership capacity under 1st order change conditions.

Under 2nd order change conditions, they rated themselves highest in *Outreach, Visibility, Optimize, Ideals and Beliefs, and Flexibility*. Based on these self-ratings, average Silent Generation principals seem to see themselves as a sociable and flexible generation that operates from strong ideals and beliefs about schooling as they inspire and lead new and challenging innovations, while serving as strong school advocates and spokespersons for all stakeholders.

Unfortunately, no further conclusions about this generation can be drawn from the teacher perception data because it was unreliable, due to small sample sizes.

While many these smaller findings were significant, especially related to specific leadership responsibilities, the aforementioned five major findings summarize the most important conclusions of this study.

Reflections on Assumptions and Limitations

It was assumed that grouping leaders using the cognitive schemata of generations would prove to be a productive way to categorize them in order to shed light on their varied characteristics; however, no category fully describes any individual. Stereotyping people according to age is precarious. Like grouping people according to gender, race, culture, or religion, one must be careful to keep the descriptions of generation in perspective. After all,

generational influences are only one of many slices of life experience that may influence someone's leadership behaviors. Analyzing a set of existing data can make controlling for confounding variables difficult. Some of these possible variables are differences in school settings, school levels, school types, educational backgrounds, and other demographical characteristics. These other variables were not cross-tabulated with the findings of this research. Therefore, it is possible that one or more of them had a strong effect on change leadership. For instance, perhaps female Gen-X principals did not show the same tendencies as all Gen-X principals combined.

Studying leadership by generation was difficult due to the many other possible influences on leadership behavior. It was very difficult to draw conclusions from empirical data about possible generational effects, given the confounding variable of age. The potential difficulties associated with age, however, do not mean that generations do not exist; only that it is difficult to gather and analyze evidence on their behalf.

Earlier-born cohorts not only grew up in different eras, they are now also older and more experienced. By contrast, cohorts born more recently are younger and have less experience. So, it was very difficult to determine which effects may be due to generational influences (a shared type of experience) and which might be influenced by years of experience (amount).

A particular limitation found during the data analysis was the description of the change initiative given to teachers as part of the survey. Principals did not always clearly describe the change initiative and all it entailed. Furthermore, the survey did not allow for a large amount of detailed text. Teachers determined the order for themselves based on the change's implications for them personally by rating a series of ten statements about the concepts of 1st and 2nd change such as "I currently have the knowledge and skills needed to implement this change," "I have the resources I need to support this change," and "This change will represent a significant challenge to how I do things." But enough information needed to be supplied for them to judge the implications for themselves. When in doubt, they may have chosen the simpler 1st order change, when they may have chosen 2nd order change if they had been given more information.

Finally, the small sample sizes of the Millennial (youngest) and Silent (oldest) generations posed a challenge. At the time of the data collection (2006-2011), there were few Millennial Generation principals in the profession. It was likely that most of the few that did exist were so new in their leadership that they were not eager to receive input from their teachers before they had been given a reasonable chance to implement their change initiatives. At the other end of the generational spectrum, most Silent Generation principals had retired and many of those still working were so close to retirement that gathering feedback from their teachers may have been a low priority for them. The combination of low numbers (due to their advanced age) and a lower likelihood of forwarding the survey to their teachers, made the sample sizes of these senior principals very small, when compared to the other three generations.

Contributions to the Body of Knowledge on Change Leadership

Few studies have looked specifically at the possible influences of generational schemata on school change leadership. This study used an existing data set on leadership capacity to investigate how teachers perceived their principals capacity to lead change under 1st and 2nd order change conditions. New information was found about how principals are perceived including a significant gap between how principals judge the order of change they are leading and how teachers perceived the same change, consistency in the top and bottom five ranked leadership responsibilities, principals' tendencies to self-rate their leadership capacity higher than average compared to their teachers' ratings, especially under 2nd order change conditions, teachers rating the leadership capacity of Gen-X principals lower than average under 1st order change conditions and higher than average under 2nd order change conditions, and teachers rating the leadership capacity of Generation Jones principals higher than average under 1st order, and lower than average under 2nd order, change conditions.

These findings deepen the knowledge base on generational cognitive schemata, school leadership, and change theory. Also, while many generational descriptions use a business perspective, this study allows school leaders to consider their leadership in relation to

generational schemata. Combined, these contributions may help principals become more reflective practitioners and therefore, improve their capacity to lead important changes in schools.

Recommendations for Further Research

These findings may help school leaders understand how their own, and other generations of school leaders, lead 1st and 2nd order change. This understanding may help leaders reflect upon their practice and identify generational patterns in their leadership style that they may not have noticed before. This reflection may help them target areas for growth and areas they can leverage as natural strengths. Possessing a deep knowledge of generational tendencies also may help one communicate more empathetically with people from other generations, especially in the case of leaders and followers. The findings of this study, others in the review of the literature, and future studies should be used to deepen the understanding of generational differences related to change leadership in order to improve the situational leadership effectiveness of principals.

Many opportunities exist for further research in this area. As mentioned, sample sizes for the Millennial and Silent Generations were too small in this study to be considered reliable and meaningful. While collecting data on Silent Generation principals gets harder with time, Millennial principals will become more common in the coming years and thus present researchers with an opportunity to study them in depth.

The data on generational leadership could also be studied in different groupings within generations such as gender, school level (elementary or secondary), locality, or ethnicity. This may lead to subtleties not found in this research.

Other opportunities exist for long-term research such as studies like *Tracing Baby Boomer Attitudes Then and Now - A Comparative Look at the Attitudes of Baby Boomers in the 1970s and 2002* by Davis, C. & Love, J. (2002). This kind of study tries to remove the confounding variable of age. A new study could be matched with this one in the future. The Balanced Leadership Profile is being slightly revised to improve its functionality. Hopefully, new

data from it can be used to revisit this study and see if its findings hold true over time, or change as generations age and new ones become principals.

While this study used teacher perception data of principal leadership, other perspectives could also be insightful, such as feedback from non-teaching staff, parents, or students. Any differences between their perceptions and that of the teachers/principals may add a different dimension to the findings on change leadership and how different generations are perceived.

Another opportunity awaits researchers in about fifteen years as the newest, (*Generation Z?*), grows up. At the time of this publication, they are in school, in elementary grades. Time will tell what tendencies this generation has and how they might lead schools differently.

Finally, it is this researcher's hope that studies of generational leadership continue and grow, providing more nuanced, valid, and reliable data. Part of this hope is that additional organizations take on the challenge of this type of sociological research so that it can go beyond the humble resources available to a single dissertation student.

References

- Abramson, P. R. (1985). *Value changing global perspective*. Ann Arbor, MI: University of Michigan Press.
- Adams, M. (1997). *Sex in the snow: Canadian social values at the end of the Millennium*. Toronto, Ontario: Penguin Books Canada Ltd.
- Alch, M. (2000). Get ready for the Net Generation. *Training and Development*, 54(2), p32-34.
- Allen, P. (2004). Welcoming Y. *Benefits Canada*, 28(9), 51-53.
- Almeida, D. M. (2006). Daily life stressors of early and late Baby Boomers. In S. W. Whitmore, *The Baby Boomers grow up* (165-184). Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Alwin, D. F. (2006). Studying baby boom cohorts within a demographic and developmental context: Conceptual and methodological issues. In S. W. Whitmore, *The Baby Boomers grow up* (45-71). Mahwah, NJ: Lawrence Erlbaum Associates.
- Argyris, C. and Schön, D. (1974). *Theory in practice: Increasing professional effectiveness*, San Francisco: Jossey-Bass.
- Arsenault, P. M. (2004). Validating generational differences: A legitimate diversity and leadership issue. *The Leadership & Organization Development Journal*, 25, 124–141.
- Asamen, J. K., Ellis, M. L., & Berry, G. L. (2008). Children and cognitive - Development of social schema. In J. K. Asamen, M. L. Ellis, & G. L. Berry, *Handbook of Child Development, Multiculturalism, and Media* (Chapter 3). Thousand Oaks, CA: Sage Publications, Inc.
- Aubrun, A. (2000). *How Americans understand teens: Findings from cognitive interviews*. Washington, DC: Frameworks Institute.
- Banta K. & Sapp, B. (2010). *The ripple effect of principal behavior*. Louisville, Kentucky: University of Louisville.
- Bartunek, J. M. & Mock, M. K. (1987). First-order, second-order, and third-order change and organization development interventions: A cognitive approach. *The Journal of Applied Behavioral Science*, 483-500.

- Bass, B. (1990). *Bass & Stogdill's handbook of leadership, theory, research, and managerial applications*. (3rd ed.). New York, NY: The Free Press.
- Bateson, Gregory. (1979). *Mind and nature: A necessary unity*. New York: Dutton.
- Beaudoin, T. (1998). *Virtual faith*. San Francisco, CA: Jossey-Bass.
- Beckhard, R., & Pritchard, W. (1992). *Changing the essence: The art of creating and leading fundamental change in organizations*. San Francisco: Jossey-Bass.
- Bengtson, V., Furlong, M., & Laufer, R. (1974). Time, aging and the continuity of social structure: Themes and issues in generational analysis. *Journal of Social Issues* 30(2) , 1-30.
- Bennis, W. (1994). *On becoming a leader*. New York: Perseus Books.
- Bergquist, William. (1993). *The modern organization: Mastering the art of irreversible change*. San Francisco: Jossey-Bass.
- Bishop, C. (2004). *Generational cohorts and cultural diversity as factors affecting leadership transition in organizations*. Deerfield, IL: Trinity Evangelical Divinity School.
- Block, P. (2003). *The answer to how is yes: Acting on what matters*. San Francisco: Berrett-Koehler Publishers.
- Bober, L. (2005). *A renewed focus on generational issues in the workplace*. Kutztown, P.A.: Kutztown University Department of Political Science and Public Administration.
- Bridges, W. (1991). *Managing transitions: Making the most of change*. Reading, M.A.: Addison-Wesley.
- Buckingham, M & Clifton, M. B. (2001). *Now discover your strengths*. New York: Free Press.
- Buckley, M. R., Beu, D. S., Novicevic, M. M., & Sigerstad, T. D. (2001). Managing generation next: Individual and organizational perspectives. *Review of Business*, 22(1/2), 81-85.
- Bulman, R. C. (2002). Teachers in the hood: Hollywood's Middle class fantasy. *Urban Review*, 34, 251-276.
- Cambron-McCabe, N., Mulkeen, T., & Wright, G. (1991). *A new platform for preparing school administrators*. St. Louis: The Danforth Foundation.

- Cha, E.Y. & Na, J.H. (2000). Changes in values and the generation gap between the 1970s and the 1990s in Korea. *Korea Journal*, 285-323.
- Chan, D.S.H. (2005). *Relationship between generation-responsive leadership behaviors and job satisfaction leadership behaviors and job satisfaction of generations X and Y professionals*. Ann Arbor, MI: University of Phoenix- ProQuest Information and Learning.
- Chance, E. (1992). *Visionary leadership in schools: Successful strategies for developing and implementing an educational vision*. Springfield, IL: Charles C. Thomas.
- Clarke, G. (1970). The Silent generation revisited. *Time Magazine*, June 29.
- Clurman, J. W. (1997). *Rocking the ages*. New York: Harper Business.
- Coggins, C., Zuckerman, S., & McKelvey, L. A. (2010). Holding on to gen Y. *Educational Leadership*, 70-74.
- Cohen, L., & Manion, L., (1980). *Research methods in education*, London: Groom Helm Ltd.
- Cole, J. (1999, November). The art of wooing gen-Xers. *HR Focus*, 7-8.
- Coll, J. (2007). *Generation Jones*. Retrieved February 26, 2011, from Project Britain: http://www.generationjones.co.uk/gen_jones.
- Collins, J. (2001). *Good to great*. New York: Harper Business.
- Conger, J. A. (1998). *How Gen-X managers manage*. *Strategy + Business*, Issue 10, January 1.
- Conger, J. A. (2001). *How Gen-X managers manage*. Upper Saddle River, NJ: Prentice Hall.
- Conley, D. T. (1993). *Road map to restructuring*. Eugene, OR: ERIC Clearinghouse on Educational Management.
- Covey, S. (1992). *Principle-centered leadership*. Hamden, CT: Fireside Press.
- Cufaude, J. B. (2000). Eager to attract more young people into your association membership? Here's the rhetoric and the reality about generational differences. *Association Management*, 52(1), 73-80.
- Cutler, N. (1992). Communication with worried older clients: The impact of generational diversity. *Journal of the American Society of CLU & ChFC*, 26-31.
- Daft, R. (1988). *Management*. Chicago, IL: Dryden Press.

- Davidoff, P. (1965). Advocacy and pluralism in planning. *Journal of the American Institute of Planners*.
- Davis, C. & Love, J. (2002). *Tracing baby boomer attitudes then and now - A comparative look at the attitudes of Baby Boomers in the 1970s and 2002*. AARP.
- Deal, J., Peterson, K., & Gailor-Loflin, H. (2001). *Emerging leaders*. Greensboro, NC: Center for Creative Leadership.
- DePree, M. (1989). *Leadership is an art*. New York, NC: Dell Publishing.
- Dubrin, A. (2004). *Leadership: Research findings, practice, and skills. (4th ed.)*. New York, NY: Houghton Mifflin.
- Dewey, J. (1933) How we think. A restatement of the relation of reflective thinking to the educative process (Revised edition.), Boston: D. C. Heath.
- Easterlin, R. A. (1985). *The fertility revolution: A supply-demand analysis*. Chicago: University of Chicago Press.
- Editors of New Strategist Publications. (2008). *American generations*. Ithaca, NY: New Strategist Publications.
- Engelbeen, D. J. (2006). Demography of the Baby Boomers. In S. L. Susan Krauss Whitbourne, *The Baby Boomers grow up (3-22)*. Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Elmore, R. (2000). *Building a new structure for school leadership*. Washington D.C.: The Albert Shanker Institute.
- Elsdon, R. &. (1999). Creating value and enhancing retention through employee development: The Sun Microsystems experience. *Human Resource Planning*, 22, 39-47.
- Erickson, T. J. (2010). The leaders we need now. *Harvard Business Review*.
- Esler, A. (1984). The truest community: Social generations as collective mentalities. *Journal of Political and Military Sociology* 12 , 99-112.
- Eslinger, M. R. (2000). *A multi-generational workplace: The differentiation of generations by the work values they possess*. Moscow, ID: University of Idaho.

- Fingerman, K. D.-M. (2006). The Baby Boomers and their parents: Cohort influences and intergenerational ties. In S. K. Whitbourne, *The Baby Boomers grow up* (237-259). Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Fink, D., & Brayman, C. (2006). School leadership succession and the challenges of change. *Educational Administration Quarterly*, 42(1), 62-89.
- Fiske, A. P. (1995). Social schemata for remembering people: Relationships and person attributes in free recall of acquaintances. *Journal of Quantitative Anthropology*, 305-324.
- Fismer, E. C. (2005). *Generation X leadership styles and job satisfaction in the information technology consulting industry*. Dallas: University of Phoenix.
- Flynn, J. R. (1999). Searching for justice: The discovery of IQ gains over time. *American Psychologist*, 54, 5-20.
- Foot, D. K. (1996). *Boom, bust and echo*. Toronto, Canada: Stoddart Publishing Co. Ltd.
- Fowler, G. W. (2003). Stone throwing in glass houses: When Baby Boomers met generation X. *Popular Culture Review*, 13(2), 37-51.
- Fullan, M. (1993). *Change forces: Probing the depths of educational reform*. London: Falmer Press.
- Fullan, M. (2001). *Leading in a culture of change*. San Francisco, CA: Jossey-Bass.
- Fullan, M. (2006). *Change theory: A force for school improvement*. Seminar Series Paper #157, Melbourne, Australia: Center for Strategic Education.
- Gage, A. J. (2005). *A phenomenological study of the leadership perceptions of the G.I. and Millennial generations*. Lincoln: University of Nebraska.
- Goben, A. (2003). *The X factor: Generation X Leadership in early 21st century American community colleges*. Austin, TX: The University of Texas.
- Gonzalez, C. J. (2006). *A causal comparative study of work ethic as a function of generational cohorts*. Ann Arbor, MI: University of Phoenix.
- Gordinier, J. (2008). *X saves the world*. London, England: Penguin Books Limited.

- Gravett, L., & Throckmorton, R. (2007). *Bridging the generation gap: How to get Radio Babies, Boomers, Gen Xers, and Gen Yers to work together and achieve more*. Franklin Lakes, NJ: Career Press.
- Hays, S. (1999). Generation X and the art of the reward. *Workforce*, 44-48, November.
- Heifetz, R. (1994). *Leadership without easy answers*. Cambridge, MA: Belknap Press of Harvard University Press.
- Heifetz, R., & Linsky, M. (2002). *Leadership on the line: Staying alive through the dangers of leading*. Boston: Harvard Business Review Press.
- Hersey, P., & Blanchard, K. H. (1977). *Management of organizational behavior 3rd edition—Utilizing human resources*. New Jersey: Prentice Hall.
- Hesselbein, F., & Johnston, R. (2002). *On leading change: A leader to leader guide*. San Francisco: Jossey-Bass.
- Hessen, C. N., & Lewis, B. J. (2001). Steps you can take to hire, keep, and inspire generation Xers. *Leadership and Management in Engineering*, 42-44, Winter.
- Hladun, H. (1990). The Class of 90' today's graduates need special handling. *Canadian Business*, 63 (3), 99-100.
- Hollister, M. (2009, August 8). Generation Jones: The unusual employment outcomes of the late Baby Boomers. *American Sociological Association Annual Meeting*. San Francisco, California: <http://www.allacademic.com>.
- Holman, R. (2003). *Identifying and comparing differences in the values of elementary school principals among Baby Boomers and generation Xers*. La Verne, CA: University of La Verne.
- Holtz, G. T. (1995). *Welcome to the jungle: The why behind generation X*. New York: St. Martin's Press.
- Hornblower, M. (1997). Great Xpectations of so-called slackers. *Time Magazine*, June 9.
- HR Focus. (2000, May). Is the Boomer/Gen-X war over? *HR Focus*, 1-13.

- Johnson, B., & Christensen, L. (2004). *Educational research: Quantitative, qualitative, and mixed approaches*. Boston, MA: Pearson Education Inc.
- Kanter, R. M. (2003). *The challenge of organizational change: How companies experience it and leaders guide it*. New York: Free Press.
- Kiechel, W. (1989). The workaholic generation. *Fortune*, 50-62, April 10.
- Kunreuther, Frances (2008). *Working across generations: Defining the future of nonprofit leadership*. San Francisco: Jossey-Bass.
- Kupperschmidt, B. (2000). Multigenerational employees: Strategies for effective management. *Health Care Manager*, 19, 65-76.
- Lambert, L., Walker, D., Zimmerman, D., Cooper, J., Lamber, M., Gardner, M., (2003). *The constructivist leader, 2nd edition*. Columbia, N.Y.: Columbia University.
- Lancaster, L. C., & Stillman, D. (2003). *When generations collide*. New York, NY : Collins Business.
- Laufer, R. S., & Bengtson, V. L. (1974). Generations, aging, and social stratification: on the development of generational units. *Journal of Social Issues*, 181-204.
- Leithwood, K. (1992). The move toward transformational leadership. *Educational Leadership* 49, (5), 8-12.
- Leithwood, K. & Jantzi, D. (2000). The effects of transformational leadership on organizational conditions and student engagement with school. *Journal of Educational Administration*, 38(2), 112.
- Li, C. (2001). *China's leaders: The new generation*. Lanham, MD: Rowman & Littlefield.
- Lorenzi, N. & Riley R. (2000). Managing change: An overview. *Journal of the American Medical Informatics Association*. Mar-Apr; 7(2): 116–124.
- Losyk, B. (1997). Generation X: What are they like? *Current*, 9-13.
- Losyk, B. (1997). Generation X: What they think and what they plan to do. *The Futurist*, 39-44.
- Love, K. (2005). *Generational impacts on organizational commitment: An examination of the Baby Boom Generation and Generation X at work*. Ottawa, Canada: Carleton University.

- Lovely, S. (2010, January 1). Generations at school: Building an age-friendly workplace. *The School Administrator*, 10-16.
- Lovern, E. (2001). Here comes the next generation of workers: they have Gen Xers' energy and skills, with a new attitude. *Modern Healthcare*, 31(5):28-32.
- Lyons, S., Duxbury, L., & Higgins, C. (2005). An empirical assessment of generational differences in work-related values. *Proceedings of the Annual Conference of the Administrative Sciences*. Toronto, Canada.
- Mahedy, W. & Bernardi, J. (1994). *A generation alone*. Downers Grove, Illinois: InterVarsity Press.
- Maier, H. (1987). *Developmental group care of children and youth: Concepts and practice*. New York, NY: Haworth.
- Mannheim, K. (1952 - 1st published in 1928). The problem of generations. *Essays on the sociology of knowledge*. London: RKP.
- Mannheim, K. (1970). The problem of generations. *Psychoanalytic Review*, 57, 378-404.
- Markley, D. (2002). Here comes Y. *Successful Meeting*.
- Martin, C. & Tulgan, B. (2001). *Managing generation Y*. Amherst, M.A.: HRD Press.
- Martin, C. & Tulgan, B. (2006). *Managing the generation mix*. Amherst, MA: HRD Press.
- Marzano, R. (1998). *A theory-based meta-analysis of research on instruction*. Denver, CO: Mid-continent Research for Education and Learning.
- Marzano, R. (2003). *What Works in Schools: Translating research into action*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Marzano, R., Gaddy, B., & Dean, C. (2000). *What works in classroom instruction*. Denver, CO: Mid-continent Research for Education and Learning.
- Marzano, R., Waters, T., & McNulty, B. (2005). *School leadership that works: From research to results*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Massey, M. (1979). *The people puzzle: Understanding yourself & others*. Reston, VA: Reston Publishing Company.

- McCaleb, I. C. (2000, March 5). *CNN All Politics*. Retrieved April 8, 2011, from Overshadowed generation prepares to steer political agenda:
<http://cgi.cnn.com/2000/ALLPOLITICS/stories/03/05/generation.jones>
- McCarthy, M. M. (2002). Educational leadership preparation programs: A glance at the past with an eye toward the future. *Leadership and Policy in Schools*, 1(3), 201-221.
- McGuinness, S. V. (1999). *The effect of generation group identification on organizational commitment: A study of Baby Boomers and generation X*. Fort Lauderdale, FL: Nova Southeastern University.
- Meredith, G. C., Schewe, C. D., Hiam, A., & Karlovich J. (2002). *Managing by defining moments*. New York, N.Y.: Hungry Minds Inc., 5.
- Migration Policy Institute. (2011). *Migration facts, stats, and maps*. Retrieved April 1, 2011, from US Historical Immigration Trends:
<http://www.migrationinformation.org/datahub/historicaltrends.cfm#children>
- Mikulowski-Pomorski, J. (1968). The generation as a sociological concept. *Studia Socjologiczne*, 3-4, 267-281.
- Miller, C. S. (2000). Selling variable life to generation X. *Advisor Today*, 110-112, November.
- Miller, P., & Yu, H. C. (2005). Leadership style - The X Generation and Baby Boomers compared in different cultural contexts. *Leadership & Organization Development Journal*, 26(1), 35 - 50.
- Miller, J. D. (2011). *The Generation X report: A quarterly research report from the longitudinal study of American youth*. 1(1): University of Michigan.
- Muchnick, M. (1996). *Naked management: Bare essentials for motivation the X Generation at work*. Boca Raton, FL: St. Lucie Press.
- Muetzel, M. (2003). *They're not aloof... Just Generation X*. Shreveport, LA: Steel Bay Publishing.
- Muller, T. E. (1997). The benevolent society: Value and life style changes among middle-aged Baby Boomers. In L. R. Kahle, *Values, Lifestyles, and Psychographics* (299-316). Mahwah, New Jersey: Lawrence Erlbaum Associates.

- Munk, N. (1999). Finished at forty. *Fortune*, 50-66.
- Nadler, D., Shaw, R., & Walton, E. (1994). *Discontinuous change*. San Francisco: Jossey-Bass.
- Nasser, H. (2010, December 3). Boomer divide: Generation gap spans 19 years. *USA Today*.
- Obama, B. (2006). *The Audacity of hope*. Edinburgh: Canongate Books.
- Osterman, K., & Kottkamp, R. (1993). *Reflective practice for educators*. Newbury Park, CA: Corwin Press Inc.
- Paul R. Abramson, R. I. (1985). *Value change in global perspective*. Ann Arbor, MI: University of Michigan Press.
- Pekala, N. (2001). Conquering the generational divide. *Journal of Property Management*, 66(6), 30-37.
- Piazza, J. R. (2006). Mental health among the Baby Boomers. In S. K. Whitbourne, *The Baby Boomers grow up* (111-146). Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Polk, M. (2005). *Gender and generational differences in the self-ratings of leadership practices by elementary school administrators within four Florida counties*. Tampa, FL: University of South Florida.
- Pontell, J. (2011, March 18). Stuck in the middle. *USA Today*, 9A.
- Powell, J. N. (2003). *Generational perceptions of effective leadership*. Sarasota: Argosy University.
- Raines, C. & Hunt, J. (2000). *The Xers and the Boomers from adversaries to allies: A Diplomat's Guide*. California: Crisp Publications.
- Raines, C. (1997). *Beyond Generation X: A practical guide for managers*. Menlo Park: Crisp Publications.
- Raines, C. (2003). *Connecting generations: The sourcebook for a new workplace*. Keller, TX: Axzo Press.
- Raines, C. (2003). Generations at work: Managing Millennials. In C. Raines, *Connecting generations: The sourcebook*. Los Altos, CA: Crisp Publications.

- Roark, J. L. (1998). *The American promise: A history of the United States from 1865, 2*. Boston: Bedford Books.
- Rodriguez, R., Green, M., & Malcolm, J. R. (2003). Leading Generation X: Do the old rules apply? *The Journal of Leadership and Organizational Studies*, 67-75.
- Rogers, E. (2003). *Diffusion of innovations (5th ed.)*. New York: Free Press.
- Rosen, B. C. (2001). *Masks and mirrors: Generation X and the chameleon personality*. Westport, CT: Praeger Publishers.
- Rosen, L. (2008). *Varieties of Muslim experience: Encounters with Arab political and cultural life*. Chicago: University Of Chicago Press.
- Rosich, K. (2005). *A history of the American sociological association*. Retrieved April 7, 2011, from The 1980s: Critical Challenges and New Resolve: <http://www.asanet.org/images/asa/docs/pdf/Rosich%20Chapter%201.pdf>
- Rosow, I. (1978). What is a cohort and why? *Human Development*, 65-75.
- Rousseau, P. (2007). *Turnover, retention, and Generation X: The workplace relationship*. Saratoga Springs: State University of New York.
- Ruggeri, A. (2009, November 1). The Youth movement; Confident, entrepreneurial, and socially conscious, generation Y begins to show the sure—if just a bit different—makings of leadership. *U.S. News and World Report*, p. 30.
- Ryder, N. (1965). The cohort as a concept in the study of social change. *American Sociological Review*, 30, 843-61.
- Sagor, R. (1992). Three principals who make a difference. *Educational Leadership* 49(5), 13-18.
- Salahuddin, M. M. (2010). Generational differences impact on leadership style and organizational success. *Journal of Diversity Management*, 5(2).
- Sandfort, M., & Haworth, J. (2001). *Class of 2000/2001: An exploratory study on the attitudes and beliefs of the millennial generation*. Chicago, IL: Loyola University.
- Schlesinger Jr., A. M. (1986). *The cycles of American history*. Boston: Houghton Mifflin.
- Schön, D. (1983) The reflective practitioner, how professionals think in action, Basic Books.

- Schor, J. (1998). *The overspent American: Upscaling, downshifting and the new consumer*. New York: Basic Books.
- Schrammel, K. (1998). Comparing the labor market success of young adults from two generations. *Monthly Labor Review*, 3-9.
- Scott, J. (2000). Is it a different world from when you were growing up? Generational effects on social representations and child-rearing values. *British Journal of Sociology*, 355-376.
- Scott, B. *Organization development primer: Change management, Kurt Lewin and beyond*. Queen's University IRC: IRC Research Program, 2009.
- Sergiovanni, T. (1990). Adding value to leadership gets extraordinary results. *Educational Leadership* 47(8), 23-27.
- Sessa, V. K. (2007). *Generational differences in leader values and leadership behaviors*. Philadelphia, PA: The Psychologist Management Journal.
- Skaiff, M. M. (2006). The view from the driver's seat: Sense of control in the Baby Boomers at midlife. In S. K. Whitbourne, *The Baby Boomers grow up* (185-204). Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Snyder, T. D. (1993). *120 years of American education: A statistical portrait*. Washington, D.C.: U.S. Department of Education, Office of Educational Research and Improvement.
- Southwest Educational Development Laboratory. (2009, May 17). *Leadership characteristics that facilitate school change*. Retrieved May 17, 2009, from SEDL - ADVANCING RESEARCH, IMPROVING EDUCATION: <http://www.sedl.org/change/leadership/history.html>
- Spears, L. (1995). Servant leadership and the Greenleaf legacy. In *Reflections on leadership* (1-14). New York, NY: John Wiley & Sons.
- Spillane, J., Halverson, R., & Diamond, J. B. (1999). *Distributed leadership: Toward a theory of school leadership practice*. Evanston, Ill: Northwestern University Institute for Policy Research.

- Spitzer, A. B. (1973). The historical problem of generations. *American Historical Review*, 1353-85.
- Stewart, A. J. (2006). Social, historical, and developmental influences on the psychology of the Baby Boom at midlife. In S. K. Whitbourne, *The Baby Boomers grow up* (23-44). Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Stone, A. (2009, April 19). *Civic generation rolls up sleeves in record numbers*. USA Today.
- Strauss, W., & Howe, N. (1992). *Generations: The history of America's future, 1584 to 2069*. New York, NY: Quill William Morrow Inc.
- Strauss, W., & Howe, N. (2000). *Millennials rising: The next great generation*. New York, NY: Vintage Books.
- Thielfoldt D., S. D. (2004, August 1). Generation X and The Millennials: What you need to know about mentoring the new generations. *Law Practice Today*.
- Tulgan, B. (2000). *Managing Generation X: How to bring out the best in young talent*. New York, N.Y.: W. W. Norton and Company Inc.
- Twenge, J. & Campbell, K. (2008). Increases in positive self-views among high school students: Birth-cohort changes in anticipated performance, self-satisfaction, self-liking, and self-competence. *Psychological Science*, 19(11), 1082-1086.
- Twenge, J., Konrath, S., Foster, J., & Campbell, K. (2008). Egos inflating over time: A cross-temporal meta-analysis of the narcissistic personality inventory. *Journal of Personality*, 76(4).
- U.S. Census Bureau. (2011). *U.S. Census Bureau*. Retrieved April 1, 2011, from The 2011 Statistical Abstract: <http://www.census.gov/compendia/statab>
- Wagenknecht-Ivey, B. (1997). *Values of Boomers and Busters in the workplace*. Denver, CO: University of Denver Department of Social Sciences.
- Waters, T., Marzano, R., & McNulty, B. (2003). *Balanced leadership: What 30 years of research tells us about the effect of leadership on student achievement*. Denver, CO: Mid-continent for Education and Learning.

- Watzlawick P, Weakland J., & Fisch R. *Change: Principles of problem formation and problem resolution*. New York: Norton, 1974.
- Willis, S. L. (2006). Cognitive functioning in the Baby Boomers: Longitudinal and cohort effects. In S. K. Whitbourne, *The Baby Boomers grow up* (205-234). Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Wong, L. (2000). *Generations apart: Xers and Boomers in the officer corps*. Carlisle, PA: Strategic Studies Institute, U.S. Army War College.
- Woodward, N. H. (1999, March). The coming of the managers. *HR Magazine*, 4-80.
- Wyatt, D. (1993). *Out of the sixties story telling and the Vietnam Generation*. Cambridge, MA: University Press.
- Zaslow, J. (2004). Why all Baby Boomers are not created equal. *The Wall Street Journal Online*. <http://online.wsj.com>
- Zemke, R., Raines, C., & Filipczak, B (2000). *Generations at work: Managing the clash of Veterans, Boomers, Xers, and Nexters in your workplace*. New York, N.Y.: AMACOM.

Appendix A – Teacher/Principal Survey Instrument (Balanced Leadership Profile)

The actual Balanced Leadership Profile survey is online at <https://www.educationleadershipthatworks.org>. What follows are all the questions in the teacher version of the survey. The principal version asks the same questions, but in first person. It also asks for birth range for generational classification. While principal names are in the database, they are not used in this study.

Teacher names are not in the database. All data compilations are anonymous. Only change order data and Likert scale data on the 21 leadership responsibilities matched with the corresponding principal's generation are used. The Survey ID number is used to match the teacher data to the principals being rated. Some of the questions are confirmation of 1st or 2nd order change. Others are about the leadership responsibilities of their principal. The labels in parentheses are not seen in the survey. They are used by the software to factor questions into the correct data categories.

Demographic Questions:

Institution?	Survey Period State?
District Name?	Order Of Change? (1 st or 2 nd by given definition)
School Name?	Primary Improvement Initiative? (District)
Last Name?	Primary Improvement Initiative? (School)
First Name?	Country? State/Province?
Username?	Postal Code?
Email?	Number Of Students? (School)
Survey Date?	NCES District and School ID?
Registration Key?	Job Role? (Teacher?)
Survey ID?	Gender?
Survey Instance ID?	Ethnicity? (optional)
Subscription ID?	What is your highest degree completed?
Survey Period ID?	Year of your most recent degree?
Survey Period Start Date?	How many years have you been a teacher?
Survey Period End Date?	How many years have you been a teacher in this school?

After entering the demographic data, respondents are directed to the Likert scale survey section with 1 representing “Strongly Disagree” and 5 representing “Strongly Agree.”

Likert Scale Questions:

1. I currently have the knowledge and skills needed to implement this change. (Agree = 1st Order Change, Disagree = 2nd Order Change)
2. Our principal responds to my concerns about this change. (Agree = 1st Order Change, Disagree = 2nd Order Change)
3. I have the resources I need to support this change. (Agree = 1st Order Change, Disagree = 2nd Order Change)
4. This change will represent a significant challenge to how I do things. (Agree = 2nd Order Change, Disagree = 1st Order Change)
5. This change reflects my values and beliefs. (Agree = 1st Order Change, Disagree = 2nd Order Change)
6. This change represents minor refinements to my classroom practices. (Agree = 1st Order Change, Disagree = 2nd Order Change)
7. It is difficult for me to accept this change. (Agree = 2nd Order Change, Disagree = 1st Order Change)
8. This change requires that I learn new concepts and skills. (Agree = 2nd Order Change, Disagree = 1st Order Change)
9. This change is both important and necessary. (Agree = 1st Order Change, Disagree = 2nd Order Change)
10. This change will be uncomfortable for me. (Agree = 2nd Order Change, Disagree = 1st Order Change)
11. Teachers regularly share ideas. (Culture)
12. The instructional time of teachers is well-protected. (Discipline)
13. There are well-established procedures for communicating concerns. (Order)
14. Our principal has been successful in protecting teachers from undue distractions from their teaching. (Discipline)
15. Our principal has successfully ensured that teachers have the professional opportunities as well as the necessary resources to maintain a high standard of teaching. (Resources)
16. Our principal is directly involved in helping teachers design curricular activities for their classes. (Involvement in Curriculum, Instruction, & Assessment)
17. Specific goals for achievement have been established for each student in our school. (Focus)

18. Our principal is very knowledgeable about effective instructional practices. (Knowledge of Curriculum, Instruction, & Assessment)
19. Our principal makes systematic and frequent visits to classrooms. (Visibility)
20. Individuals who excel in our school are both recognized and rewarded. (Contingent Rewards)
21. Teachers have ready and easy access to our principal. (Communication)
22. Our principal makes sure that our school complies with all district and state mandates. (Order)
23. Teachers have direct input into all important school decisions. (Input)
24. The accomplishments of individual teachers are both recognized and celebrated. (Contingent Rewards)
25. Our principal is aware of the personal needs of the teachers in our school. (Relationship)
26. Our principal consciously tries to challenge the status quo to get people to think creatively. (Change Agent)
27. Our principal tries to inspire the teachers to accomplish things that might seem beyond their grasp. (Optimize)
28. The teachers are aware of our principal's beliefs regarding schools, teaching, and learning. (Ideals/Beliefs)
29. Our principal continually monitors the effectiveness of our curriculum. (Monitors/Evaluates)
30. Our principal is comfortable making major changes in our school's processes. (Change Agent)
31. Our principal is aware of the informal groups and relationships among the teachers in our school. (Situational Awareness)
32. Our principal stays informed about the current research and theory regarding effective schooling. (Intellectual Stimulation)
33. We systematically consider new-and-better ways of doing things. (Optimize)
34. Our principal has successfully developed a sense of cooperation within our school. (Culture)
35. Our principal has successfully created a strong sense of order among teachers about the efficient operation of our school. (Order)
36. We have established specific goals for the curriculum. (Focus)
37. Our principal is very knowledgeable about classroom curricular issues. (Knowledge of Curriculum, Instruction, & Assessment)
38. Seniority is not the primary basis for reward or advancement. (Contingent Reward)

39. Effective methods have been established for teachers to communicate with one another.
(Communication)
40. Our principal is a strong advocate for our school to the community at large. (Outreach)
41. Teachers are directly involved in establishing school policy. (Input)
42. Our principal has a personal relationship with the teachers in our school. (Relationship)
43. Our principal is comfortable initiating change without being sure where it might lead.
(Change Agent)
44. Our principal portrays a positive attitude about our ability to accomplish substantive things. (Affirmation)
45. Our principal continually monitors the effectiveness of the instructional practices used in our school. (Monitors/Evaluates)
46. Our principal encourages people to express opinions that may be contrary to his or her own. (Flexibility)
47. Our principal continually exposes teachers to cutting-edge ideas about how to be effective. (Intellectual Stimulation)
48. Our principal can be either directive or nondirective, as the situation warrants. (Flexibility)
49. There is a strong team spirit. (Culture)
50. There are well-established routines for the operation of the school that staff members both understand and follow. (Order)
51. Our principal is directly involved in helping teachers address assessment issues in their classrooms. (Involvement in Curriculum, Instruction, & Assessment)
52. Teachers are regularly involved in professional development activities that directly enhance their teaching. (Resources)
53. We have specific goals for instructional practices. (Focus)
54. Our principal is highly visible to both the teachers and the students in our school.
(Visibility)
55. We have a common language that is used by both administrators and teachers. (Culture)
56. The lines of communication are strong between teachers and our principal.
(Communication)
57. Our principal is a strong advocate for our school to students' parents. (Outreach)
58. In our school, decisions are made using a team approach. (Input)
59. We systematically acknowledge our failures as well as celebrate our accomplishments.
(Affirmation)
60. Our principal tries to be the driving force behind major initiatives. (Optimize)
61. Our principal has well-defined beliefs about schools, teaching, and learning. (Ideals/
Beliefs)

62. Our principal adapts his or her leadership style to the specific needs of the situation.
(Flexibility)
63. We have a shared understanding of our purpose. (Culture)
64. We systematically have discussions about current research and theory. (Intellectual Stimulation)
65. Teachers are protected from external issues that would detract from their emphasis on teaching. (Discipline)
66. Controversies involving one or two staff members do not become school-wide issues.
(Situational Awareness)
67. We have established specific goals for our assessment practices. (Focus)
68. Our principal provides conceptual guidance for the teachers regarding effective classroom practice. (Involvement in Curriculum, Instruction, & Assessment)
69. Neither advancement nor reward is automatically given for simply “putting in your time.”
(Contingent Reward)
70. Our principal makes sure that the central office is aware of our school’s accomplishments. (Outreach)
71. Our principal makes sure that significant events in the teachers’ lives are acknowledged.
(Affirmation)
72. We consistently ask ourselves, “Are we operating at the furthest reaches of our competence?” (Optimize)
73. Our principal believes that we can accomplish almost anything, if we work hard enough and believe in ourselves. (Ideals/Beliefs)
74. Our principal has explicitly communicated strong beliefs and ideals to the teachers.
(Ideals/Beliefs)
75. At any time, our principal can accurately determine how effectively our school enhances student learning. (Monitors/Evaluates)
76. On a day-to-day basis, our principal can accurately predict what may go wrong in our school. (Situational Awareness)
77. We systematically read professional literature about effective practices. (Intellectual Stimulation)
78. Our school-wide goals are understood by all teachers. (Focus)
79. Our principal is aware of both what is and what is not running smoothly in our school.
(Situational Awareness)
80. Our school-wide goals are prominent throughout our day-to-day school activities. (Focus)
81. Our principal’s behavior is consistent with his or her beliefs and ideals regarding schools, teachers, and learning. (Ideals/Beliefs)

82. The resources that teachers request are both procured and delivered in a timely fashion.
(Resources)
83. Hard-working individuals who produce results are both identified and rewarded.
(Contingent Reward)
84. Our principal is aware of the details for the day-to-day operations of our school.
(Situational Awareness)
85. We share a vision of what we could become. (Culture)
86. Our principal is very knowledgeable about effective classroom assessment practices.
(Knowledge of Curriculum, Instruction, & Assessment)
87. The accomplishments of both the students and the school in general are celebrated.
(Affirmation)
88. Our principal is aware of the less visible issues in our school that might cause discord.
(Situational Awareness)
89. Our principal has frequent contact with the students in our school. (Visibility)
90. Our principal stays informed about significant personal issues in the lives of the teachers.
(Relationship)
91. Our principal is directly involved in helping teachers address instructional issues in their classrooms. (Involvement in Curriculum, Instruction, & Assessment)
92. Our principal continually monitors the effectiveness of the assessment practices used in our school. (Monitors/Evaluates)

Appendix B – Data Analysis Tables and Figures

Change Order Estimates and Perceptions

The following findings show the principals' estimates of change order and their teachers' perceptions of their principal's change initiative (1st or 2nd order). The differences between principal and teacher data are shown and compared across the generational cohorts of the principals.

Principals' Estimates of Overall Change Order Compared to Teacher Perceptions.

Table 10 below shows the percentage of principals in each group that estimated the order of change to be 1st or 2nd order for the majority of their staff. It also shows the percentage of teachers paired with their principal's generational cohort group that felt that the principal's change initiative was 1st or 2nd order change. The numbers in parentheses under each percentage represent the sample size for that group.

Table 10: Principals and Paired Teachers – Order of Change Perceptions

Principal Groups →	All Principals	Gen-X	Generation Jones	Baby Boomer Generation
Principals Estimated Their Change Initiative as 1st Order	25.52% (n=435)	23.02% (n=126)	27.11% (n=166)	24.62% (n=130)
Teachers Perceived The Change Initiative as 1st Order	85.98% (n=6547)	87.35% (n=1976)	85.74% (n=2392)	85.08% (n=1870)
Principals Estimated Their Change Initiative as 2nd Order	74.48% (n=435)	76.98% (n=126)	72.89% (n=166)	75.38% (n=130)
Teachers Perceived The Change Initiative as 2nd Order	14.02% (n=6547)	12.65% (n=1976)	14.26% (n=2392)	14.92% (n=1870)
Difference Between Principal and Teacher Change Order Perceptions	+/- 60.46%	+/- 64.33%	+/- 58.63%	+/- 60.46%
All four differences between principal grouping and their teachers above were found to be statistically and significantly different at the 99% confidence level.				

Differences between Principal and Teacher Results.

Tables 10 above and Table 11 below show the difference between the generational cohorts of principals' estimation of change order and their teachers' perception of change order. In addition to the results shown in Table 10, Table 11 also shows how this difference compares between the generational cohorts of principals and compared to all other principals (not including the generational cohort being compared). For instance, when Jones Generation is compared to all other principals, a group of data is compiled of all generations of principals, minus Generation Jones data, to use as the average of all other generations. The last row shows the differences between differences for each generation compared to all other principals.

Table 11: Difference Between the Generational Cohorts of Principals and Their Teachers in the Estimation and Perceptions of Change Order

Principal Groups →	All Principals (n=435)	Gen-X (n=126)	Generation Jones (n=166)	Baby Boomer Generation (n=130)
Difference Between Principal and Teacher Change Order Perceptions	+/- 60.46%	+/- 64.33%	+/- 58.63%	+/- 60.46%
Principal and Teacher Change Order Perceptions for All Other Principals	N/A	+/- 58.85%	+/- 61.57%	+/- 60.44%
Difference between the Generational Cohort Difference and that of All Other Principals	N/A	+ 5.48%	– 2.94%	+ 0.02%
When comparing the <i>Difference between the Generational Cohort Difference and that of All Other Principals</i> for the three generational cohorts to each other, statistically significant differences were found between Gen-X and Generation Jones and Gen-X and the Baby Boomer Generation at the 99% confidence level. However, no statistically significant difference was found between Generation Jones and the Baby Boomer Generation in this area.				

Teacher Perceptions of Principals' Leadership Capacity by Generation

The findings that follow depict mean ratings of teacher perceptions of their principals' 1st or 2nd order change leadership capacity according to 21 leadership responsibilities. First, an

overall perspective is presented by showing the findings for *All Principals*. Then tables of means are shown for each generational cohort and how they compare across generations and to the means of the other generations combined. This is presented in two table types, 1st and 2nd order. Finally, a bar graph shows all of the means for the groups on one chart for 1st order and another for 2nd order for direct comparison.

Rankings of Leadership Responsibility Mean Ratings – 1st Order Change.

Table 12 below shows how teachers perceived the capacity of their principals to lead 1st order change, from highest to lowest capacity mean rating. For *All Principals*, teachers rated *Outreach, Ideals & Beliefs, Optimize, Resources, and Focus* as the top five responsibilities when leading 1st order change. Conversely, the teachers rated *Relationships, Intellectual Stimulation, Discipline, Input, and Involvement in Curriculum/Instruction/Assessment* as the bottom five responsibilities that *All Principals* had when leading 1st order change.

As shown on Tables 14, 16, and 18 that follow, Gen-X, Jones, and Baby Boomer principals have very similar top and bottom five ranked responsibilities compared to all other principals when they are perceived to be leading 1st order change.

Rankings of Leadership Responsibility Mean Ratings – 2nd Order Change.

After each of the 1st order tables, 2nd order tables are shown starting with Table 13. They show how teachers perceived the capacity of their principals to lead 2nd order changes from highest to lowest ranking of leadership responsibility means. Similar to the 1st order change rankings for *All Principals*, teachers rated *Outreach, Ideals & Beliefs, Optimize, Focus, and Knowledge of Curriculum/Instruction/Assessment* as the top five responsibilities that principals had the highest capacity in when leading 2nd order change. Also similar to the 1st order change ranking, teachers rated *Relationships, Order, Discipline, Involvement in Curriculum/Instruction/Assessment, and Input* as the bottom five responsibilities for principals, when leading 2nd order change.

As shown on Tables 15, 17, and 19, most of the generational cohorts of principals followed a similar pattern of top and bottom rankings of leadership responsibilities, with just a few

exceptions. Most of these exceptions are minor. For example, the leadership responsibility of *Resources* is ranked 6th for Baby Boomer principals and 4th for Gen-X principals. This difference in ranking is inconsequential. What are more important are the statistically significant differences in mean values shown in Tables 45-65.

Gen-X.

Gen-X principals had very similar top and bottom rankings in teacher-perceived means of 2nd order change leadership capacity with one notable exception. Gen-X principals were rated considerably higher in *Change Agent* compared to all other principals combined (see Table 15). At a mean Likert rating of 3.81, Gen-X principals were ranked and rated higher than any other generation in *Change Agent* by a significant margin of + 0.24 ($p < .001$).

Generation Jones and Baby Boomer Generation.

Generation Jones and Baby Boomer Generation principals also had very similar top and bottom ranked responsibilities compared to all other principals leading 2nd order change initiatives with no significant exceptions. This means that teachers perceived Generation Jones and Baby Boomer principals' highest and lowest leadership capacities very similarly when compared to each other and the average of *All Principals* when leading 2nd order change. While their rankings are the same, their actual means are often different.

The 2nd order change tables that follow highlight the 11 of the 21 leadership responsibilities that Waters, Marzano, and McNulty, (2003) found to be especially factored with 2nd order change. Of these 11, the 7 positively factored and the 4 negatively factored with 2nd order change leadership are also noted. These specific leadership responsibilities will be used in the next section that compares 1st and 2nd order change in summary tables 21-23.

Table 12: Teacher Perception Mean Ratings of 1st Order Change Leadership Capacity by Responsibility of All Principals

All Principals Average Teacher Rating [Liker Scale = 1 (low) →5 (high)] Principal Estimated Change was 1st Order for Majority of Staff	
21 Leadership Responsibilities	Sample (# or rated principals) = 927 (rank ordered high to low)
1. Outreach	4.44
2. Ideals/Beliefs	4.33
3. Optimize	4.24
4. Resources	4.13
5. Focus	4.10
6. Knowledge of CIA	4.09
7. Communication	4.07
8. Visibility	4.07
9. Monitor and Evaluate	4.05
10. Culture	4.03
11. Flexibility	4.00
12. Affirmation	3.97
13. Change Agent	3.96
14. Situational Awareness	3.92
15. Contingent Reward	3.89
16. Order	3.88
17. Relationships	3.88
18. Intellectual Stimulation	3.87
19. Discipline	3.80
20. Input	3.69
21. Involvement in CIA	3.59

Table 13: Teacher Perception Mean Ratings of 2nd Order Change Leadership Capacity by Responsibility of All Principals

All Principals Average Teacher Rating [Liker Scale = 1 (low) → 5 (high)] Principal Estimated Change was 2nd Order for Majority of Staff The 11 Responsibilities Factored with 2 nd Order Change are Shaded [The 4 negatively or 7 positively factored responsibilities are denoted with a (–) or (+) symbol]		
21 Leadership Responsibilities	Sample (# of rated principals) = 435 (rank ordered high to low)	Difference in Comparison to 1 st Order Change Ratings
1. Outreach	4.11	– 0.33
2. Ideals/Beliefs (+)	3.95	– 0.38
3. Optimize (+)	3.88	– 0.36
4. Focus	3.70	– 0.40
5. Knowledge of CIA (+)	3.70	– 0.39
6. Resources	3.69	– 0.44
7. Visibility	3.68	– 0.39
8. Monitor and Evaluate (+)	3.66	– 0.39
9. Change Agent (+)	3.63	– 0.33
10. Communication (–)	3.61	– 0.46
11. Flexibility (+)	3.61	– 0.39
12. Contingent Reward	3.57	– 0.32
13. Culture (–)	3.57	– 0.46
14. Affirmation	3.56	– 0.41
15. Intellectual Stimulation (+)	3.53	– 0.34
16. Situational Awareness	3.51	– 0.41
17. Relationships	3.46	– 0.42
18. Order (–)	3.43	– 0.45
19. Discipline	3.35	– 0.45
20. Involvement in CIA	3.20	– 0.39
21. Input (–)	3.18	– 0.51

Table 14: Teacher Perception Mean Ratings of 1st Order Change Leadership Capacity by Responsibility of Gen-X Principals

Gen-X Principals Average Teacher Rating [Liker Scale = 1 (low) →5 (high)] Principal Estimates Change was 1st Order for Majority of Staff	
21 Leadership Responsibilities	Sample (# or rated principals) = 126 (rank ordered high to low)
1. Outreach	4.38
2. Ideals/Beliefs	4.27
3. Optimize	4.21
4. Resources	4.12
5. Visibility	4.07
6. Communication	4.03
7. Focus	4.03
8. Knowledge of CIA	4.03
9. Culture	4.02
10. Monitor and Evaluate	3.99
11. Flexibility	3.98
12. Affirmation	3.96
13. Change Agent	3.94
14. Contingent Reward	3.88
15. Situational Awareness	3.86
16. Intellectual Stimulation	3.84
17. Order	3.84
18. Relationships	3.84
19. Discipline	3.76
20. Input	3.65
21. Involvement in CIA	3.54

Table 15: Teacher Perception Mean Ratings of 2nd Order Change Leadership Capacity by Responsibility of Gen-X Principals

Gen-X Principals Average Teacher Rating [Liker Scale = 1 (low) → 5 (high)] Principal Estimates Change was 2nd Order for Majority of Staff The 11 Responsibilities Factored with 2 nd Order Change are Shaded [The 4 negatively or 7 positively factored responsibilities are denoted with a (–) or (+) symbol]		
21 Leadership Responsibilities	Sample (# of rated principals) = 83 (rank ordered high to low)	Difference in Comparison to 1 st Order Change Ratings
1. Outreach	4.15	– 0.23
2. Ideals/Beliefs (+)	4.04	– 0.23
3. Optimize (+)	3.99	– 0.22
4. Resources	3.86	– 0.26
5. Change Agent (+)	3.81	– 0.13
6. Focus	3.80	– 0.23
7. Knowledge of CIA (+)	3.80	– 0.23
8. Monitor and Evaluate (+)	3.78	– 0.21
9. Visibility	3.77	– 0.30
10. Flexibility (+)	3.75	– 0.23
11. Communication (–)	3.68	– 0.35
12. Culture (–)	3.68	– 0.34
13. Affirmation	3.67	– 0.29
14. Contingent Reward	3.64	– 0.24
15. Intellectual Stimulation (+)	3.64	– 0.20
16. Situational Awareness	3.58	– 0.28
17. Order (–)	3.52	– 0.32
18. Relationships	3.51	– 0.33
19. Discipline	3.43	– 0.33
20. Involvement in CIA	3.32	– 0.22
21. Input (–)	3.30	– 0.35

Table 16: Teacher Perception Mean Ratings of 1st Order Change Leadership Capacity by Responsibility of Jones Generation Principals

Jones Generation Principals Average Teacher Rating [Liker Scale = 1 (low) →5 (high)] Principal Estimates Change was 1st Order for Majority of Staff	
21 Leadership Responsibilities	Sample (# or rated principals) = 170 (rank ordered high to low)
1. Outreach	4.45
2. Ideals/Beliefs	4.35
3. Optimize	4.26
4. Focus	4.14
5. Resources	4.14
6. Knowledge of CIA	4.12
7. Monitor and Evaluate	4.11
8. Visibility	4.11
9. Communication	4.08
10. Culture	4.06
11. Flexibility	4.02
12. Affirmation	4.00
13. Change Agent	4.00
14. Situational Awareness	3.95
15. Contingent Reward	3.91
16. Intellectual Stimulation	3.91
17. Order	3.91
18. Relationships	3.89
19. Discipline	3.85
20. Input	3.71
21. Involvement in CIA	3.63

Table 17: Teacher Perception Mean Ratings of 2nd Order Change Leadership Capacity by Responsibility of Jones Generation Principals

Jones Generation Principals Average Teacher Rating [Liker Scale = 1 (low) →5 (high)] Principal Estimates Change was 2nd Order for Majority of Staff The 11 Responsibilities Factored with 2 nd Order Change are Shaded [The 4 negatively or 7 positively factored responsibilities are denoted with a (–) or (+) symbol]		
21 Leadership Responsibilities	Sample (# of rated principals) = 107 (rank ordered high to low)	Difference in Comparison to 1 st Order Change Ratings
1. Outreach	4.06	– 0.39
2. Ideals/Beliefs (+)	3.88	– 0.47
3. Optimize (+)	3.81	– 0.45
4. Focus	3.62	– 0.52
5. Resources	3.61	– 0.53
6. Knowledge of CIA (+)	3.59	– 0.53
7. Monitor and Evaluate (+)	3.58	– 0.53
8. Change Agent (+)	3.56	– 0.44
9. Visibility	3.54	– 0.57
10. Contingent Reward	3.52	– 0.39
11. Culture (–)	3.52	– 0.54
12. Flexibility (+)	3.52	– 0.50
13. Affirmation	3.49	– 0.51
14. Communication (–)	3.49	– 0.59
15. Intellectual Stimulation (+)	3.45	– 0.46
16. Situational Awareness	3.45	– 0.50
17. Order (–)	3.37	– 0.54
18. Relationships	3.35	– 0.54
19. Discipline	3.34	– 0.51
20. Input (–)	3.11	– 0.60
21. Involvement in CIA	3.08	– 0.55

Table 18: Teacher Perception Mean Ratings of 1st Order Change Leadership Capacity by Responsibility of Baby Boomer Generation Principals

Baby Boomer Generation Principals Average Teacher Rating [Liker Scale = 1 (low) →5 (high)] Principal Estimates Change was 1st Order for Majority of Staff	
21 Leadership Responsibilities	Sample (# or rated principals) = 108 (rank ordered high to low)
1. Outreach	4.45
2. Ideals/Beliefs	4.35
3. Optimize	4.21
4. Resources	4.15
5. Focus	4.13
6. Knowledge of CIA	4.08
7. Communication	4.06
8. Culture	4.05
9. Monitor and Evaluate	4.03
10. Affirmation	3.95
11. Visibility	3.95
12. Flexibility	3.94
13. Order	3.92
14. Change Agent	3.91
15. Situational Awareness	3.89
16. Relationships	3.87
17. Intellectual Stimulation	3.86
18. Contingent Reward	3.85
19. Discipline	3.81
20. Input	3.64
21. Involvement in CIA	3.54

Table 19: Teacher Perception Mean Ratings of 2nd Order Change Leadership Capacity by Responsibility of Baby Boomer Generation Principals

Baby Boomer Generation Principals Average Teacher Rating [Liker Scale = 1 (low) → 5 (high)] Principal Estimates Change was 2nd Order for Majority of Staff The 11 Responsibilities Factored with 2 nd Order Change are Shaded [The 4 negatively or 7 positively factored responsibilities are denoted with a (–) or (+) symbol]		
21 Leadership Responsibilities	Sample (# of rated principals) = 79 (rank ordered)	Difference in Comparison to 1 st Order Change Ratings
1. Outreach	4.14	– 0.31
2. Ideals/Beliefs (+)	4.00	– 0.35
3. Optimize (+)	3.84	– 0.37
4. Focus	3.74	– 0.39
5. Knowledge of CIA (+)	3.72	– 0.36
6. Resources	3.69	– 0.46
7. Monitor and Evaluate (+)	3.67	– 0.36
8. Visibility	3.65	– 0.30
9. Change Agent (+)	3.60	– 0.31
10. Communication (–)	3.60	– 0.46
11. Flexibility (+)	3.58	– 0.36
12. Affirmation	3.57	– 0.38
13. Culture (–)	3.57	– 0.48
14. Contingent Reward	3.53	– 0.32
15. Intellectual Stimulation (+)	3.52	– 0.34
16. Situational Awareness	3.51	– 0.38
17. Order (–)	3.44	– 0.48
18. Relationships	3.44	– 0.43
19. Discipline	3.37	– 0.44
20. Involvement in CIA	3.18	– 0.36
21. Input (–)	3.12	– 0.52

Comparison of Overall Averages of Teacher Mean Ratings.

The next four tables compare overall averages of teacher mean ratings for all 21 leadership responsibilities, the 11 of the 21 that Waters, Marzano, and McNulty, (2003) found to be especially factored with 2nd order change, and the 7 of the 11 positively factored and the 4 of the 11 negatively factored with 2nd order change leadership.

Table 20: Overall Means of Teacher Perception Mean Ratings for All 21 Leadership Responsibilities for All Principals and Each Generational Cohort of Principals

Principal Group →	Gen-X	Jones Generation	Baby Boomer Generation	All Principals
1. Mean of Mean Ratings of All 21 Leadership Responsibilities for 1 st Order Change	3.96	4.03	3.98	4.00
2. Mean of Mean Ratings of All 21 Leadership Responsibilities for 2 nd Order Change	3.70	3.52	3.59	3.60
3. Overall Difference Between 1 st and 2 nd Order Change Mean of Mean Ratings of All 21 Leadership Responsibilities	– 0.26	– 0.51	– 0.39	– 0.40
4. Overall Difference Between 1 st and 2 nd Order Change Mean of Mean Ratings of All 21 Leadership Responsibilities For All Principals Minus Each Compared Generation	– 0.46 All Except Gen-X	– 0.33 All Except Generation Jones	– 0.41 All Except Baby Boomer Generation	N/A
Difference of Differences Between 3. And 4. Above	+ 0.20	– 0.18	+ 0.02	N/A

On the last row of Table 20 above, the amount of average decline in teacher rating means of leadership capacity between 1st and 2nd order change for the Baby Boomer Generation is very similar to all other generations at about – 0.39 (p<.001). However, this same decline in perceived leadership capacity when leading 2nd order change compared to leading 1st order change is greatest for the Jones Generation at – 0.51 (p<.001) and significantly different when compared to all other principals by – 0.18 (p<.001).

The decline in teacher perceptions of Gen-X principals was only about half that of Generation Jones' decline. When Gen-X is compared to all other principals data indicates the

least decline in Table 20 at -0.26 ($p<.001$) and was significantly different by $+0.20$ ($p<.001$) when compared to all other principals' perceived decline in leadership capacity for all 21 leadership responsibilities from 1st to 2nd order change.

Table 21: Overall Means of Teacher Perception Mean Ratings for 11 Leadership Responsibilities *Factored with 2nd Order Change for All Principals and Each Generational Cohort of Principals

Principal Group →	Gen-X	Jones Generation	Baby Boomer Generation	All Principals
5. Mean of Mean Ratings of 11 Leadership Responsibilities for 1 st Order Change	3.97	4.05	4.00	4.02
6. Mean of Mean Ratings of 11 Leadership Responsibilities for 2 nd Order Change	3.72	3.53	3.61	3.61
7. Overall Difference Between 1 st and 2 nd Order Change Mean of Mean Ratings of 11 Leadership Responsibilities	-0.25	-0.52	-0.39	-0.41
8. Overall Difference Between 1 st and 2 nd Order Change Mean of Mean Ratings of 11 Leadership Responsibilities For All Principals Minus Each Compared Generation	-0.48 All Except Gen-X	-0.34 All Except Generation Jones	-0.42 All Except Baby Boomer Generation	N/A
Difference of Differences Between 3. And 4. Above	$+0.23$	-0.18	$+0.03$	N/A

* Found by Waters, Marzano, and McNulty, (2003) to be especially factored with 2nd order change.

When leading 2nd order changes, Waters, Marzano, and McNulty (2003) found 11 of the 21 leadership responsibilities were especially factored with leading 2nd order change. On the last row of Table 21 above, the amount of average decline in teacher rating means of leadership capacity between 1st and 2nd order change for the Baby Boomer Generation is very similar to all other generations at about -0.39 which is also the same as Table 20's results. Also like Table 20, this same decline in perceived leadership capacity when leading 2nd order change compared to leading 1st order change is greatest for the Jones Generation at -0.52 and significantly different when compared to all other principals by -0.18 ($p<.001$). The reverse again occurs when Gen-X is compared to all other principals. Gen-X showed the least decline in Table 21 at $-$

0.25 (– 6.25%) and was significantly different by + 0.23 ($p < .001$) when compared to all other principals' perceived decline in leadership capacity for these 11 leadership responsibilities from 1st to 2nd order change.

Table 22: Overall Means of Teacher Perception Mean Ratings for 7 of 11 Leadership Responsibilities *Positively Factored with 2nd Order Change for All Principals and Each Generational Cohort of Principals

Principal Group →	Gen-X	Jones Generation	Baby Boomer Generation	All Principals
9. Mean of Mean Ratings of +7 of 11 Leadership Responsibilities for 1 st Order Change	4.04	4.11	4.05	4.08
10. Mean of Mean Ratings of +7 of 11 Leadership Responsibilities for 2 nd Order Change	3.83	3.61	3.70	3.71
11. Overall Difference Between 1 st and 2 nd Order Change Mean of Mean Ratings of +7 of 11 Leadership Responsibilities	– 0.21	– 0.50	– 0.35	– 0.37
12. Overall Difference Between 1 st and 2 nd Order Change Mean of Mean Ratings of +7 of 11 Leadership Responsibilities For All Principals Minus Each Compared Generation	– 0.44 All Except Gen-X	– 0.29 All Except Generation Jones	– 0.38 All Except Baby Boomer Generation	N/A
Difference of Differences Between 3. And 4. Above	+ 0.23	– 0.21	+ 0.03	N/A

* Found by Waters, Marzano, and McNulty (2003) to be factored with 2nd order change but often perceived higher than normal by teachers.

When leading 2nd order changes, Waters, Marzano, and McNulty (2003) found that principals especially emphasize the seven responsibilities averaged above while struggling to effectively fulfill the four responsibilities averaged in the next Table 23. On the last row of Table 22 above, the amount of average decline in teacher rating means of leadership capacity between 1st and 2nd order change in the seven leadership responsibilities positively factored with 2nd order change for the Baby Boomer Generation is very similar to all other generations at about – 0.38. Like Tables 20 and 21 that showed comparisons to all 21 and the 11 leadership responsibilities factored with 2nd order change, this decline in perceived leadership capacity when leading 2nd

order change compared to leading 1st order change is greatest for the Jones Generation at – 0.50 and significantly different when compared to all other principals by – 0.21 (p<.001). And again, the reverse occurs when Gen-X is compared to all other principals. Gen-X again showed the least decline in Tables 22 at – 0.21 and was significantly different by + 0.23 (p<.001) when compared to all other principals' perceived decline in leadership capacity for these seven leadership responsibilities from 1st to 2nd order change.

Table 23: Overall Means of Teacher Perception Mean Ratings for 4 of 11 Leadership Responsibilities *Negatively Factored with 2nd Order Change for All Principals and Each Generational Cohort of Principals

Principal Group →	Gen-X	Jones Generation	Baby Boomer Generation	All Principals
13. Mean of Mean Ratings of – 4 of 11 Leadership Responsibilities for 1st Order Change	3.89	3.94	3.92	3.92
14. Mean of Mean Ratings of – 4 of 11 Leadership Responsibilities for 2nd Order Change	3.55	3.37	3.43	3.45
15. Overall Difference Between 1st and 2nd Order Change Mean of Mean Ratings of – 4 of 11 Leadership Responsibilities	– 0.34	– 0.57	– 0.49	– 0.47
16. Overall Difference Between 1st and 2nd Order Change Mean of Mean Ratings of – 4 of 11 Leadership Responsibilities For All Principals Minus Each Compared Generation	– 0.52 All Except Gen-X	– 0.41 All Except Generation Jones	– 0.46 All Except Baby Boomer Generation	N/A
Difference of Differences Between 3. And 4. Above	+ 0.18	– 0.16	–0.03	N/A

* Found by Waters, Marzano, and McNulty (2003) to be factored with 2nd order change but often perceived lower than normal by teachers.

Principals were perceived to struggle the most to effectively fulfill the four responsibilities averaged in Table 23. On the last row of Table 23 above, the amount of average decline in teacher rating means of leadership capacity between 1st and 2nd order change in the four leadership responsibilities negatively factored with 2nd order change for the Baby Boomer Generation is still very similar to all other generations at about – 0.49. Like Tables 20, 21, and 22,

this decline in perceived leadership capacity when leading 2nd order change compared to leading 1st order change is greatest for the Jones Generation at – 0.57 and significantly different when compared to all other principals by – 0.16 ($p < .001$). Again, the reverse occurs when Gen-X is compared to all other principals. Gen-X again showed the least decline in Tables 23 at – 0.34 and was significantly different by + 0.18 ($p < .001$) when compared to all other principals' perceived decline in leadership capacity for these four leadership responsibilities from 1st to 2nd order change. Table 23 indicates that principals are perceived to have lower leadership capacity in the four leadership responsibilities (Communication, Order, Culture, and Input), negatively factored with 2nd order change (Waters, Marzano, & McNulty, 2003) and that Generation Jones is perceived to struggle the most with these while Gen-X is perceived to struggle the least.

The following figures 3 and 4 present how teachers rated *All Principals* compared to three generations of principals in each of the 21 leadership responsibilities under 1st and 2nd order conditions. The subsequent tables present the statistical analysis of differences between groups of principals in teacher perception means under 1st and 2nd order change conditions.

Figure 3: Teacher Perception Mean Ratings of 1st Order Change Leadership Capacity by Responsibility of All Principals and Principal Generational Cohorts

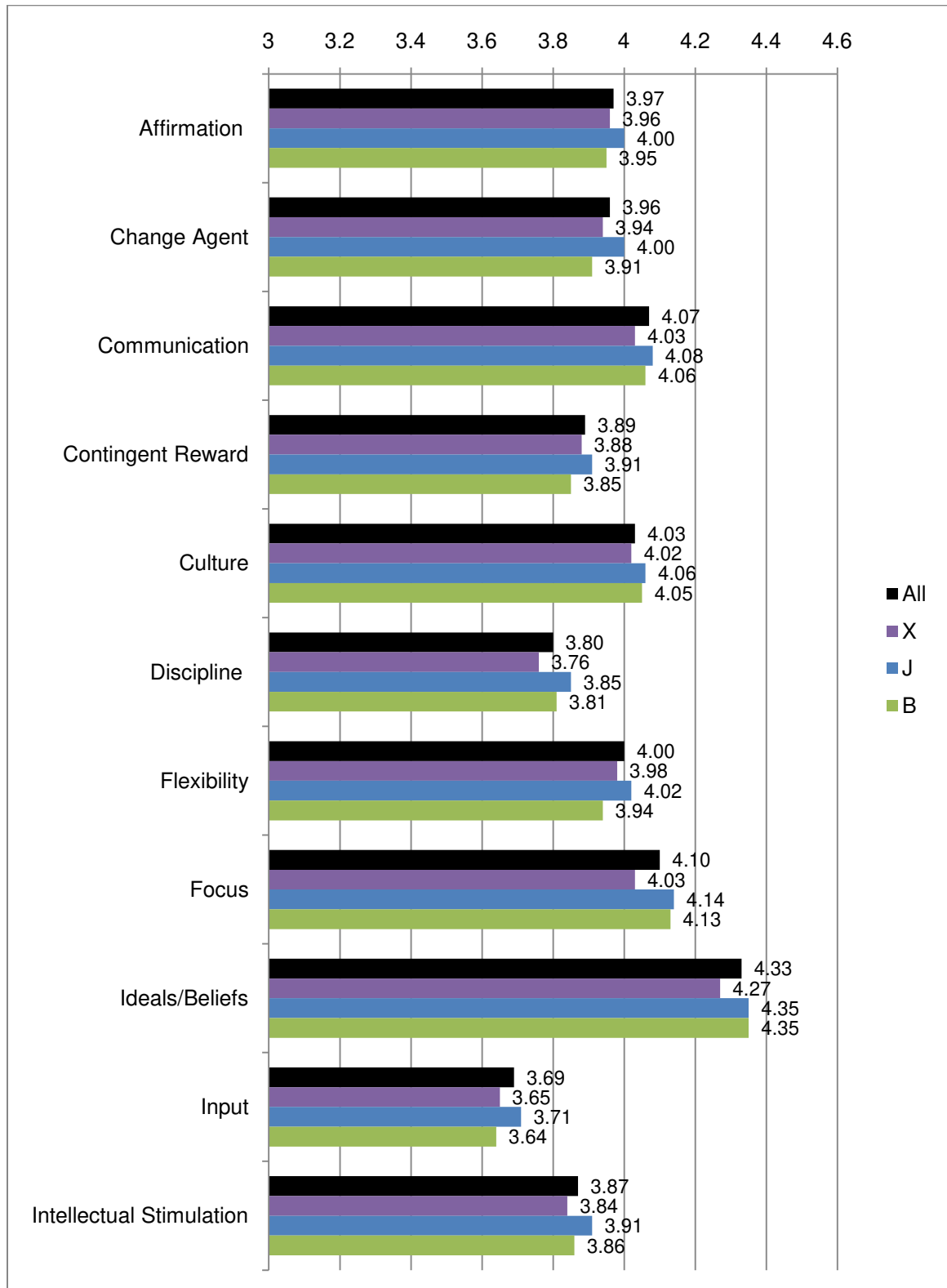


Figure 3: Teacher Perception Mean Ratings of 1st Order Change Leadership Capacity by Responsibility of All Principals and Principal Generational Cohorts (continued)

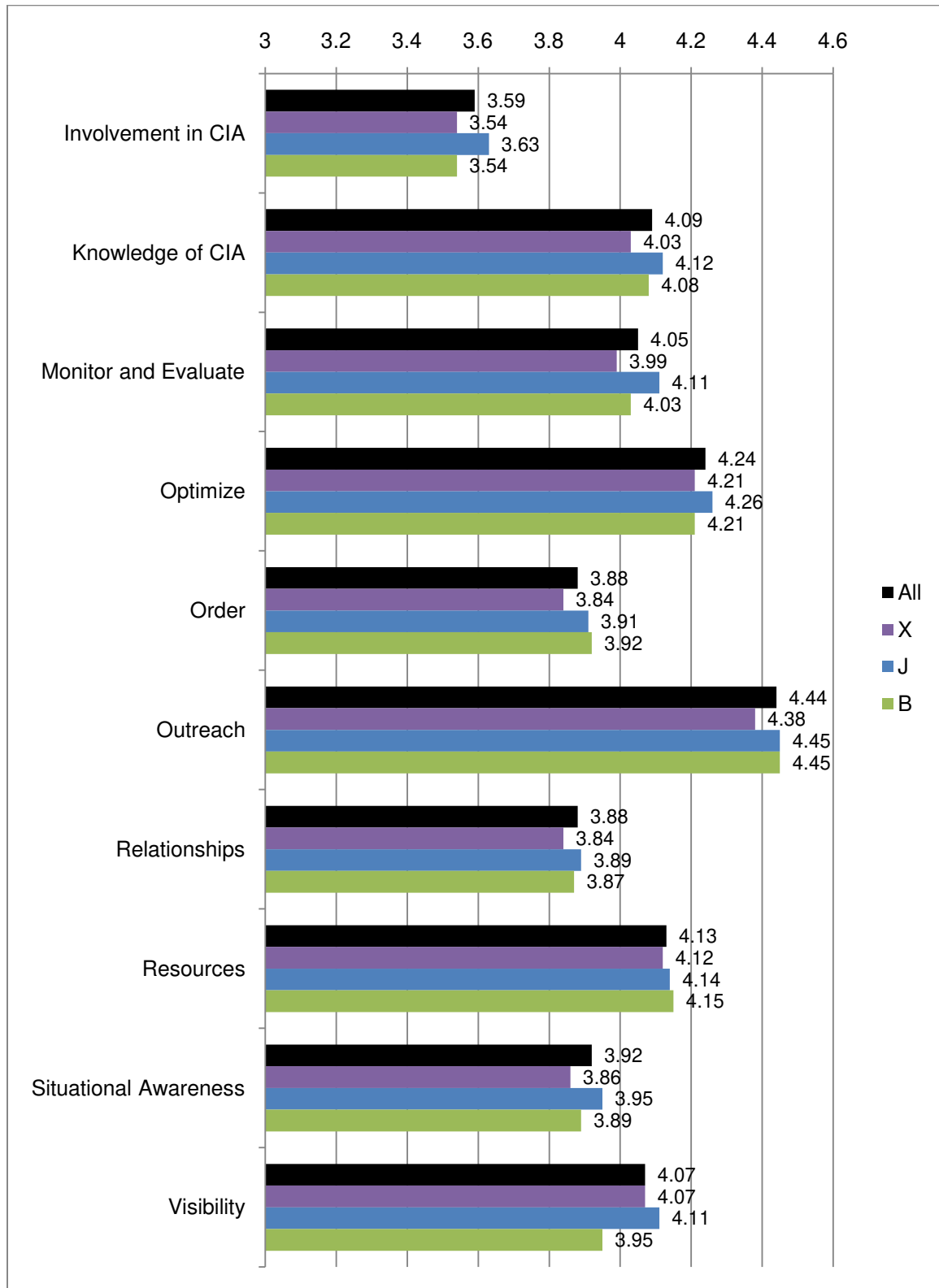


Figure 4: Teacher Perception Mean Ratings of 2nd Order Change Leadership Capacity by Responsibility of All Principals and Principal Generational Cohorts

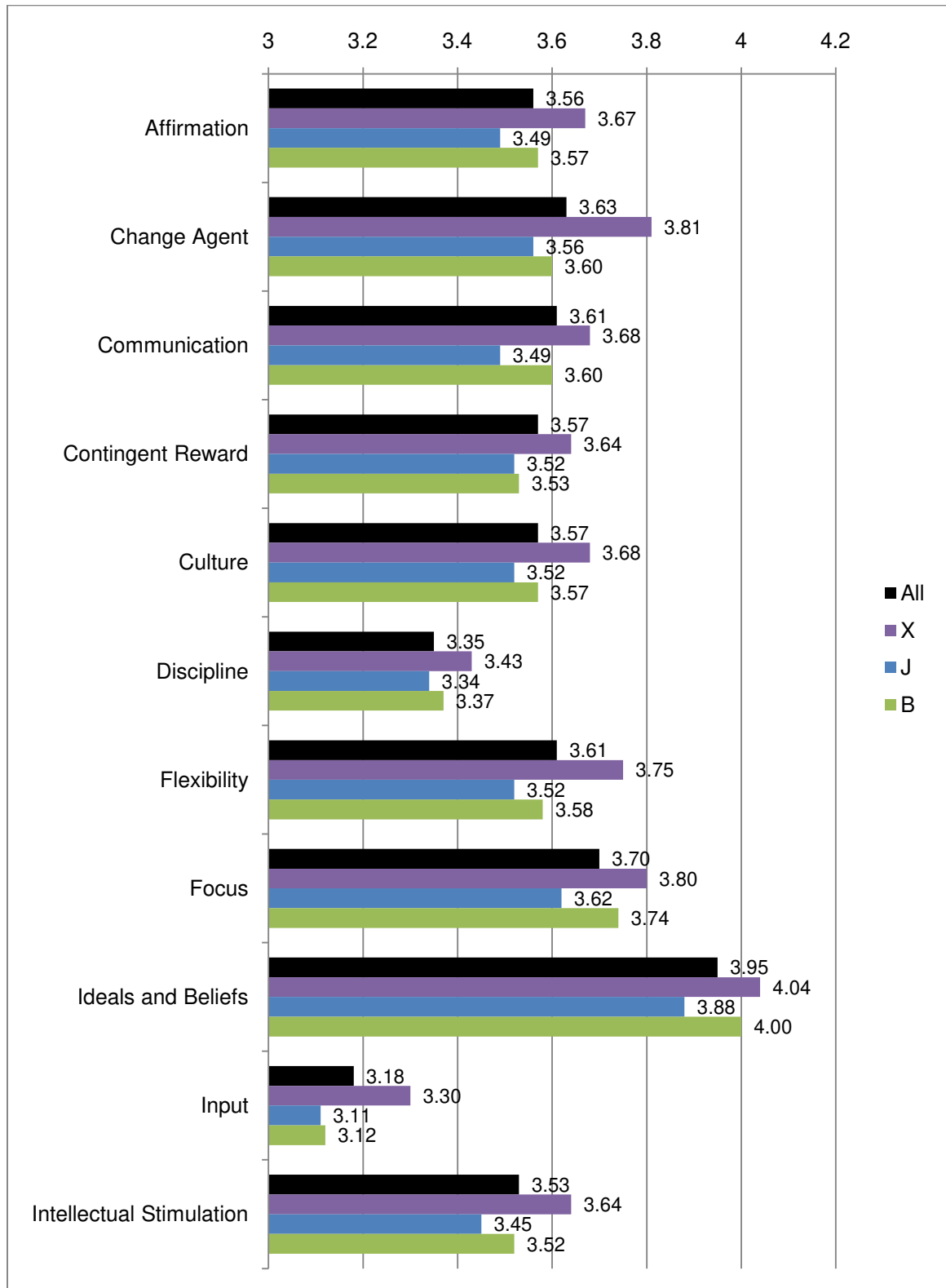
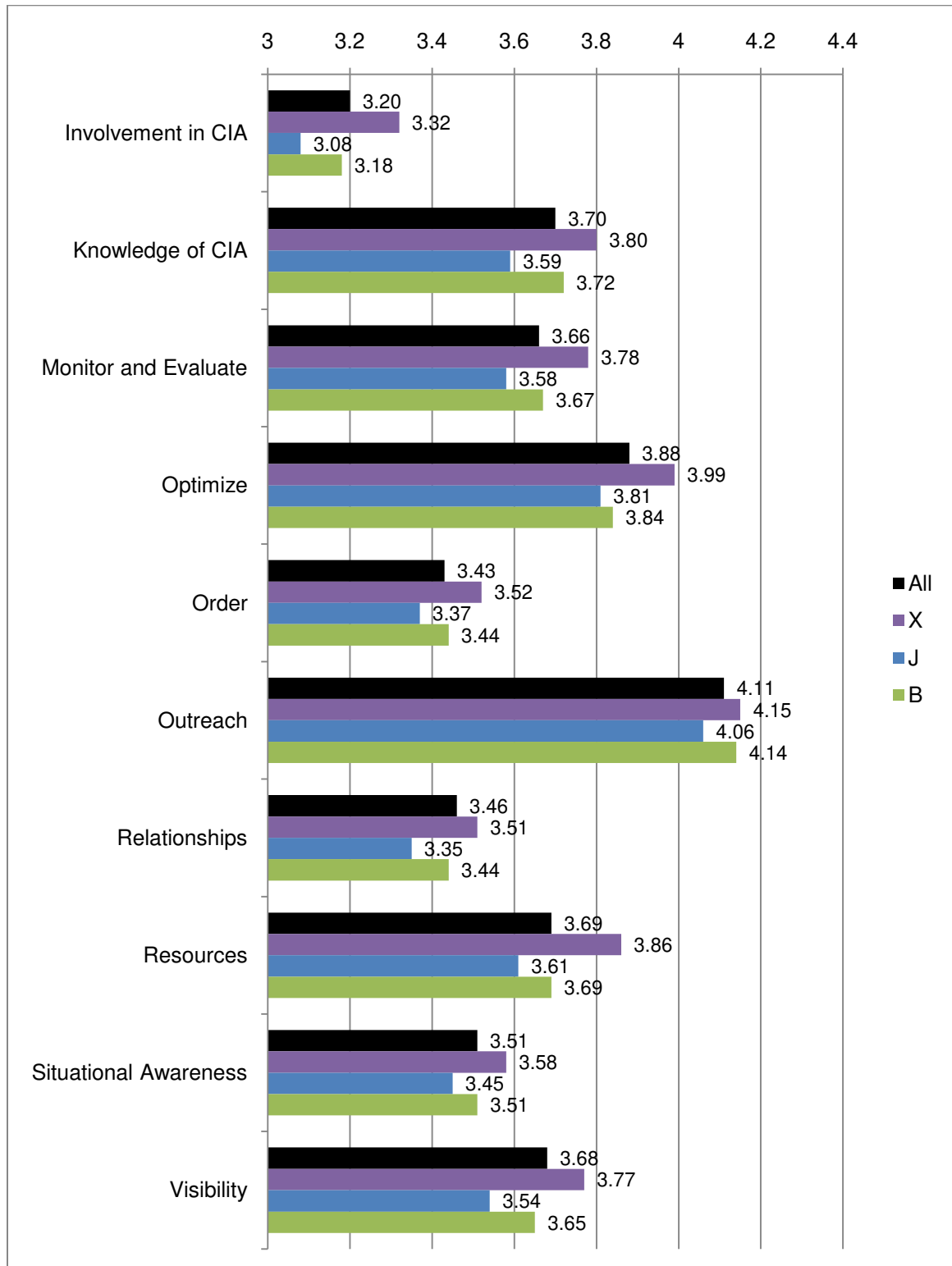


Figure 4: Teacher Perception Mean Ratings of 2nd Order Change Leadership Capacity by Responsibility of All Principals and Principal Generational Cohorts (continued)



1st Order Change Leadership Comparisons.

Table 24-44 depict findings of statistically significant differences between teacher perception mean ratings of different generational cohorts of principals. Each generational cohort is compared against each other and to all other generations of principals combined. A “No” indicates that the comparison was not significantly different at the 99% confidence level. Shaded means returned at least one statistically significant difference when analyzed with SPSS software.

Although many of these differences are statistically significant, they are based on many teacher ratings of a smaller, limited number of principals. Beyond t-tests for significant difference, this research required that a generational cohort had at least 25 principals within the cohort being rated, regardless of the number of teacher ratings. The Millennial and Silent generations did not have enough principals within the sample size to meet this last standard.

In the following charts, groups are cross-compared from the vertical to the horizontal axis or visa-versa. The most important data is underlined. The mean teacher perception ratings are shown for each group along each axis except for All Other Principals. To compare a certain group against All Other Principals, this research subtracted that certain group’s data sets from the overall group to avoid comparing data from a group against partial data from itself. For instance, comparing Generation Jones to All Other Principals requires that means are compiled for all generations minus Generation Jones data sets. These special comparison means are denoted by (*varies*) and then shown in the table when they are frond to be significantly different. Underlined findings passed the standards of statistically significant difference, resulting in at least a ± 0.08 difference for meaningful conclusions, and a principal sample size of at least 25 or more.

Findings for each of the 21 leadership responsibilities under 1st order change conditions are depicted in the following 21 Tables. The definitions of the leadership responsibilities from Waters, Marzano, and McNulty (2003) and synopses of their findings can be found in Chapter 4.

Table 24: Affirmation Leadership Responsibility when Leading 1st Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.96$	Generation Jones Principals $\bar{x} = 4.00$	Baby Boomer Principals $\bar{x} = 3.95$
All Other Principals $\bar{x} = (\text{varies})$		NO	YES (3.95) $t = -2.882$ ($p < .004$)	NO
Gen-X Principals $\bar{x} = 3.96$	NO		NO	NO
Generation Jones Principals $\bar{x} = 4.00$	YES (3.95) $t = 2.882$ ($p < .004$)	NO		YES $t = 2.153$ ($p < .012$)
Baby Boomer Principals $\bar{x} = 3.95$	NO	NO	YES $t = -2.153$ ($p < .012$)	

Table 25: Change Agent Leadership Responsibility when Leading 1st Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.94$	Generation Jones Principals $\bar{x} = 4.00$	Baby Boomer Principals $\bar{x} = 3.91$
All Other Principals $\bar{x} = (\text{varies})$		NO	YES (3.93) $t = -4.996$ ($p < .001$)	YES (3.97) $t = 4.127$ ($p < .001$)
Gen-X Principals $\bar{x} = 3.94$	NO		YES $t = -3.782$ ($p < .001$)	NO
Generation Jones Principals $\bar{x} = 4.00$	YES (3.93) $t = 4.996$ ($p < .001$)	YES $t = 3.782$ ($p < .001$)		YES $t = 5.220$ ($p < .001$)
Baby Boomer Principals $\bar{x} = 3.91$	YES (3.97) $t = -4.127$ ($p < .001$)	NO	YES $t = -5.220$ ($p < .001$)	

Table 26: Communication Leadership Responsibility when Leading 1st Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 4.03$	Generation Jones Principals $\bar{x} = 4.08$	Baby Boomer Principals $\bar{x} = 4.06$
All Other Principals $\bar{x} = (\text{varies})$		YES (4.08) $t = 2.578$ ($p < .010$)	NO	NO
Gen-X Principals $\bar{x} = 4.03$	YES (4.08) $t = -2.578$ ($p < .010$)		YES $t = -2.455$ ($p < .014$)	NO
Generation Jones Principals $\bar{x} = 4.08$	NO	YES $t = 2.455$ ($p < .014$)		NO
Baby Boomer Principals $\bar{x} = 4.06$	NO	NO	NO	

Table 27: Contingent Reward Leadership Responsibility when Leading 1st Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.88$	Generation Jones Principals $\bar{x} = 3.91$	Baby Boomer Principals $\bar{x} = 3.85$
All Other Principals $\bar{x} = (\text{varies})$		NO	NO	YES (3.90) $t = 2.891$ ($p < .004$)
Gen-X Principals $\bar{x} = 3.88$	NO		NO	NO
Generation Jones Principals $\bar{x} = 3.90$	NO	NO		YES $t = 2.923$ ($p < .003$)
Baby Boomer Principals $\bar{x} = 3.85$	YES (3.90) $t = -2.891$ ($p < .004$)	NO	YES $t = -2.923$ ($p < .003$)	

Table 28: Culture Leadership Responsibility when Leading 1st Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 4.02$	Generation Jones Principals $\bar{x} = 4.06$	Baby Boomer Principals $\bar{x} = 4.05$
All Other Principals $\bar{x} = (\text{varies})$		YES (4.02) $t = 3.438$ ($p < .001$)	NO	NO
Gen-X Principals $\bar{x} = 4.02$	YES (4.06) $t = -3.438$ ($p < .001$)		YES $t = -3.367$ ($p < .001$)	NO
Generation Jones Principals $\bar{x} = 4.06$	NO	YES $t = 3.367$ ($p < .001$)		NO
Baby Boomer Principals $\bar{x} = 4.05$	NO	NO	NO	

Table 29: *Discipline* Leadership Responsibility when Leading 1st Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.76$	Generation Jones Principals $\bar{x} = 3.85$	Baby Boomer Principals $\bar{x} = 3.81$
All Other Principals $\bar{x} = (\text{varies})$		YES (3.83) $t = 4.465$ ($p < .001$)	NO	NO
Gen-X Principals $\bar{x} = 3.76$	YES (3.83) $t = -4.465$ ($p < .001$)		YES $t = -4.925$ ($p < .001$)	YES $t = -2.587$ ($p < .001$)
Generation Jones Principals $\bar{x} = 3.85$	NO	YES $t = 4.925$ ($p < .001$)		NO
Baby Boomer Principals $\bar{x} = 3.81$	NO	YES $t = 2.587$ ($p < .001$)	NO	

Table 30: *Flexibility* Leadership Responsibility when Leading 1st Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.98$	Generation Jones Principals $\bar{x} = 4.02$	Baby Boomer Principals $\bar{x} = 3.94$
All Other Principals $\bar{x} = (\text{varies})$		NO	YES (3.96) $t = -3.758$ ($p < .001$)	YES (4.01) $t = 4.291$ ($p < .001$)
Gen-X Principals $\bar{x} = 3.98$	NO		NO	NO
Generation Jones Principals $\bar{x} = 4.02$	YES (3.96) $t = 3.758$ ($p < .001$)	NO		YES $t = 4.697$ ($p < .001$)
Baby Boomer Principals $\bar{x} = 3.94$	YES (4.01) $t = -4.291$ ($p < .001$)	NO	YES $t = -4.697$ ($p < .001$)	

Table 31: *Focus* Leadership Responsibility when Leading 1st Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 4.03$	Generation Jones Principals $\bar{x} = 4.14$	Baby Boomer Principals $\bar{x} = 4.13$
All Other Principals $\bar{x} = (\text{varies})$		YES (4.14) $t = 9.331$ ($p < .001$)	YES (4.09) $t = -4.731$ ($p < .001$)	NO
Gen-X Principals $\bar{x} = 4.03$	YES (4.14) $t = -9.331$ ($p < .001$)		YES $t = -8.094$ ($p < .001$)	YES $t = -7.230$ ($p < .001$)
Generation Jones Principals $\bar{x} = 4.14$	YES (4.09) $t = 4.731$ ($p < .001$)	YES $t = 8.094$ ($p < .001$)		NO
Baby Boomer Principals $\bar{x} = 4.13$	NO	YES $t = 7.230$ ($p < .001$)	NO	

Table 32: *Ideals and Beliefs* Leadership Responsibility when Leading 1st Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 4.27$	Generation Jones Principals $\bar{x} = 4.35$	Baby Boomer Principals $\bar{x} = 4.35$
All Other Principals $\bar{x} = (\text{varies})$		YES (4.35) $t = 6.345$ ($p < .001$)	YES (4.31) $t = -3.214$ ($p < .001$)	YES (4.32) $t = -2.507$ ($p < .012$)
Gen-X Principals $\bar{x} = 4.27$	YES (4.35) $t = -6.345$ ($p < .001$)		YES $t = -5.439$ ($p < .001$)	YES $t = -5.158$ ($p < .001$)
Generation Jones Principals $\bar{x} = 4.35$	YES (4.31) $t = 3.214$ ($p < .001$)	YES $t = 5.439$ ($p < .001$)		NO
Baby Boomer Principals $\bar{x} = 4.35$	YES (4.32) $t = 2.507$ ($p < .012$)	YES $t = 5.158$ ($p < .001$)	NO	

Table 33: *Input* Leadership Responsibility when Leading 1st Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.65$	Generation Jones Principals $\bar{x} = 3.71$	Baby Boomer Principals $\bar{x} = 3.64$
All Other Principals $\bar{x} = (\text{varies})$		NO	YES (3.65) $t = -3.394$ ($p < .001$)	YES (3.69) $t = 2.640$ ($p < .008$)
Gen-X Principals $\bar{x} = 3.65$	NO		YES $t = -2.718$ ($p < .007$)	NO
Generation Jones Principals $\bar{x} = 3.71$	YES (3.65) $t = 3.394$ ($p < .001$)	YES $t = 2.718$ ($p < .007$)		YES $t = 3.472$ ($p < .001$)
Baby Boomer Principals $\bar{x} = 3.64$	YES (3.69) $t = -2.640$ ($p < .008$)	NO	YES $t = -3.472$ ($p < .001$)	

Table 34: *Intellectual Stimulation* Leadership Responsibility when Leading 1st Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.84$	Generation Jones Principals $\bar{x} = 3.91$	Baby Boomer Principals $\bar{x} = 3.86$
All Other Principals $\bar{x} = (\text{varies})$		YES (3.89) $t = 3.290$ ($p < .001$)	YES (3.85) $t = -3.884$ ($p < .001$)	NO
Gen-X Principals $\bar{x} = 3.84$	YES (3.89) $t = -3.290$ ($p < .001$)		YES $t = -4.064$ ($p < .001$)	NO
Generation Jones Principals $\bar{x} = 3.91$	YES (3.85) $t = 3.884$ ($p < .001$)	YES $t = 4.064$ ($p < .001$)		YES $t = 2.495$ ($p < .013$)
Baby Boomer Principals $\bar{x} = 3.86$	NO	NO	YES $t = -2.495$ ($p < .013$)	

Table 35: Involvement in CIA Leadership Responsibility when Leading 1st Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.54$	Generation Jones Principals $\bar{x} = 3.63$	Baby Boomer Principals $\bar{x} = 3.54$
All Other Principals $\bar{x} = (\text{varies})$		YES (3.60) $t = 2.803$ ($p < .005$)	YES (3.55) $t = -4.483$ ($p < .001$)	YES (3.59) $t = 2.652$ ($p < .008$)
Gen-X Principals $\bar{x} = 3.54$	YES (3.60) $t = -2.803$ ($p < .005$)		YES $t = -4.098$ ($p < .001$)	NO
Generation Jones Principals $\bar{x} = 3.63$	YES (3.55) $t = 4.483$ ($p < .001$)	YES $t = 4.098$ ($p < .001$)		YES $t = 4.023$ ($p < .001$)
Baby Boomer Principals $\bar{x} = 3.54$	YES (3.59) $t = -2.652$ ($p < .008$)	NO	YES $t = -4.023$ ($p < .001$)	

Table 36: Knowledge of CIA Leadership Responsibility when Leading 1st Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 4.03$	Generation Jones Principals $\bar{x} = 4.12$	Baby Boomer Principals $\bar{x} = 4.08$
All Other Principals $\bar{x} = (\text{varies})$		YES (4.11) $t = 5.018$ ($p < .001$)	YES (4.06) $t = -4.505$ ($p < .001$)	NO
Gen-X Principals $\bar{x} = 4.03$	YES (4.11) $t = -5.018$ ($p < .001$)		YES $t = -5.448$ ($p < .001$)	YES $t = -2.681$ ($p < .007$)
Generation Jones Principals $\bar{x} = 4.12$	YES (4.06) $t = 4.505$ ($p < .001$)	YES $t = 5.448$ ($p < .001$)		YES $t = 2.537$ ($p < .011$)
Baby Boomer Principals $\bar{x} = 4.08$	NO	YES $t = 2.681$ ($p < .007$)	YES $t = -2.537$ ($p < .011$)	

Table 37: Monitor and Evaluate Leadership Responsibility when Leading 1st Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.99$	Generation Jones Principals $\bar{x} = 4.11$	Baby Boomer Principals $\bar{x} = 4.03$
All Other Principals $\bar{x} = (\text{varies})$		YES (4.08) $t = 6.221$ ($p < .001$)	YES (4.02) $t = -6.987$ ($p < .001$)	NO
Gen-X Principals $\bar{x} = 3.99$	YES (4.08) $t = -6.221$ ($p < .001$)		YES $t = -7.484$ ($p < .001$)	NO
Generation Jones Principals $\bar{x} = 4.11$	YES (4.02) $t = 6.987$ ($p < .001$)	YES $t = 7.484$ ($p < .001$)		YES $t = 5.077$ ($p < .001$)
Baby Boomer Principals $\bar{x} = 4.03$	NO	NO	YES $t = -5.077$ ($p < .001$)	

Table 38: Optimize Leadership Responsibility when Leading 1st Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 4.21$	Generation Jones Principals $\bar{x} = 4.26$	Baby Boomer Principals $\bar{x} = 4.21$
All Other Principals $\bar{x} = (\text{varies})$		NO	YES (4.21) $t = -3.400$ ($p < .001$)	NO
Gen-X Principals $\bar{x} = 4.21$	NO		YES $t = -3.140$ ($p < .002$)	NO
Generation Jones Principals $\bar{x} = 4.26$	YES (4.21) $t = 3.400$ ($p < .001$)	YES $t = 3.140$ ($p < .002$)		YES $t = 3.121$ ($p < .002$)
Baby Boomer Principals $\bar{x} = 4.21$	NO	NO	YES $t = -3.121$ ($p < .002$)	

Table 39: Order Leadership Responsibility when Leading 1st Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.84$	Generation Jones Principals $\bar{x} = 3.91$	Baby Boomer Principals $\bar{x} = 3.92$
All Other Principals $\bar{x} = (\text{varies})$		YES (3.92) $t = 4.473$ ($p < .001$)	NO	NO
Gen-X Principals $\bar{x} = 3.84$	YES (3.92) $t = -4.473$ ($p < .001$)		YES $t = -3.629$ ($p < .001$)	YES $t = -3.827$ ($p < .001$)
Generation Jones Principals $\bar{x} = 3.91$	NO	YES $t = 3.629$ ($p < .001$)		NO
Baby Boomer Principals $\bar{x} = 3.92$	NO	YES $t = 3.827$ ($p < .001$)	NO	

Table 40: Outreach Leadership Responsibility when Leading 1st Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 4.38$	Generation Jones Principals $\bar{x} = 4.45$	Baby Boomer Principals $\bar{x} = 4.45$
All Other Principals $\bar{x} = (\text{varies})$		YES (4.45) $t = 5.490$ ($p < .001$)	NO	NO
Gen-X Principals $\bar{x} = 4.38$	YES (4.45) $t = -5.490$ ($p < .001$)		YES $t = -4.864$ ($p < .001$)	YES $t = -4.257$ ($p < .001$)
Generation Jones Principals $\bar{x} = 4.45$	NO	YES $t = 4.864$ ($p < .001$)		NO
Baby Boomer Principals $\bar{x} = 4.45$	NO	YES $t = 4.257$ ($p < .001$)	NO	

Table 41: Relationships Leadership Responsibility when Leading 1st Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.84$	Generation Jones Principals $\bar{x} = 3.89$	Baby Boomer Principals $\bar{x} = 3.87$
All Other Principals $\bar{x} = (\text{varies})$		YES (3.88) $t = 2.979$ ($p < .003$)	YES (3.85) $t = -2.590$ ($p < .010$)	NO
Gen-X Principals $\bar{x} = 3.84$	YES (3.88) $t = -2.979$ ($p < .003$)		YES $t = -3.170$ ($p < .002$)	NO
Generation Jones Principals $\bar{x} = 3.89$	YES (3.85) $t = 2.590$ ($p < .010$)	YES $t = 3.170$ ($p < .002$)		NO
Baby Boomer Principals $\bar{x} = 3.87$	NO	NO	NO	

Table 42: Resources Leadership Responsibility when Leading 1st Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 4.12$	Generation Jones Principals $\bar{x} = 4.14$	Baby Boomer Principals $\bar{x} = 4.15$
All Other Principals $\bar{x} = (\text{varies})$		NO	NO	NO
Gen-X Principals $\bar{x} = 4.12$	NO		NO	NO
Generation Jones Principals $\bar{x} = 4.14$	NO	NO		NO
Baby Boomer Principals $\bar{x} = 4.15$	NO	NO	NO	

Table 43: Situational Awareness Leadership Responsibility when Leading 1st Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.86$	Generation Jones Principals $\bar{x} = 3.95$	Baby Boomer Principals $\bar{x} = 3.89$
All Other Principals $\bar{x} = (\text{varies})$		YES (3.93) $t = 4.802$ ($p < .001$)	YES (3.88) $t = -4.948$ ($p < .001$)	NO
Gen-X Principals $\bar{x} = 3.86$	YES (3.93) $t = -4.802$ ($p < .001$)		YES $t = -5.519$ ($p < .001$)	NO
Generation Jones Principals $\bar{x} = 3.95$	YES (3.88) $t = 4.948$ ($p < .001$)	YES $t = 5.519$ ($p < .001$)		YES $t = 3.377$ ($p < .001$)
Baby Boomer Principals $\bar{x} = 3.89$	NO	NO	YES $t = -3.377$ ($p < .001$)	

Table 44: Visibility Leadership Responsibility when Leading 1st Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 4.07$	Generation Jones Principals $\bar{x} = 4.11$	Baby Boomer Principals $\bar{x} = 3.95$
All Other Principals $\bar{x} = (\text{varies})$		NO	YES (4.02) $t = -4.890$ ($p < .001$)	YES (4.09) $t = 7.464$ ($p < .001$)
Gen-X Principals $\bar{x} = 4.07$	NO		NO	YES $t = 5.005$ ($p < .001$)
Generation Jones Principals $\bar{x} = 4.11$	YES (4.02) $t = 4.890$ ($p < .001$)	NO		YES $t = 7.360$ ($p < .001$)
Baby Boomer Principals $\bar{x} = 3.95$	YES (4.09) $t = -7.464$ ($p < .001$)	YES $t = -5.005$ ($p < .001$)	YES $t = -7.360$ ($p < .001$)	

2nd Order Change Leadership Comparisons.

Table 45-65 also depict findings of statistically significant differences between teacher perception mean ratings of their principals by generational cohort group, but this time the tables show possible differences when principals lead 2nd order change.

Although a number of these differences are statistically significant, they are based on many teacher ratings of a smaller, limited number of principals. Regardless of the number of teacher ratings, the Millennial and Silent generations did not have enough principals within the sample size to meet minimum standard and are therefore, not depicted in this section.

Like the previous charts, to read the charts that follow, cross-compare groups from the vertical to the horizontal axis or visa-versa. The most important data is underlined. The mean teacher perception ratings are shown for each group along each axis except for All Other Principals. To compare a certain group against All Other Principals, this research subtracted that certain group's data sets from the overall group to avoid comparing data from a group against partial data from itself. For instance, comparing Generation Jones to All Other Principals requires that means are compiled for all generations minus Generation Jones data sets. These special comparison means are denoted by (*varies*) and then shown in the table when they are found to be significantly different. Underlined findings passed the standards of statistically significant

difference resulting in at least a ± 0.08 difference for meaningful conclusions, and a principal sample size of at least 25 or more, even if the number rating teachers was large.

The definitions of the leadership responsibilities and synopses of their findings can be found in Chapter 4. Findings for each of the 21 leadership responsibilities under 2nd order change conditions are depicted in the following 21 Tables.

Table 45: Affirmation Leadership Responsibility when Leading 2nd Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.67$	Generation Jones Principals $\bar{x} = 3.49$	Baby Boomer Principals $\bar{x} = 3.57$
All Other Principals $\bar{x} = (\text{varies})$		YES (3.52) $t = -3.121$ ($p < .002$)	NO	NO
Gen-X Principals $\bar{x} = 3.67$	YES (3.52) $t = 3.121$ ($p < .002$)		YES $t = 3.364$ ($p < .001$)	NO
Generation Jones Principals $\bar{x} = 3.49$	NO	YES $t = -3.364$ ($p < .001$)		NO
Baby Boomer Principals $\bar{x} = 3.57$	NO	NO	NO	

Table 46: Change Agent Leadership Responsibility when Leading 2nd Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.81$	Generation Jones Principals $\bar{x} = 3.56$	Baby Boomer Principals $\bar{x} = 3.60$
All Other Principals $\bar{x} = (\text{varies})$		YES (3.58) $t = -5.588$ ($p < .001$)	YES (3.70) $t = 3.831$ ($p < .001$)	NO
Gen-X Principals $\bar{x} = 3.81$	YES (3.58) $t = 5.588$ ($p < .001$)		YES $t = 5.494$ ($p < .001$)	YES $t = 4.511$ ($p < .001$)
Generation Jones Principals $\bar{x} = 3.56$	YES (3.70) $t = -3.831$ ($p < .001$)	YES $t = -5.494$ ($p < .001$)		NO
Baby Boomer Principals $\bar{x} = 3.60$	NO	YES $t = -4.511$ ($p < .001$)	NO	

Table 47: Communication Leadership Responsibility when Leading 2nd Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.68$	Generation Jones Principals $\bar{x} = 3.49$	Baby Boomer Principals $\bar{x} = 3.60$
All Other Principals $\bar{x} = (\text{varies})$		YES (3.55) $t = -2.560$ ($p < .011$)	YES (3.65) $t = 3.238$ ($p < .001$)	NO
Gen-X Principals $\bar{x} = 3.68$	YES (3.55) $t = 2.560$ ($p < .011$)		YES $t = 3.263$ ($p < .001$)	NO
Generation Jones Principals $\bar{x} = 3.49$	YES (3.65) $t = -3.238$ ($p < .001$)	YES $t = -3.263$ ($p < .001$)		NO
Baby Boomer Principals $\bar{x} = 3.60$	NO	NO	NO	

Table 48: Contingent Reward Leadership Responsibility when Leading 2nd Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.64$	Generation Jones Principals $\bar{x} = 3.52$	Baby Boomer Principals $\bar{x} = 3.53$
All Other Principals $\bar{x} = (\text{varies})$		YES (3.52) $t = -2.848$ ($p < .004$)	NO	NO
Gen-X Principals $\bar{x} = 3.64$	YES (3.52) $t = 2.848$ ($p < .004$)		YES $t = 2.552$ ($p < .011$)	NO
Generation Jones Principals $\bar{x} = 3.52$	NO	YES $t = -2.552$ ($p < .011$)		NO
Baby Boomer Principals $\bar{x} = 3.53$	NO	NO	NO	

Table 49: Culture Leadership Responsibility when Leading 2nd Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.68$	Generation Jones Principals $\bar{x} = 3.52$	Baby Boomer Principals $\bar{x} = 3.57$
All Other Principals $\bar{x} = (\text{varies})$		YES (3.55) $t = -3.806$ ($p < .001$)	YES (3.63) $t = 3.185$ ($p < .001$)	NO
Gen-X Principals $\bar{x} = 3.68$	YES (3.55) $t = 3.806$ ($p < .001$)		YES $t = 4.027$ ($p < .001$)	YES $t = 2.768$ ($p < .006$)
Generation Jones Principals $\bar{x} = 3.52$	YES (3.63) $t = -3.185$ ($p < .001$)	YES $t = -4.027$ ($p < .001$)		NO
Baby Boomer Principals $\bar{x} = 3.57$	NO	YES $t = -2.768$ ($p < .006$)	NO	

Table 50: Discipline Leadership Responsibility when Leading 2nd Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals \bar{x} = (varies)	Gen-X Principals \bar{x} = 3.43	Generation Jones Principals \bar{x} = 3.34	Baby Boomer Principals \bar{x} = 3.37
All Other Principals \bar{x} = (varies)		NO	NO	NO
Gen-X Principals \bar{x} = 3.43	NO		NO	NO
Generation Jones Principals \bar{x} = 3.34	NO	NO		NO
Baby Boomer Principals \bar{x} = 3.37	NO	NO	NO	

Table 51: Flexibility Leadership Responsibility when Leading 2nd Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals \bar{x} = (varies)	Gen-X Principals \bar{x} = 3.75	Generation Jones Principals \bar{x} = 3.52	Baby Boomer Principals \bar{x} = 3.58
All Other Principals \bar{x} = (varies)		YES (3.56) $t = -5.825$ ($p < .001$)	YES (3.67) $t = 2.736$ ($p < .006$)	NO
Gen-X Principals \bar{x} = 3.75	YES (3.56) $t = 5.825$ ($p < .001$)		YES $t = 5.494$ ($p < .001$)	YES $t = 4.739$ ($p < .001$)
Generation Jones Principals \bar{x} = 3.52	YES (3.67) $t = -2.736$ ($p < .006$)	YES $t = -5.494$ ($p < .001$)		NO
Baby Boomer Principals \bar{x} = 3.58	NO	YES $t = -4.739$ ($p < .001$)	NO	

Table 52: Focus Leadership Responsibility when Leading 2nd Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals \bar{x} = (varies)	Gen-X Principals \bar{x} = 3.80	Generation Jones Principals \bar{x} = 3.62	Baby Boomer Principals \bar{x} = 3.74
All Other Principals \bar{x} = (varies)		YES (3.68) $t = -3.597$ ($p < .001$)	YES (3.77) $t = 4.896$ ($p < .001$)	NO
Gen-X Principals \bar{x} = 3.80	YES (3.68) $t = 3.597$ ($p < .001$)		YES $t = 4.819$ ($p < .001$)	NO
Generation Jones Principals \bar{x} = 3.62	YES (3.77) $t = -4.896$ ($p < .001$)	YES $t = -4.819$ ($p < .001$)		YES $t = -3.319$ ($p < .001$)
Baby Boomer Principals \bar{x} = 3.74	NO	NO	YES $t = 3.319$ ($p < .001$)	

Table 53: *Ideals and Beliefs* Leadership Responsibility when Leading 2nd Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 4.04$	Generation Jones Principals $\bar{x} = 3.88$	Baby Boomer Principals $\bar{x} = 4.00$
All Other Principals $\bar{x} = (\text{varies})$		YES (3.94) $t = -2.516$ ($p < .012$)	YES (4.02) $t = 3.902$ ($p < .001$)	NO
Gen-X Principals $\bar{x} = 4.04$	YES (3.94) $t = 2.516$ ($p < .012$)		YES $t = 3.537$ ($p < .001$)	NO
Generation Jones Principals $\bar{x} = 3.88$	YES (4.02) $t = -3.902$ ($p < .001$)	YES $t = -3.537$ ($p < .001$)		YES $t = -2.711$ ($p < .007$)
Baby Boomer Principals $\bar{x} = 4.00$	NO	NO	YES $t = 2.711$ ($p < .007$)	

Table 54: *Input* Leadership Responsibility when Leading 2nd Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.30$	Generation Jones Principals $\bar{x} = 3.11$	Baby Boomer Principals $\bar{x} = 3.12$
All Other Principals $\bar{x} = (\text{varies})$		YES (3.12) $t = -3.465$ ($p < .001$)	NO	NO
Gen-X Principals $\bar{x} = 3.30$	YES (3.12) $t = 3.465$ ($p < .001$)		YES $t = 3.284$ ($p < .001$)	YES $t = 3.004$ ($p < .003$)
Generation Jones Principals $\bar{x} = 3.11$	NO	YES $t = -3.284$ ($p < .001$)		NO
Baby Boomer Principals $\bar{x} = 3.12$	NO	YES $t = -3.004$ ($p < .003$)	NO	

Table 55: *Intellectual Stimulation* Leadership Responsibility when Leading 2nd Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.64$	Generation Jones Principals $\bar{x} = 3.45$	Baby Boomer Principals $\bar{x} = 3.52$
All Other Principals $\bar{x} = (\text{varies})$		YES (3.48) $t = -3.621$ ($p < .001$)	YES (3.58) $t = 3.169$ ($p < .002$)	NO
Gen-X Principals $\bar{x} = 3.64$	YES (3.48) $t = 3.621$ ($p < .001$)		YES $t = 3.963$ ($p < .001$)	NO
Generation Jones Principals $\bar{x} = 3.45$	YES (3.58) $t = -3.169$ ($p < .002$)	YES $t = -3.963$ ($p < .001$)		NO
Baby Boomer Principals $\bar{x} = 3.52$	NO	NO	NO	

Table 56: *Involvement in CIA Leadership Responsibility when Leading 2nd Order Change*

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.32$	Generation Jones Principals $\bar{x} = 3.08$	Baby Boomer Principals $\bar{x} = 3.18$
All Other Principals $\bar{x} = (\text{varies})$		YES (3.13) $t = -3.552$ ($p < .001$)	YES (3.25) $t = 3.461$ ($p < .001$)	NO
Gen-X Principals $\bar{x} = 3.32$	YES (3.13) $t = 3.552$ ($p < .001$)		YES $t = 4.085$ ($p < .001$)	NO
Generation Jones Principals $\bar{x} = 3.08$	YES (3.25) $t = -3.461$ ($p < .001$)	YES $t = -4.085$ ($p < .001$)		NO
Baby Boomer Principals $\bar{x} = 3.18$	NO	NO	NO	

Table 57: *Knowledge of CIA Leadership Responsibility when Leading 2nd Order Change*

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.80$	Generation Jones Principals $\bar{x} = 3.59$	Baby Boomer Principals $\bar{x} = 3.72$
All Other Principals $\bar{x} = (\text{varies})$		YES (3.65) $t = -3.664$ ($p < .001$)	YES (3.76) $t = 4.556$ ($p < .001$)	NO
Gen-X Principals $\bar{x} = 3.80$	YES (3.65) $t = 3.664$ ($p < .001$)		YES $t = 4.687$ ($p < .001$)	NO
Generation Jones Principals $\bar{x} = 3.59$	YES (3.76) $t = -4.556$ ($p < .001$)	YES $t = -4.687$ ($p < .001$)		YES $t = -2.844$ ($p < .004$)
Baby Boomer Principals $\bar{x} = 3.72$	NO	NO	YES $t = 2.844$ ($p < .004$)	

Table 58: *Monitor and Evaluate Leadership Responsibility when Leading 2nd Order Change*

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.78$	Generation Jones Principals $\bar{x} = 3.58$	Baby Boomer Principals $\bar{x} = 3.67$
All Other Principals $\bar{x} = (\text{varies})$		YES (3.63) $t = -3.636$ ($p < .001$)	YES (3.72) $t = 3.627$ ($p < .001$)	NO
Gen-X Principals $\bar{x} = 3.78$	YES (3.63) $t = 3.636$ ($p < .001$)		YES $t = 4.239$ ($p < .001$)	NO
Generation Jones Principals $\bar{x} = 3.58$	YES (3.72) $t = -3.627$ ($p < .001$)	YES $t = -4.239$ ($p < .001$)		NO
Baby Boomer Principals $\bar{x} = 3.67$	NO	NO	NO	

Table 59: Optimize Leadership Responsibility when Leading 2nd Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals \bar{x} = (varies)	Gen-X Principals \bar{x} = 3.99	Generation Jones Principals \bar{x} = 3.81	Baby Boomer Principals \bar{x} = 3.84
All Other Principals \bar{x} = (varies)		YES (3.83) $t = -3.898$ ($p < .001$)	YES (3.92) $t = 2.788$ ($p < .005$)	NO
Gen-X Principals \bar{x} = 3.99	YES (3.83) $t = 3.898$ ($p < .001$)		YES $t = 3.890$ ($p < .001$)	YES $t = 3.283$ ($p < .001$)
Generation Jones Principals \bar{x} = 3.81	YES (3.92) $t = -2.788$ ($p < .005$)	YES $t = -3.890$ ($p < .001$)		NO
Baby Boomer Principals \bar{x} = 3.84	NO	YES $t = -3.283$ ($p < .001$)	NO	

Table 60: Order Leadership Responsibility when Leading 2nd Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals \bar{x} = (varies)	Gen-X Principals \bar{x} = 3.52	Generation Jones Principals \bar{x} = 3.37	Baby Boomer Principals \bar{x} = 3.44
All Other Principals \bar{x} = (varies)		NO	NO	NO
Gen-X Principals \bar{x} = 3.52	NO		YES $t = 2.609$ ($p < .009$)	NO
Generation Jones Principals \bar{x} = 3.37	NO	YES $t = -2.609$ ($p < .009$)		NO
Baby Boomer Principals \bar{x} = 3.44	NO	NO	NO	

Table 61: Outreach Leadership Responsibility when Leading 2nd Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals \bar{x} = (varies)	Gen-X Principals \bar{x} = 4.15	Generation Jones Principals \bar{x} = 4.06	Baby Boomer Principals \bar{x} = 4.14
All Other Principals \bar{x} = (varies)		NO	NO	NO
Gen-X Principals \bar{x} = 4.15	NO		NO	NO
Generation Jones Principals \bar{x} = 4.06	NO	NO		NO
Baby Boomer Principals \bar{x} = 4.14	NO	NO	NO	

Table 62: Relationships Leadership Responsibility when Leading 2nd Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.51$	Generation Jones Principals $\bar{x} = 3.35$	Baby Boomer Principals $\bar{x} = 3.44$
All Other Principals $\bar{x} = (\text{varies})$		NO	YES (3.48) $t = 3.016$ ($p < .003$)	NO
Gen-X Principals $\bar{x} = 3.51$	NO		YES $t = 3.019$ ($p < .003$)	NO
Generation Jones Principals $\bar{x} = 3.35$	YES (3.48) $t = -3.016$ ($p < .003$)	YES $t = -3.019$ ($p < .003$)		NO
Baby Boomer Principals $\bar{x} = 3.44$	NO	NO	NO	

Table 63: Resources Leadership Responsibility when Leading 2nd Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.86$	Generation Jones Principals $\bar{x} = 3.61$	Baby Boomer Principals $\bar{x} = 3.69$
All Other Principals $\bar{x} = (\text{varies})$		YES (3.65) $t = -4.501$ ($p < .001$)	YES (3.77) $t = 3.677$ ($p < .001$)	NO
Gen-X Principals $\bar{x} = 3.86$	YES (3.65) $t = 4.501$ ($p < .001$)		YES $t = 4.737$ ($p < .001$)	YES $t = 3.295$ ($p < .001$)
Generation Jones Principals $\bar{x} = 3.61$	YES (3.77) $t = -3.677$ ($p < .001$)	YES $t = -4.737$ ($p < .001$)		NO
Baby Boomer Principals $\bar{x} = 3.69$	NO	YES $t = -3.295$ ($p < .001$)	NO	

Table 64: Situational Awareness Leadership Responsibility when Leading 2nd Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.58$	Generation Jones Principals $\bar{x} = 3.45$	Baby Boomer Principals $\bar{x} = 3.51$
All Other Principals $\bar{x} = (\text{varies})$		YES (3.48) $t = -2.822$ ($p < .005$)	YES (3.55) $t = 2.852$ ($p < .004$)	NO
Gen-X Principals $\bar{x} = 3.58$	YES (3.48) $t = 2.822$ ($p < .005$)		YES $t = 3.231$ ($p < .001$)	NO
Generation Jones Principals $\bar{x} = 3.45$	YES (3.55) $t = -2.852$ ($p < .004$)	YES $t = -3.231$ ($p < .001$)		NO
Baby Boomer Principals $\bar{x} = 3.51$	NO	NO	NO	

Table 65: *Visibility* Leadership Responsibility when Leading 2nd Order Change

Significant Difference Between Means at the 99% Confidence Level	All Other Principals $\bar{x} = (\text{varies})$	Gen-X Principals $\bar{x} = 3.77$	Generation Jones Principals $\bar{x} = 3.54$	Baby Boomer Principals $\bar{x} = 3.65$
All Other Principals $\bar{x} = (\text{varies})$		YES (3.59) $t = -3.171$ ($p < .002$)	YES (3.71) $t = 3.367$ ($p < .001$)	NO
Gen-X Principals $\bar{x} = 3.77$	YES (3.59) $t = 3.171$ ($p < .002$)		YES $t = 3.705$ ($p < .001$)	NO
Generation Jones Principals $\bar{x} = 3.54$	YES (3.71) $t = -3.367$ ($p < .001$)	YES $t = -3.705$ ($p < .001$)		NO
Baby Boomer Principals $\bar{x} = 3.65$	NO	NO	NO	

The previous depictions of the research findings indicate that statistically significant differences in the teacher rating means of leadership capacity of different generations of principals exist under 1st and 2nd order change conditions.

Principal Self-ratings of Leadership Capacity Compared to Teacher Perceptions.

The following figures show graphs that compare the mean self-ratings of the different generations of principals to the teacher perception means of leadership capacity. The first set of graphs depict 1st order change leadership and the second set depict 2nd order change leadership according to the 21 leadership responsibilities. These figures depict sets of the following four findings:

1. averages of *All Principals'* self-ratings of their leadership capacity;
2. averages of each generation of principals' self ratings of leadership capacity;
3. teachers of each generation of principals average ratings of leadership capacity; and
4. the difference between each generation of principals' and their teachers' averages.

Teacher perceptions of Millennial and Silent Generation principals were analyzed, but are not depicted due to small sample sizes of rated principals. While enough Millennial and Silent principals took the survey themselves, not enough of them also asked their staff to take the survey. However, the following graphs do contain enough principal self-rating data to provide some window into how these principals see themselves when leading 2nd change. Therefore,

while their self-rating data is not compared to teacher ratings, like the other three principal groups, the self-ratings of Millennial and Silent Generation principals are shown for 2nd order change leadership. However, the sample sizes for 1st order change leadership were still too small to be of use for the Millennial and Silent Generation principal groups.

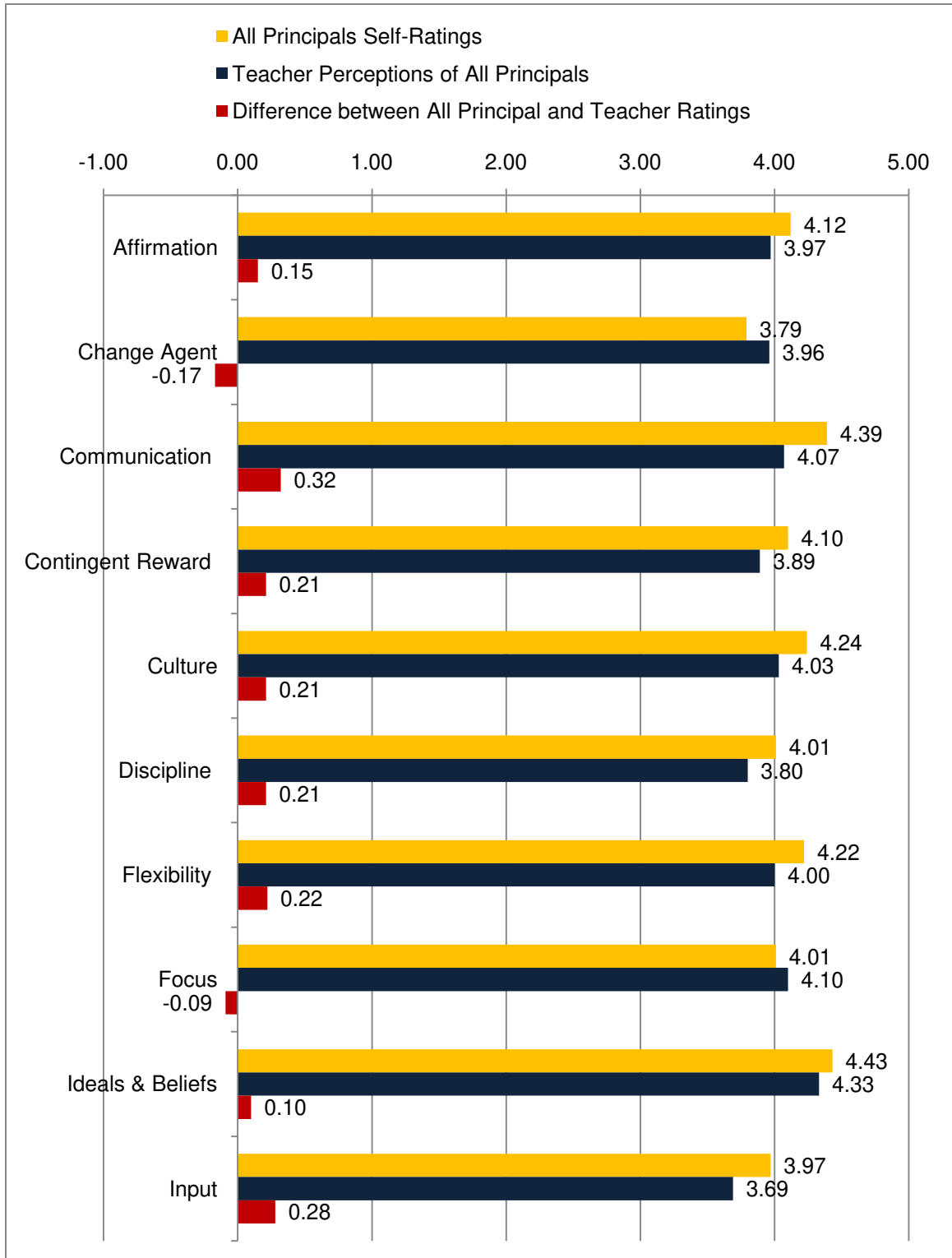
The last average at the bottom of each graph is the average of all 21 leadership responsibilities and how they compare. The sample size of each is shown under the title of each graph. Each set of figures is prefaced with a summary of findings.

Figures 5 and 6.

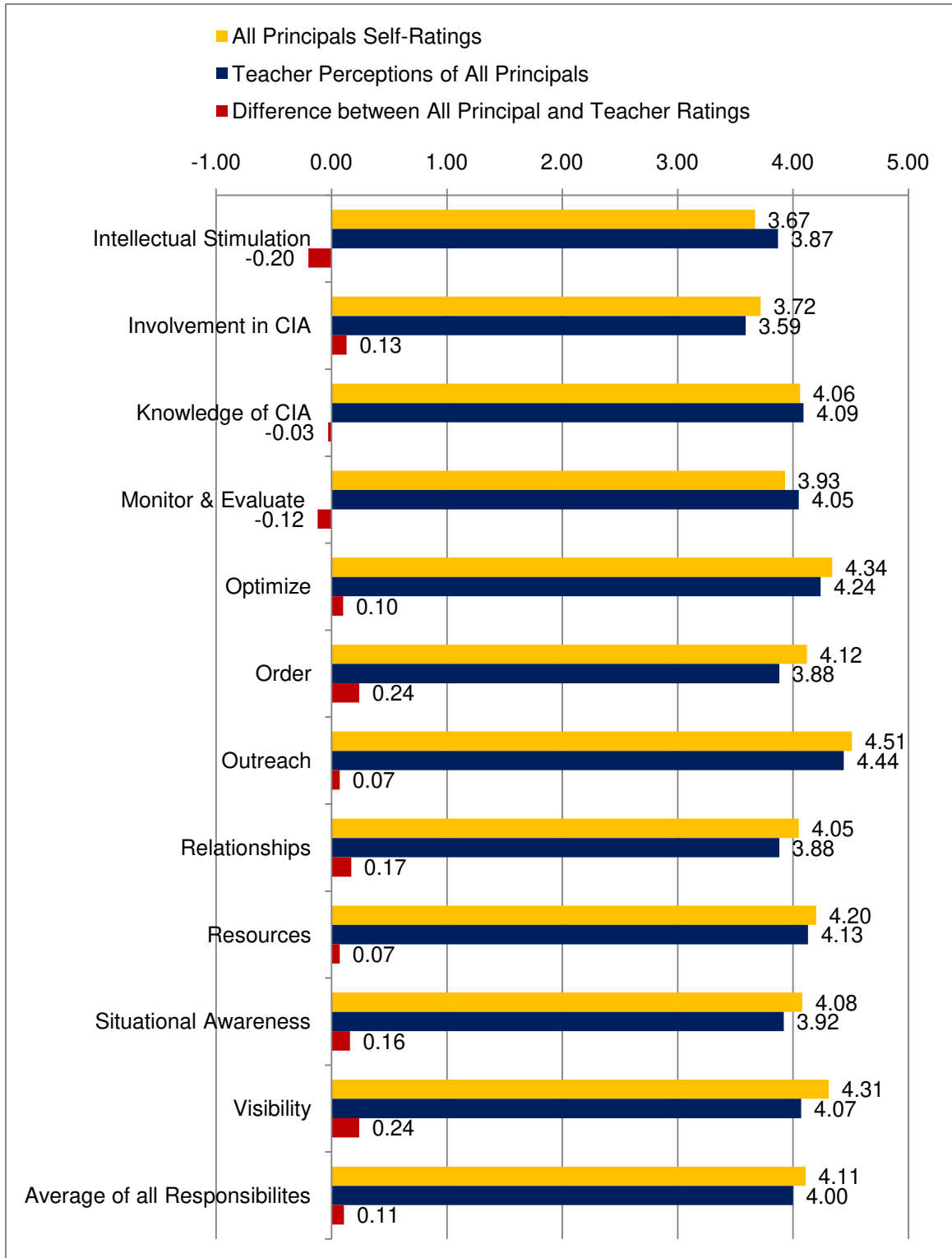
While teacher-perceived rankings for the top five leadership responsibilities for *All Principals* were similar for 1st or 2nd order change, the principals' self-ratings were different under 1st or 2nd order change conditions. Under 2nd order change conditions, *All Principals* self-rated themselves highest in *Outreach, Ideals and Beliefs, Optimize, Flexibility, and Visibility*. The first three of these ratings are consistent with the teacher-perceived ratings, while the last two responsibilities (*Flexibility* and *Visibility*) are not. On average, teachers rated *Visibility* 7th and *Flexibility* 11th out of 21 responsibilities for *All Principals*. Along with *Input* and *Situational Awareness, Communication* and *Flexibility* showed the greatest four declines between the principals' self-ratings and how the teachers rated them, under 2nd order change conditions, by approximately – 0.51.

All Principals and all generations tended to rate themselves higher under 1st order change conditions compared to teacher ratings. However, four leadership responsibilities regularly went against this trend. Principals tended to rate themselves lower compared to teacher perceptions in *Change Agent, Focus, Intellectual Stimulation, and Monitor and Evaluate* by – 0.09 to – 0.20.

**Figure: 5: Comparison of All Principals' Self-Ratings and Teacher Perceptions of
1st Order Change Leadership**
Sample Size = 585 Principals and 8,485 Teachers

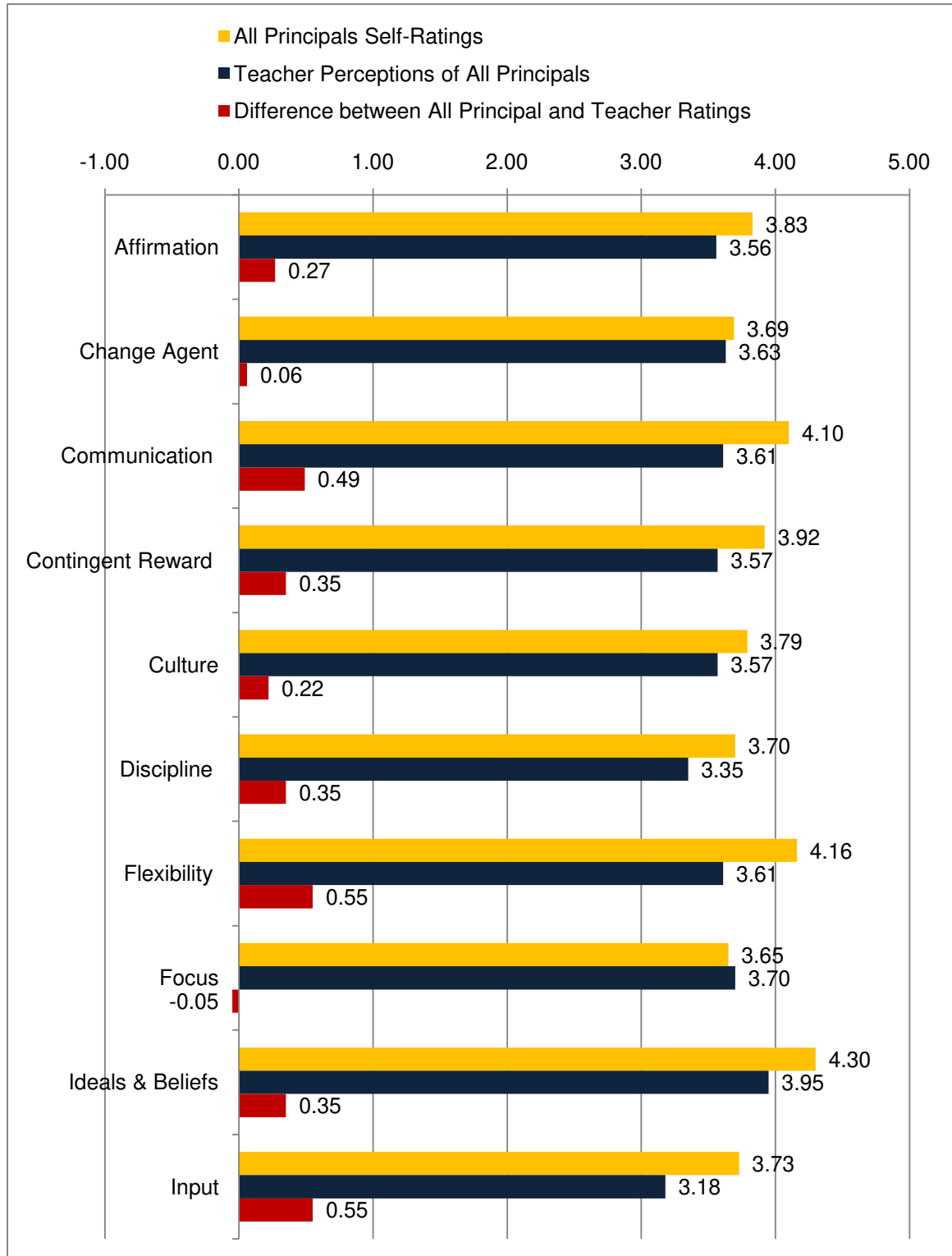


**Figure: 5: Comparison of All Principals' Self-Ratings and Teacher Perceptions of
1st Order Change Leadership (continued)**
Sample Size = 585 Principals and 8,485 Teachers



**Figure: 6: Comparison of All Principals' Self-Ratings and Teacher Perceptions of
2nd Order Change Leadership**

Sample Size = 2,889 Principals and 1,429 Teachers



**Figure: 6: Comparison of All Principals' Self-Ratings and Teacher Perceptions of
2nd Order Change Leadership (continued)**

Sample Size = 2,889 Principals and 1,429 Teachers

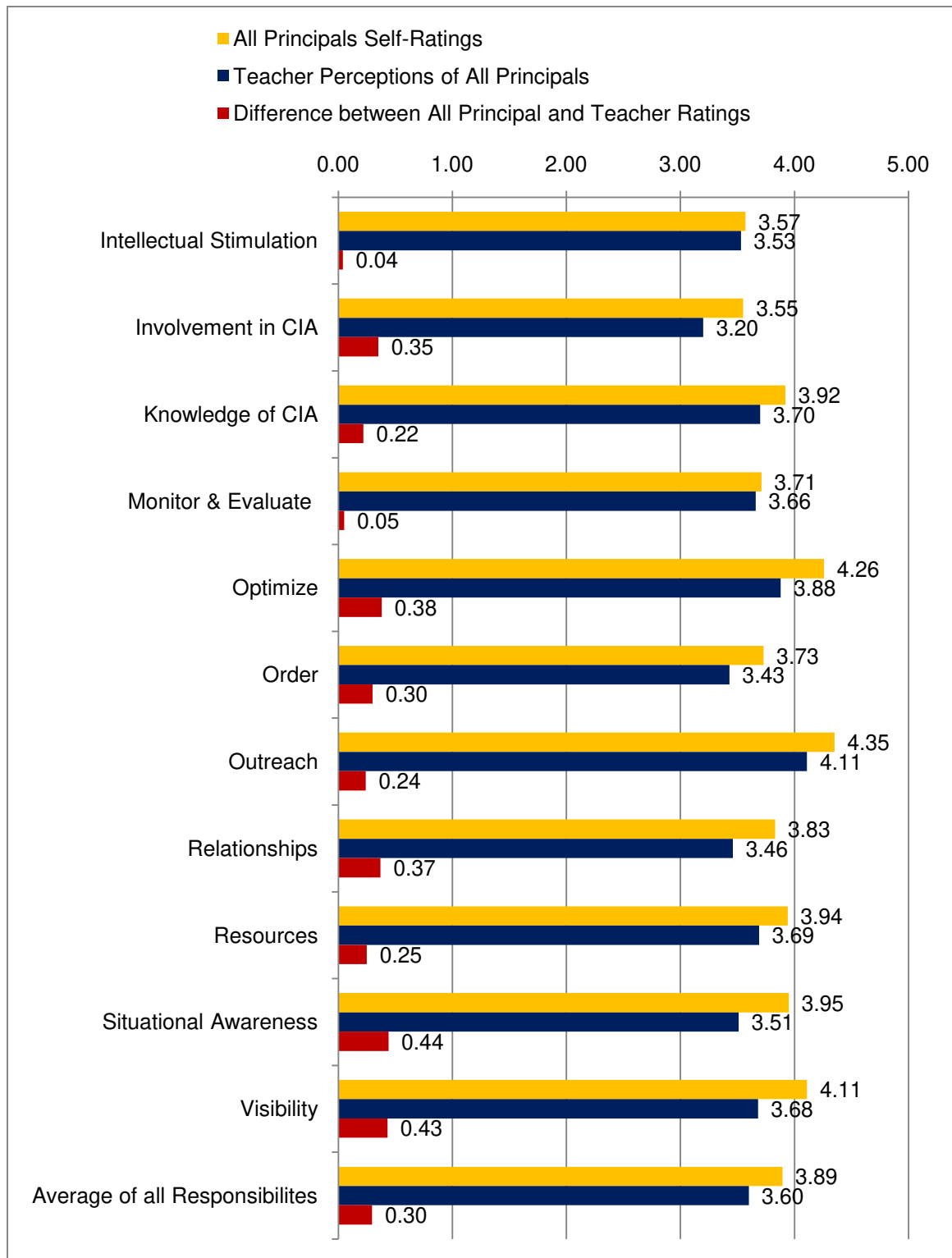


Figure 7.

The only semi reliable data available from the research in this study for the Millennial Generation comes from the Millennial principals' self-ratings of their 2nd order change leadership with a sample size of 90 principal responses (1st order change samples were still too small). Similar to the other generations, under 2nd order change conditions, they rated themselves highest in *Ideals and Beliefs, Outreach, Optimize, Visibility, and Communication*.

Figure 7: Millennial Principals' Self-Ratings of 2nd Order Change Leadership

Sample Size = 90 Principals (the sample sizes of rated principals and teachers were too small)

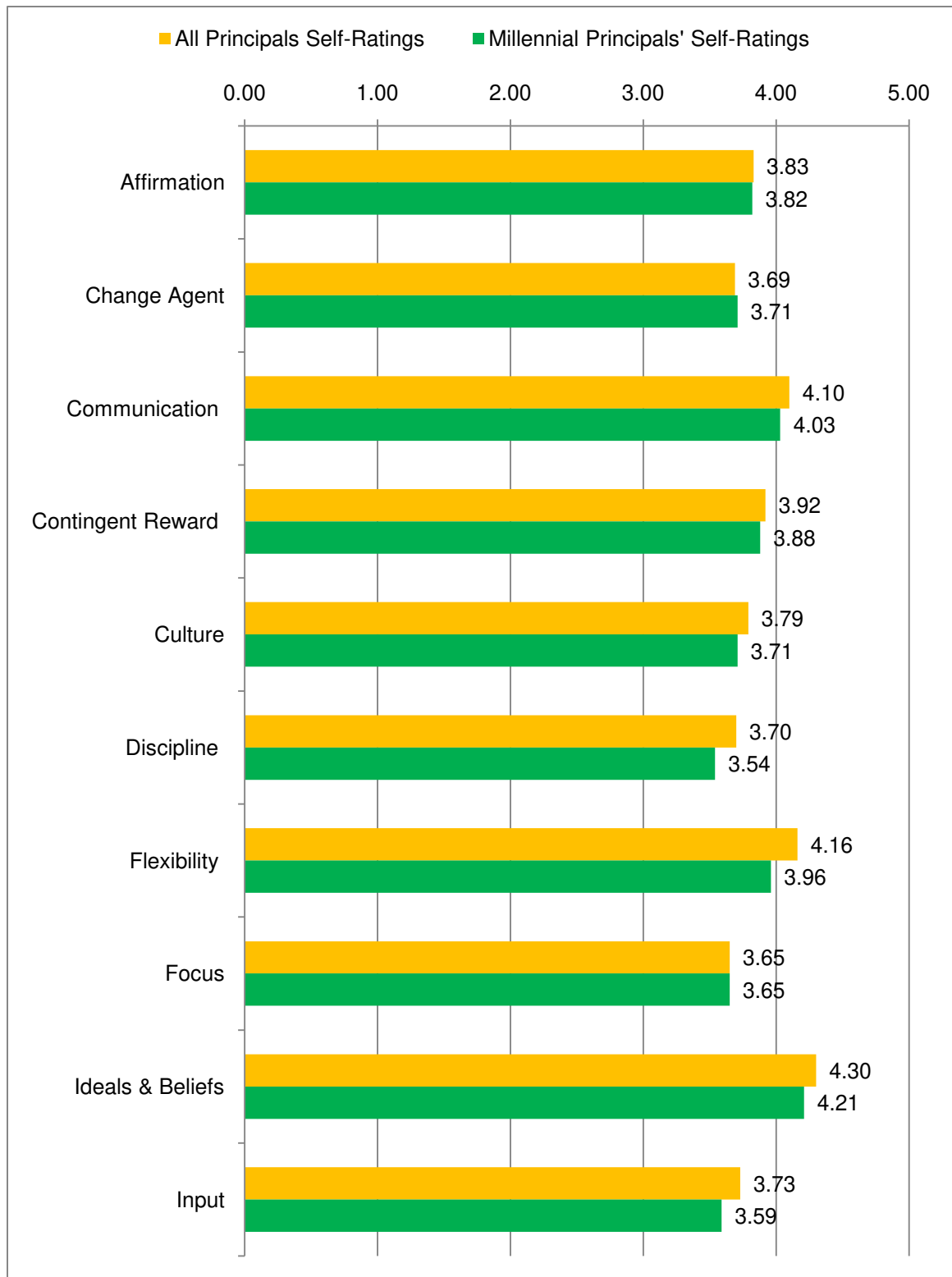
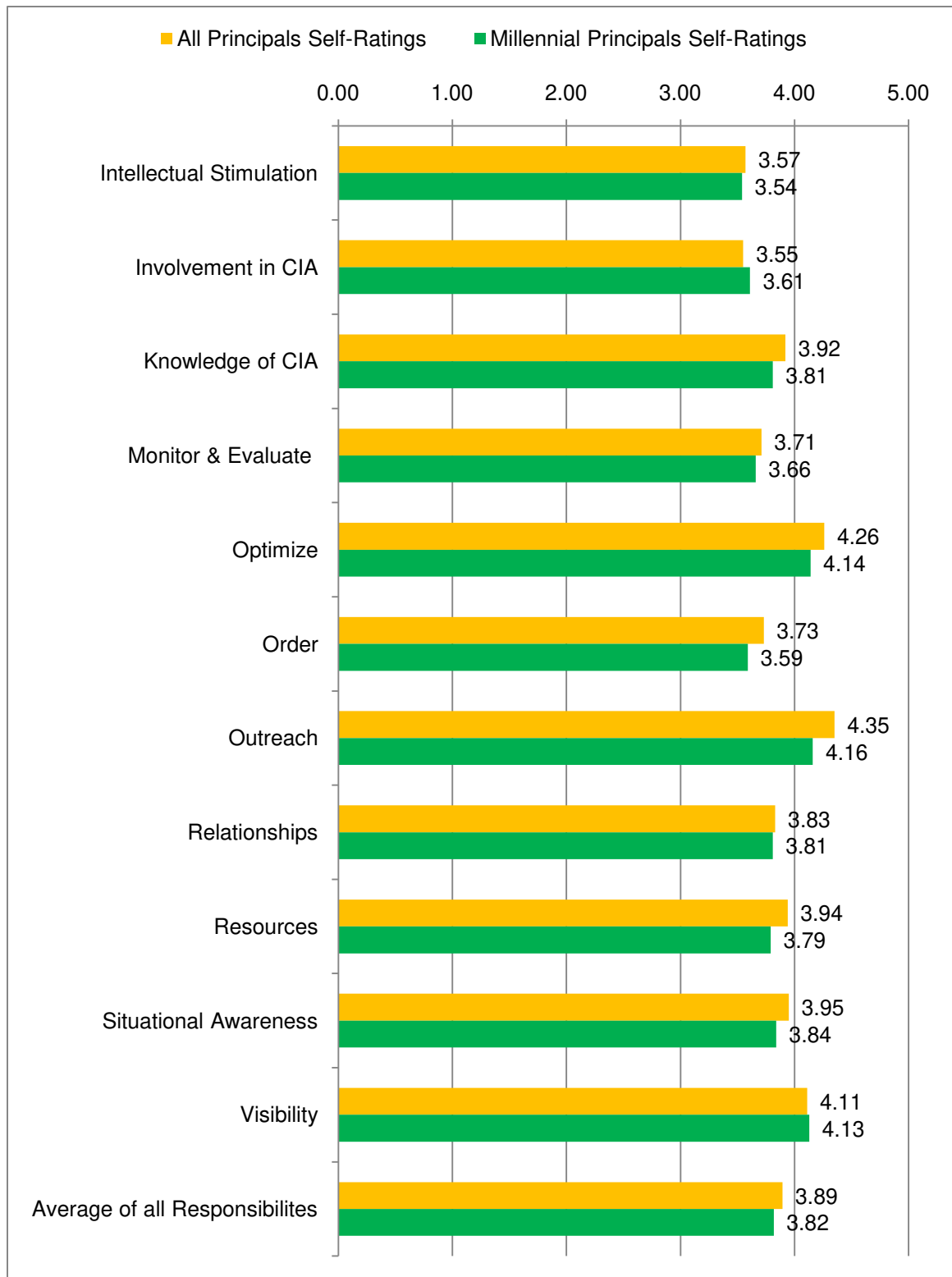


Figure 7: Millennial Principals' Self-Ratings of 2nd Order Change Leadership (continued)
Sample Size = 90 Principals (the sample sizes of rated principals and teachers were too small)



Figures 8 and 9.

Under 1st order conditions, Gen-X principals rated themselves higher on average by + 0.09 ($p < .001$) for all responsibilities compared to teacher perceptions averages. While less than the overratings of Generation Jones and Baby Boomer principals, it is a similar difference. However, under 2nd order change conditions, Gen-X principals tended to rate themselves higher by + 0.14 ($p < .001$) compared to teacher perception averages. Like all other generations of principals, they rate themselves higher more under 2nd order conditions than 1st order conditions, but Gen-X principals rate themselves higher at about 1/3 the amount of Generation Jones and Baby Boomer principals, when compared to teacher perceptions, under 2nd order conditions.

Regardless of change order, Gen-X principals rated themselves highest in the same top five areas as *All Principals*. However, under 1st order change conditions, teachers' averages indicated that *Resources* was at a high capacity for Gen-X principals and was one of the top five leadership responsibilities, although Gen-X principals did not rate it in their top five, rating *Communication* more highly instead. Under 2nd order change conditions, teachers' perception averages indicated that *Resources* and *Change Agent* were at a high capacity for Gen-X principals and were two of the top five leadership responsibilities, while Gen-X principals did not self-rate these in their top five.

Figure 8: Comparison of Gen-X Principals' Self-Ratings and Teacher Perceptions of 1st Order Change Leadership
Sample Size = 184 Principals and 1,726 Teachers

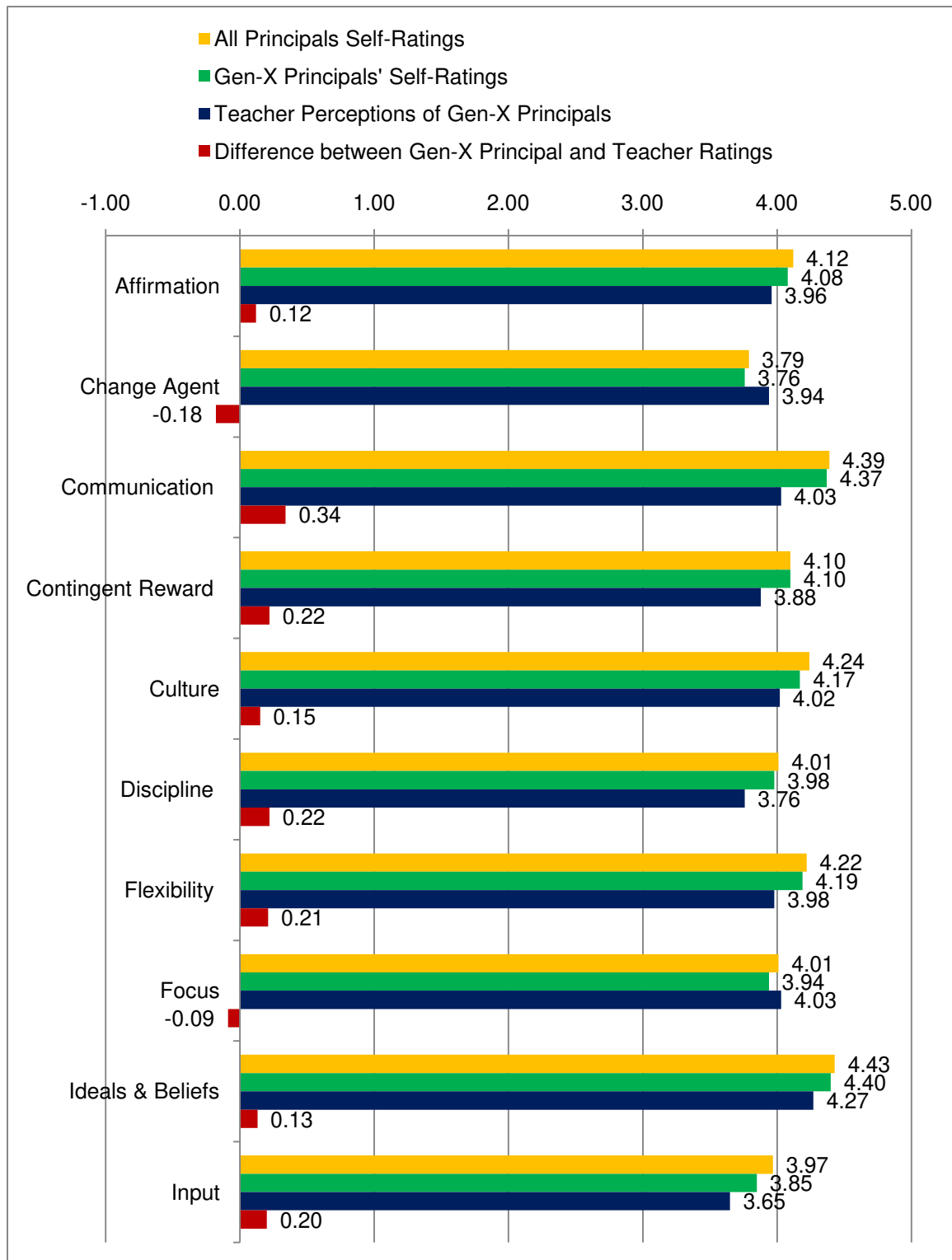


Figure 8: Comparison of Gen-X Principals' Self-Ratings and Teacher Perceptions of 1st Order Change Leadership (continued)
Sample Size = 184 Principals and 1,726 Teachers

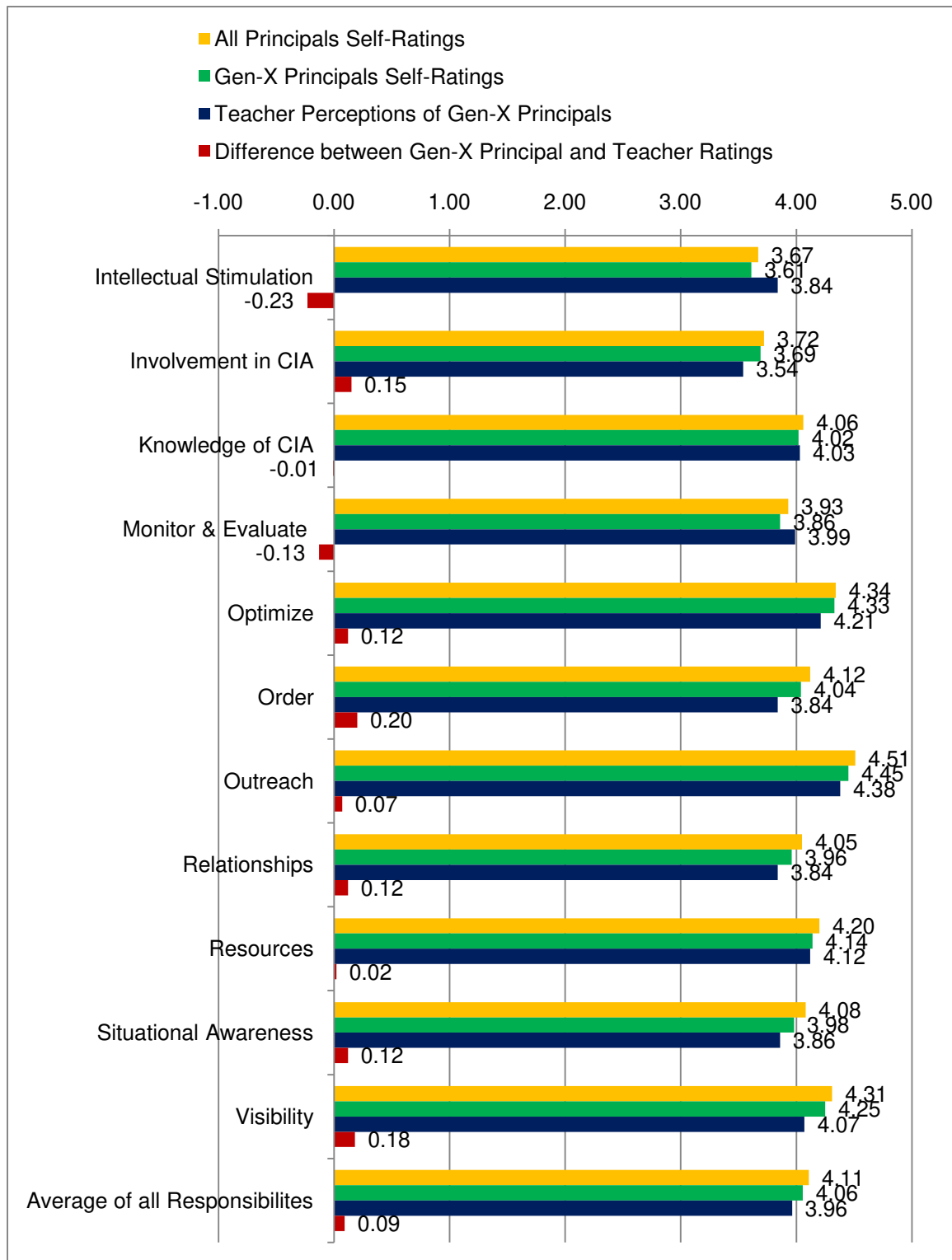


Figure 9: Comparison of Gen-X Principals' Self-Ratings and Teacher Perceptions of 2nd Order Change Leadership
Sample Size = 1,113 Principals and 250 Teachers

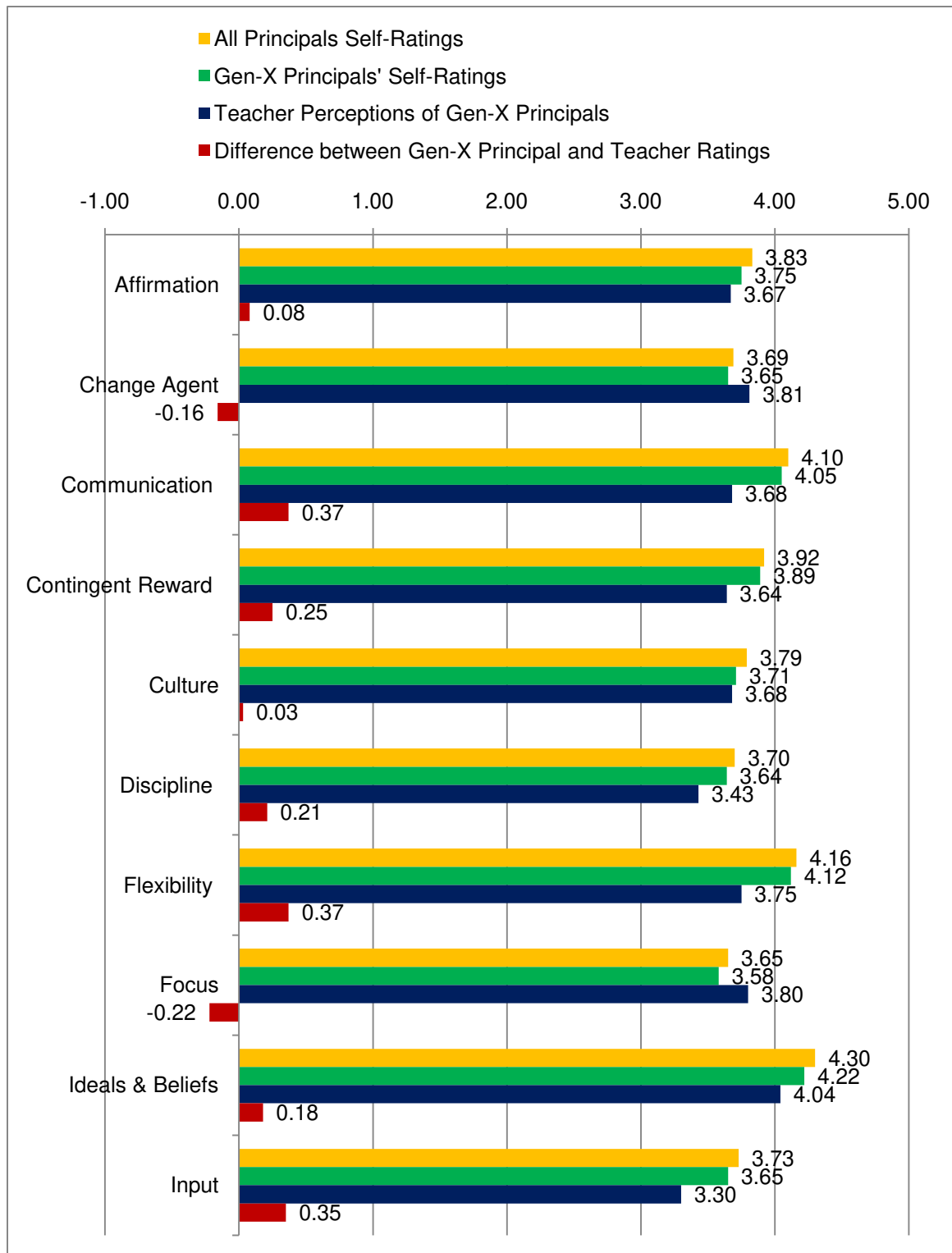
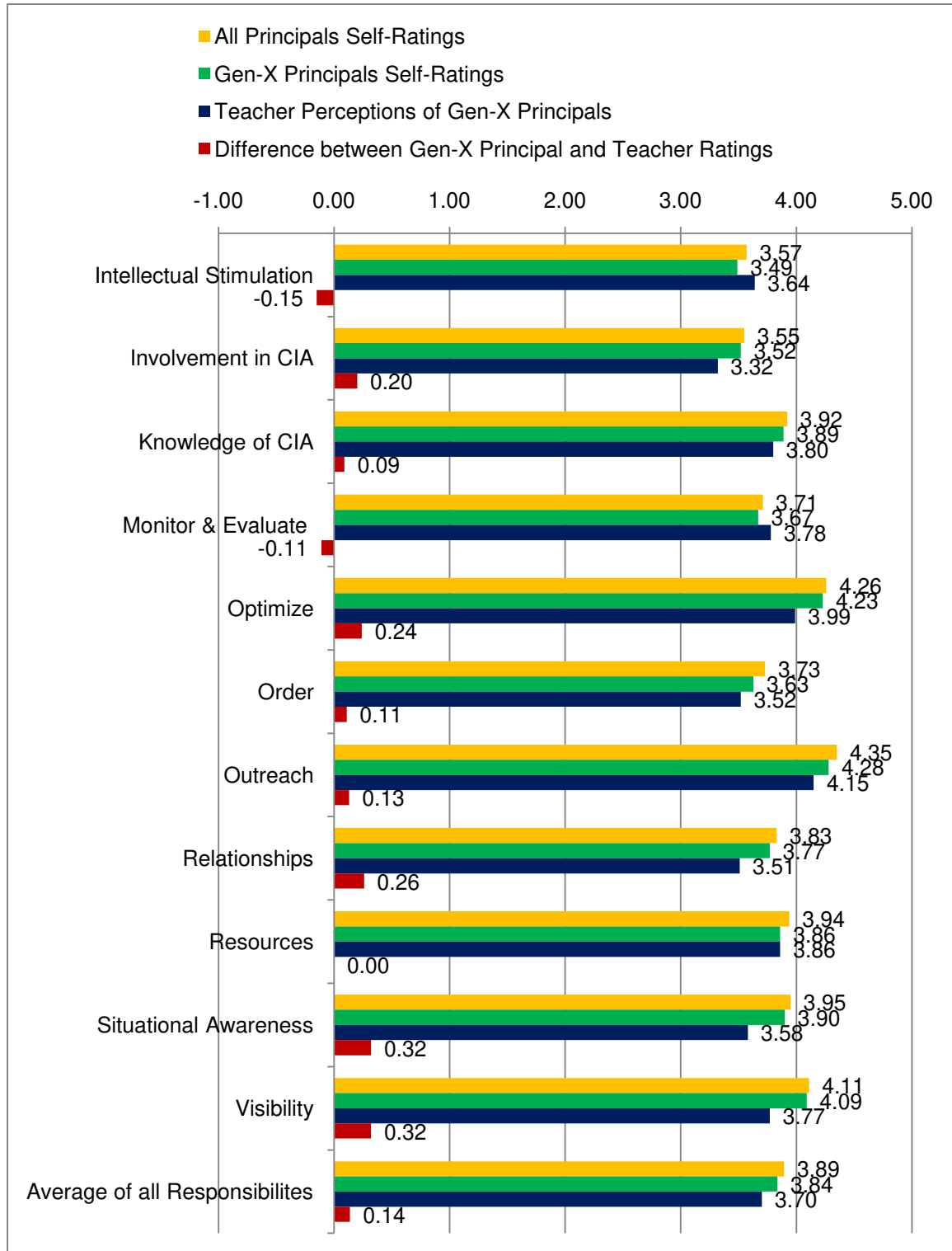


Figure 9: Comparison of Gen-X Principals' Self-Ratings and Teacher Perceptions of 2nd Order Change Leadership (continued)
Sample Size = 1,113 Principals and 250 Teachers



Figures 10 and 11.

Under 1st order conditions, Generation Jones principals overrated themselves on average by + 0.13 ($p < .001$) for all responsibilities, when compared to teacher perceptions. However, this number tripled under 2nd order change conditions where Generation Jones principals tended to rate themselves higher by + 0.39 ($p < .001$) compared to teacher perceptions. Like all other generations of principals, they rated themselves higher under 2nd order conditions than 1st order conditions, but Generation Jones principals rated themselves higher the most compared to other generations of principals, when compared to teacher perceptions under 2nd order conditions. Although, overratings by Baby Boomers are a close 2nd at + 0.38 ($p < .001$) under 2nd order conditions.

Regardless of change order, Generation Jones principals rated themselves highest in the same top five areas as *All Principals*. However, under 1st order change conditions, teachers' averages indicated that *Focus* and *Resources* were at a high capacity for Generation Jones principals and were two of the top five leadership responsibilities, while Generation Jones principals did not rate them in their top five, rating *Communication* and *Visibility* more highly instead.

Figure 10: Comparison of Jones Generation Principals' Self-Ratings and Teacher Perceptions of 1st Order Change Leadership
Sample Size = 225 Principals and 2,051 Teachers

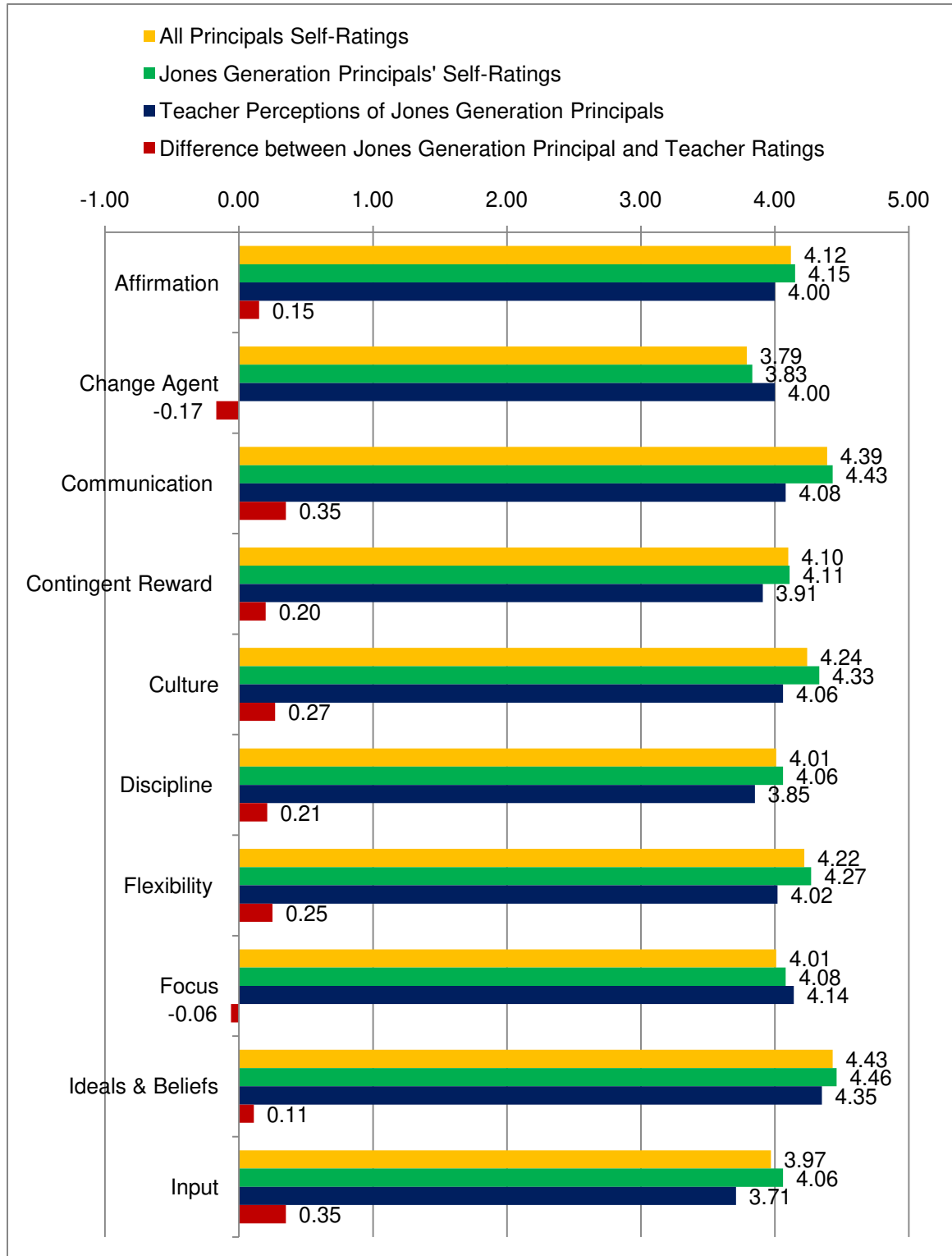


Figure 10: Comparison of Jones Generation Principals' Self-Ratings and Teacher Perceptions of 1st Order Change Leadership (continued)
Sample Size = 225 Principals and 2,051 Teachers

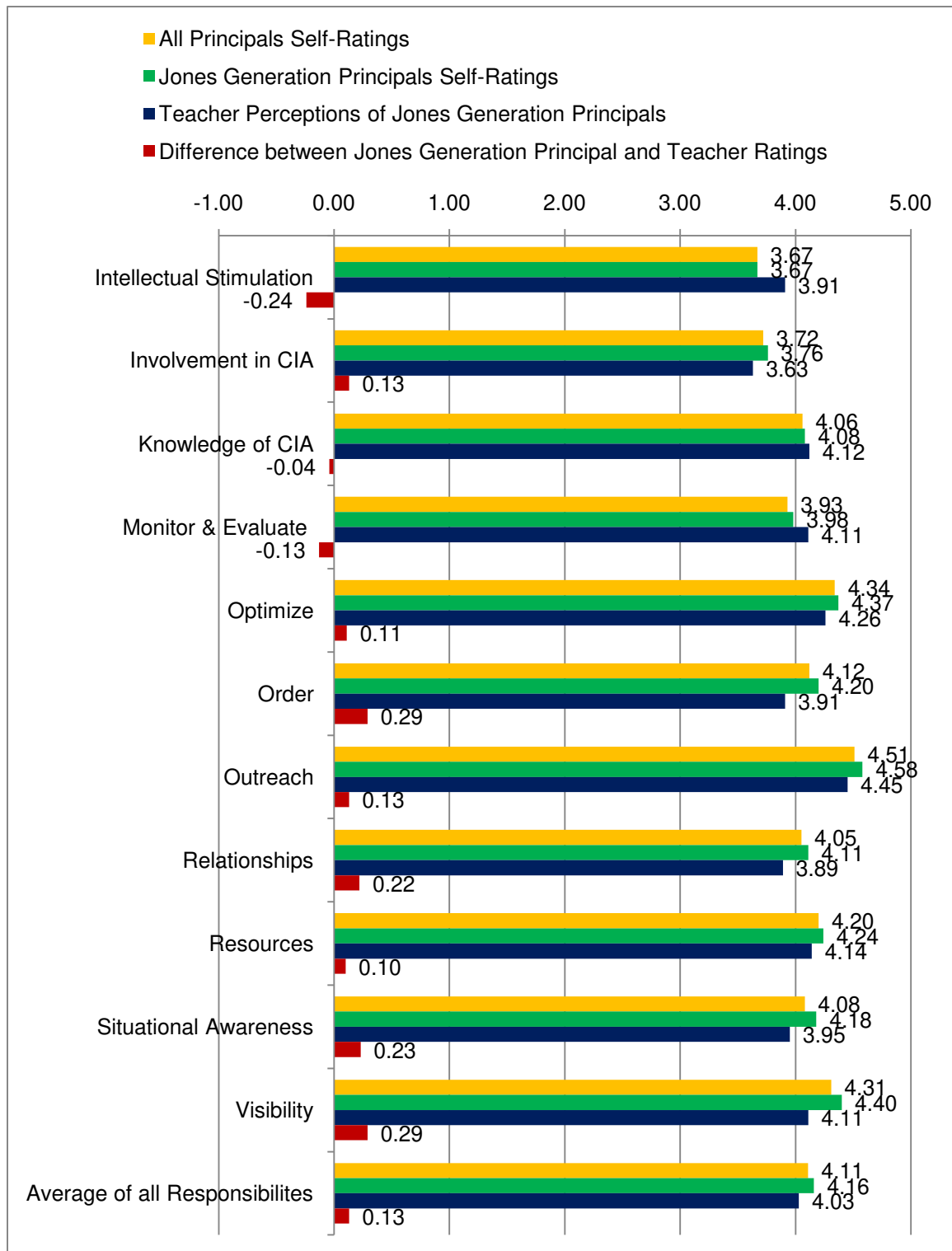


Figure 11: Comparison of Jones Generation Principals' Self-Ratings and Teacher Perceptions of 2nd Order Change Leadership
Sample Size = 1,043 Principals and 340 Teachers

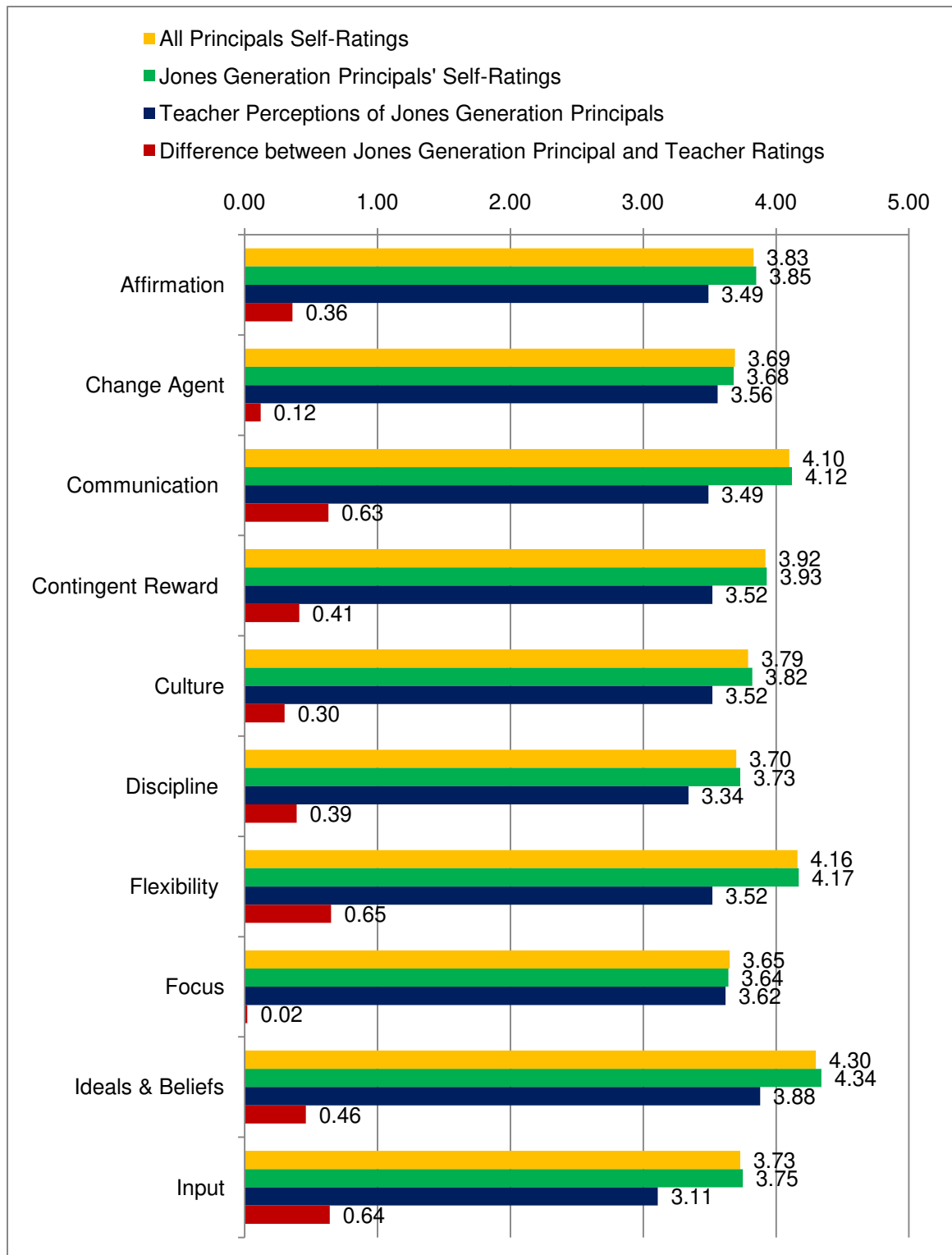
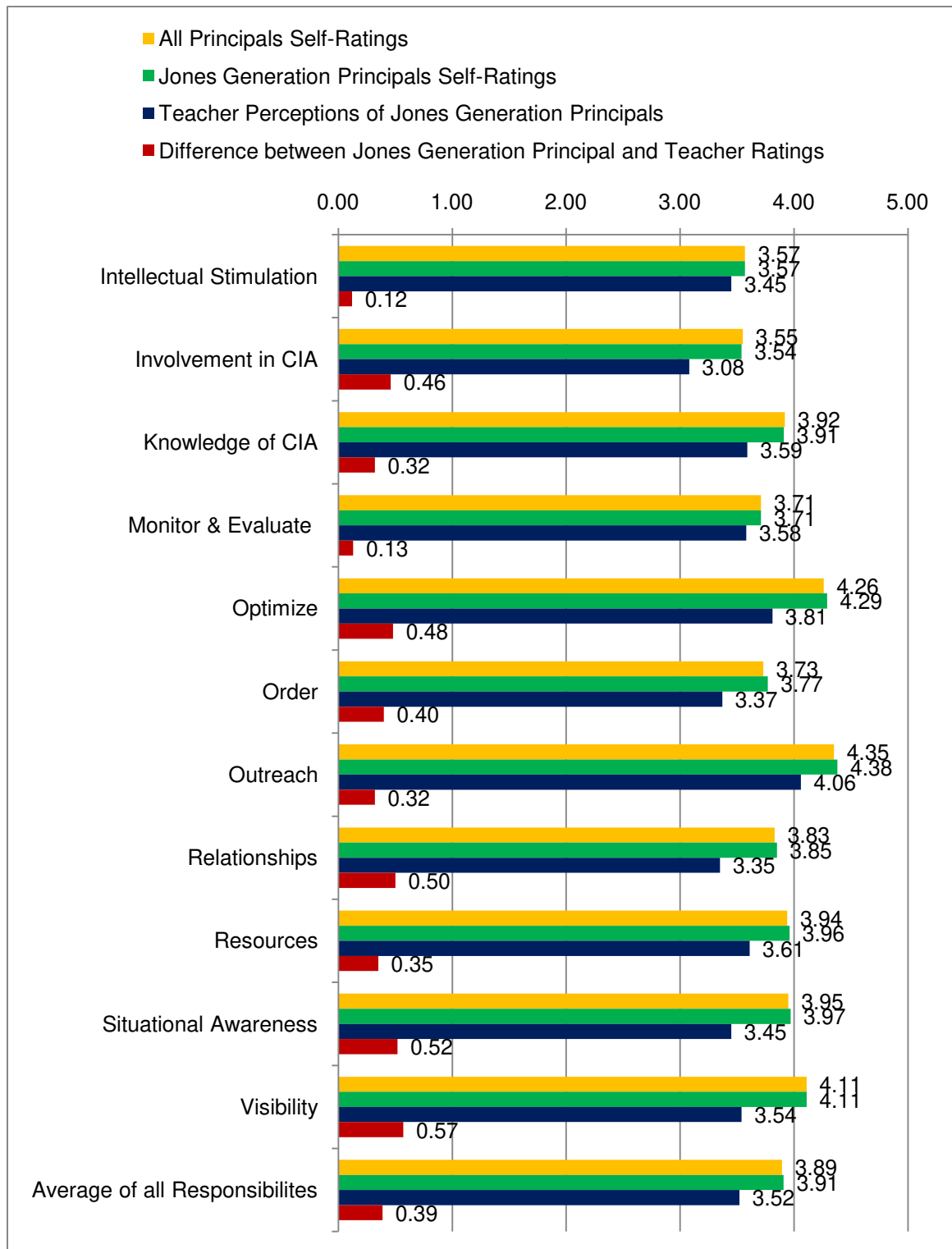


Figure 11: Comparison of Jones Generation Principals' Self-Ratings and Teacher Perceptions of 2nd Order Change Leadership (continued)
Sample Size = 1,043 Principals and 340 Teachers



Figures 12 and 13.

Under 1st order conditions, Baby Boomer Generation principals overrated their leadership capacity compared to teacher ratings by + 0.13 ($p < .001$) for all responsibilities. However, under 2nd order change conditions, Baby Boomer Generation principals tended to rate themselves more highly by + 0.38 ($p < .001$), when compared to teacher perception averages. Like all other generations of principals, they tended to rate themselves higher under 2nd order conditions than 1st order conditions, but this generation tended to overrate their leadership capacity more than all generation expect Generation Jones.

Regardless of change order, Baby Boomer Generation principals rated themselves highest in the same top five areas as *All Principals* with no significant deviations.

Figure 12: Comparison of Baby Boomer Generation Principals' Self-Ratings and Teacher Perceptions of 1st Order Change Leadership
Sample Size = 154 Principals and 1,590 Teachers

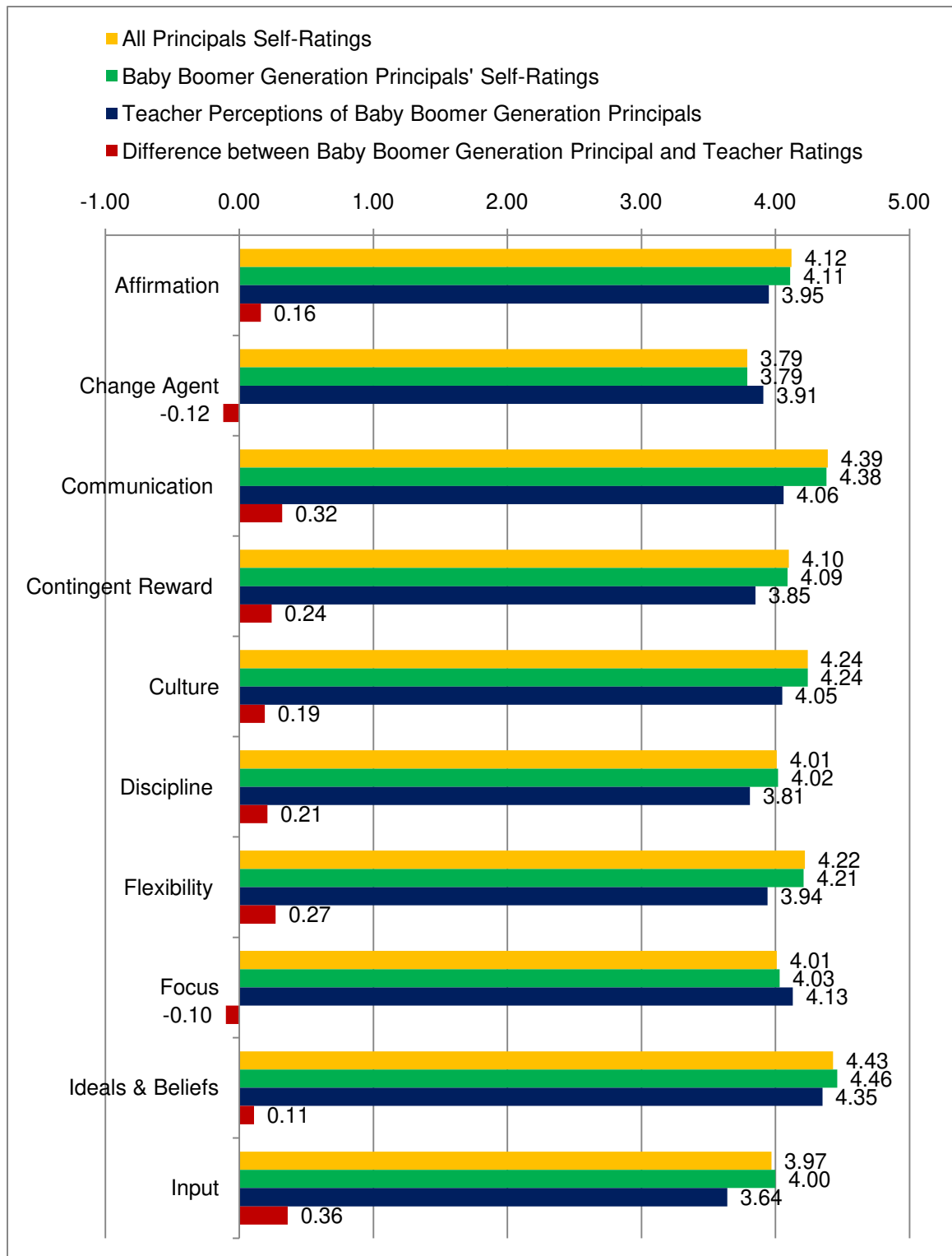


Figure 12: Comparison of Baby Boomer Generation Principals' Self-Ratings and Teacher Perceptions of 1st Order Change Leadership (continued)
Sample Size = 154 Principals and 1,590 Teachers

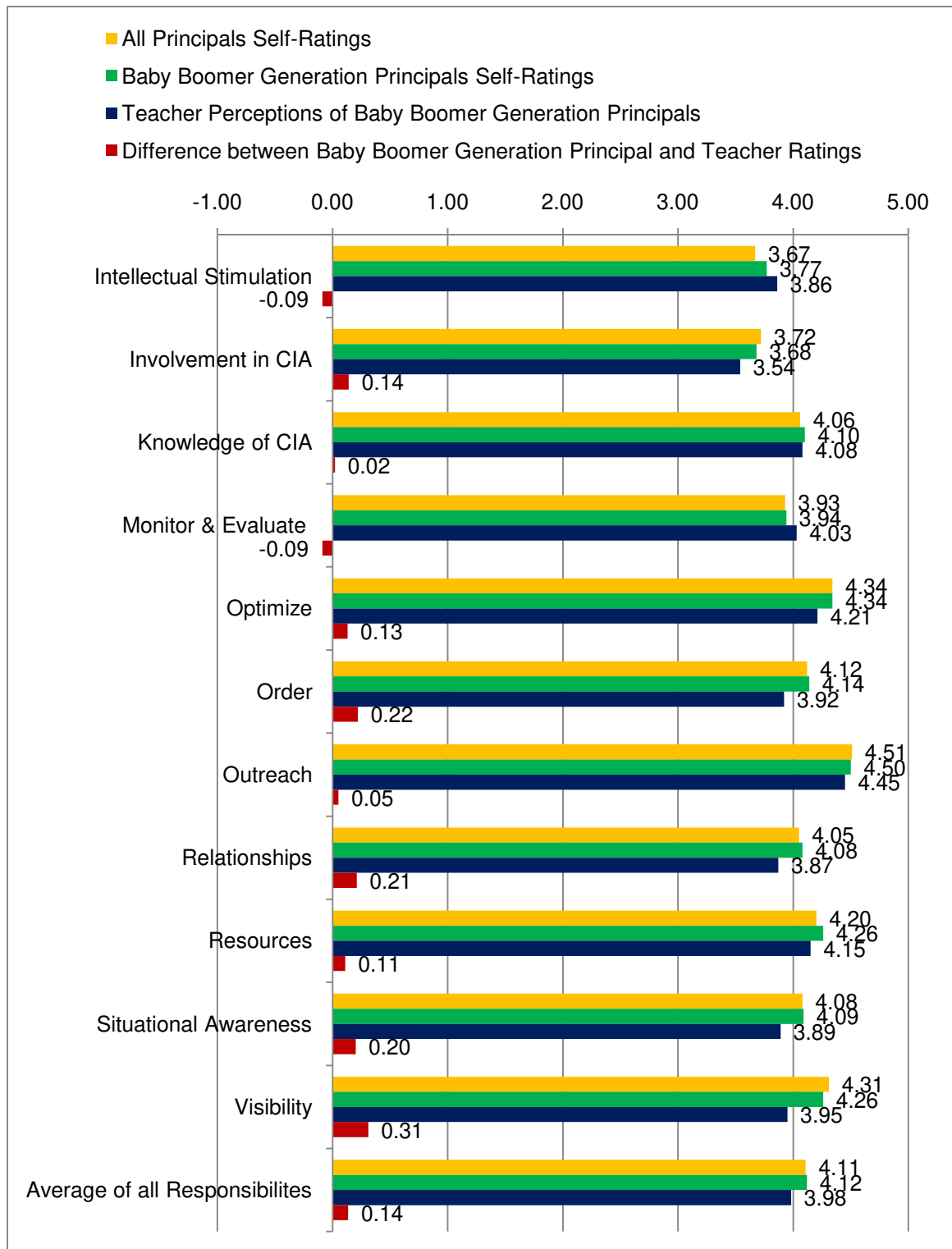


Figure 13: Comparison of Baby Boomer Generation Principals' Self-Ratings and Teacher Perceptions of 2nd Order Change Leadership
Sample Size = 605 Principals and 279 Teachers

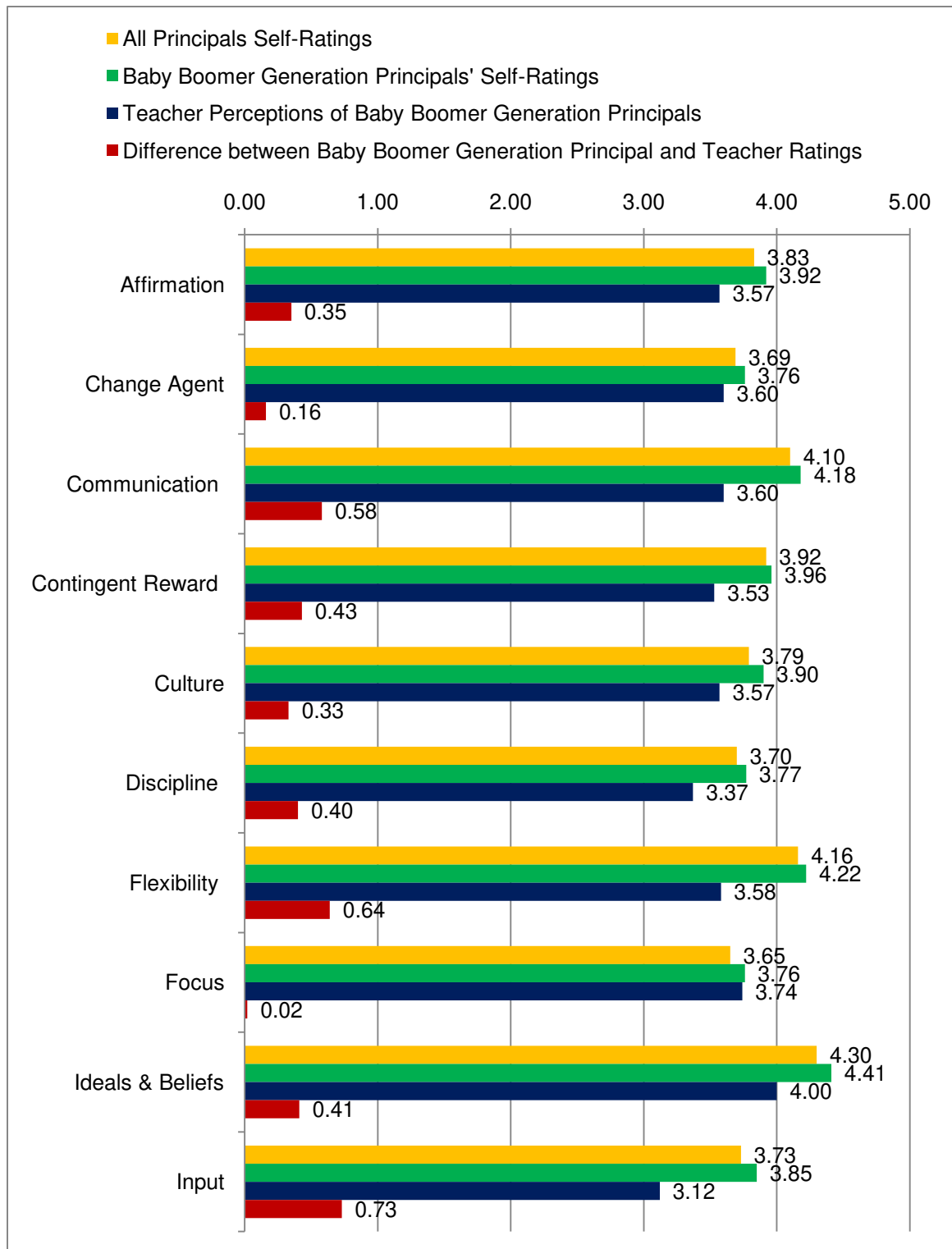


Figure 13: Comparison of Baby Boomer Generation Principals' Self-Ratings and Teacher Perceptions of 2nd Order Change Leadership (continued)
Sample Size = 605 Principals and 279 Teachers

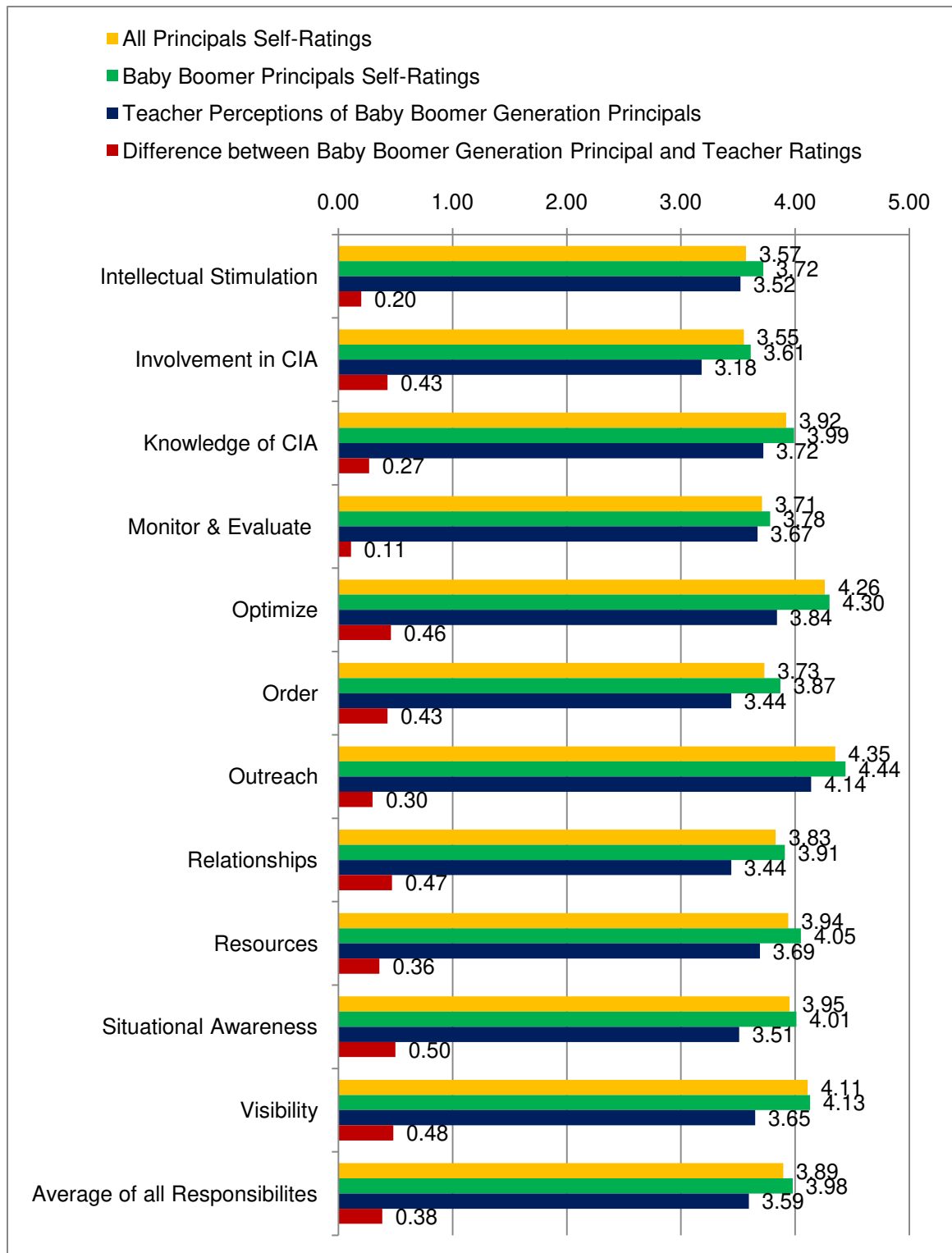


Figure 14.

The only semi reliable data available from the research in this study for the Silent Generation comes from the Silent Generation principals' self-ratings of 2nd order change with a sample size of 39 principal responses. Unfortunately, the large majority of these principals did not pass this survey on to their teachers, so comparisons to teacher perceptions are not depicted. The data for 1st order change is too small to be of use.

Under 2nd order change conditions, the Silent Generation principals rated themselves highest in *Outreach*, *Visibility*, *Optimize*, *Ideals and Beliefs*, and *Flexibility*. This is very similar to the highest ratings of the other generations.

Figure 14: Silent Generation Principals' Self-Ratings of 2nd Order Change Leadership
Sample Size = 39 Principals (the sample sizes of rated principals and teachers were too small)

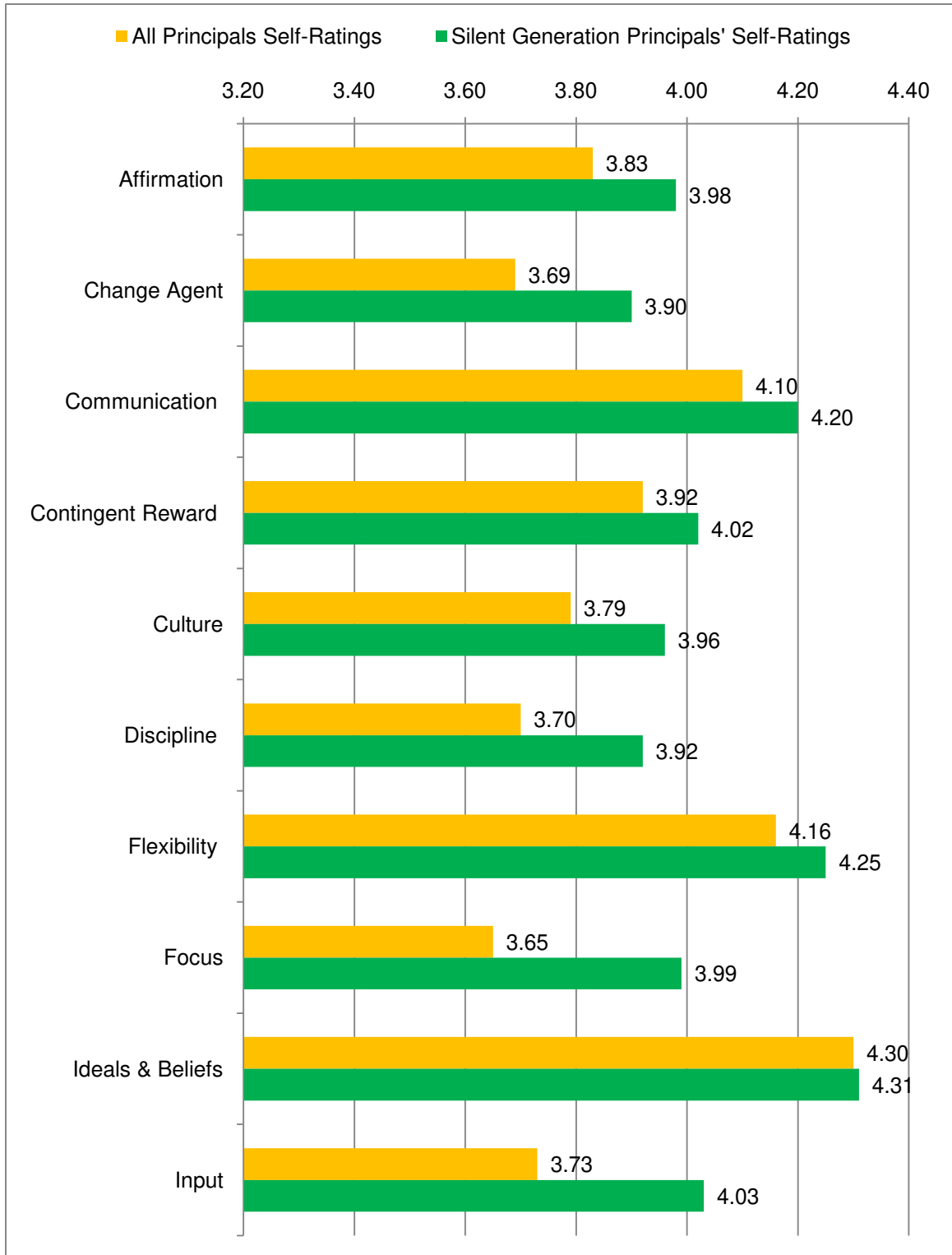
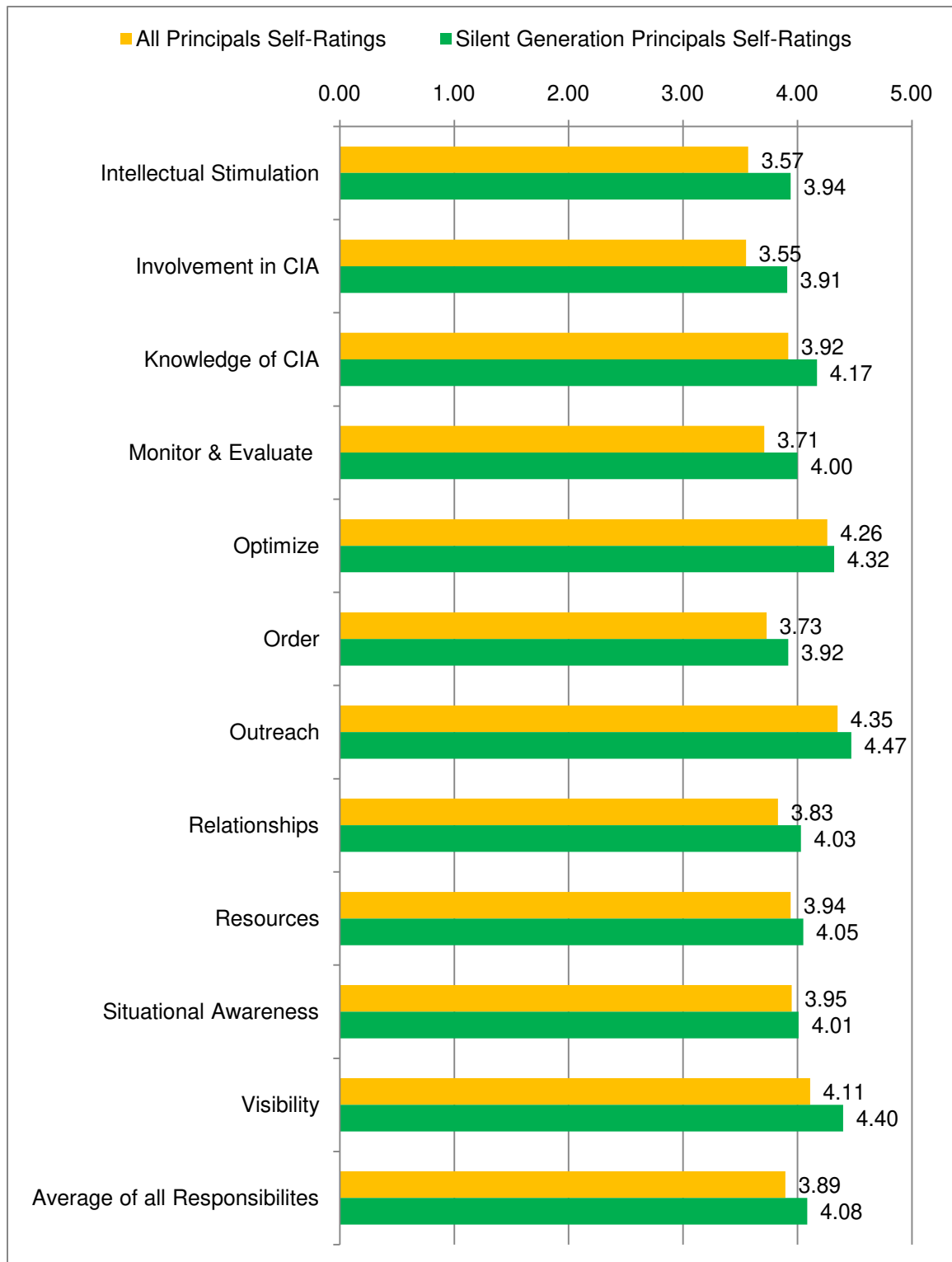


Figure 14: Silent Generation Principals' Self-Ratings of 2nd Order Change Leadership (continued) Sample Size = 39 Principals (the sample sizes of rated principals and teachers were too small)



The previous graphs showed the comparison of the mean self-ratings of the different generations of principals to the teacher perception means of leadership capacity. The first set of graphs depicted 1st order change leadership and the second set depicted 2nd order change leadership according to the 21 leadership responsibilities. The most useful data point on the aforementioned graphs is the last average on each figure. It shows the average of all 21 leadership responsibilities and the comparison of *All Principals* to each generation of principals when compared to the overall average perception of the teachers (for Gen-X, Jones, and Baby Boomer Generations).

The sample sizes of each generation of principals and their teachers are shown under the title of each graph. The reason why the principal samples are often larger than the teacher samples in the previous graphs is due to the fact that only principals that chose to identify their generation were used. This pared down the numbers compared to All Principals since about 30% of principals did not answer the generation identifying question. Numbers of teachers were also not as large as one might think because many of the principals did not forward the survey to their teachers. Therefore, only a fraction of the principal samples had paired teacher responses. Tables 6, 7, 8, and 9 in Chapter 3 show all sample sizes.