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GREENLEAF'S "BEST TEST" OF SERVANT LEADERSHIP: A MULTI-LEVEL ANALYSIS

by

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A DISSERTATION

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GREENLEAF'S "BEST TEST OF SERVANT LEADERSHIP: A MULTI-LEVEL ANALYSIS

Robert W. Hayden, Ph. D.

University of Nebraska, 2011

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This study empirically tests Robert Greenleaf's (1970) seminal articulation of servant leadership. The four personal outcomes he theorized (*health, wisdom, freedom-autonomy*, and *service orientation*) were tested against established dimensions of servant leadership. All correlations were significant and positive. Using multilevel analysis, the predictive strength of these servant leadership dimensions were assessed at two levels within an organization, and explained. Implications and future direction of research were discussed.

Acknowledgements

I want to express my deep appreciation to Dr. John E. (Jay) Barbuto, Jr. for his unfailing support in helping me achieve this life-long goal. His welcome advice and relentless encouragement to *do more* have combined to make me a better student, a better researcher, and a more scholarly writer. As the chair of my doctoral advisory committee Jay introduced me to an understanding of scholarship and academia which would have taken me years to acquire—most likely through many painful mistakes. For saving me from that, for his counsel and assistance, and for his friendship, I am deeply grateful.

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I once heard a story about the CEO of a Fortune 100 company which I hope I will never forget. This CEO kept a painting across from his desk of a box turtle sitting on top of a wooden fencepost. When frequently asked about the painting he always replied, "That picture hangs there to remind me that I didn't get to where I am by myself." I echo that conviction. I offer my deepest thanks and sincerest gratitude to all those persons who have played a part in helping me up onto this fence post.

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CHAPTER 1

INTRODUCTION AND STATEMENT OF THE PROBLEM

In the seminal essay on servant leadership, *The Servant as Leader*, Robert Greenleaf introduced the concept of servant leadership and theorized that several specific outcomes would become manifest in the followers of this type of leader (Greenleaf, 1970). Servant leadership has since grown into a recognized theory of leadership in its own right. However, most intervening studies have focused primarily on the leader. Greenleaf argued that the best way to identify servant leaders was by evaluating the effects of this leadership style on their followers. This direct outcomes-based test of servant leadership has not been empirically tested. Greenleaf described the "best test"' of servant leadership:

> The difference manifests itself in the care taken by the servant – first to make sure that the other people's highest priority needs are being served. The best test, and difficult to administer, is this: 'Do those served grow as persons? Do they, while being served, become healthier, wiser, freer, more autonomous, more likely themselves to become servants? And, what is the effect on the least privileged in society? Will they benefit or at least not be further deprived?' (Greenleaf, 1970, p7).

Greenleaf theorized personal growth of the followers to be the explicit test of servant leadership. Growth, he theorized, was to be assessed by increasing evidence of four outcomes: health, wisdom, freedom and autonomy in the followers, and by determining if these followers were more likely to emulate the servant-leader by becoming a servant themselves.

Understanding this original articulation of the servant leadership construct is critically important, because Greenleaf's essay sparked a torrent of writings in a variety

of venues each advocating servant leadership as a novel approach to leadership (Autry, 2001; Blanchard, 2003; Hunter, 1998, 2004; Pollard, 1996; Sipe & Frick, 2009; Spears & Lawrence, 2004). This attention which flooded the popular press literature, however, preceded empirical testing of the merits of servant leadership. The intuitive appeal of servant leadership prevailed despite the absence of this empirical support. In the interests of developing informed leadership practices it is imperative that the original tenets of servant leadership be tested to ascertain its true behavioral and affective outcomes.

Problem statement

Since Greenleaf's original essay, 35 years passed with no empirical work clearly defining the dimensions of servant leadership. And, no reliable scale existed for measuring these dimensions. Without the foundation of empirically developed servant leader dimensions, and a valid and reliable scale to measure these dimensions, no test *could* be performed to determine if the existence of Greenleaf's claimed outcomes (in the follower) were indeed related to servant leadership (of their leader). With the development of an empirically-based list of servant leadership dimensions, and a reliable and valid scale to measure them, we are now in a position to test Greenleaf's original theoretical tenet; that certain specific outcomes will flow to the followers of servant-leaders.

The leadership field is comprised of several 'competing' theories. Scholars have subjected each of these theories' tenets to empirical testing. But, servant leadership – as it was originally articulated by Robert Greenleaf – has not benefited from empirical

testing, nor as noted above, could it. As far back as two decades ago, Graham (1991) suggested this task be undertaken. To move the leadership field forward, and to put servant leadership on an equal footing with competing leadership theories, empirical testing of Greenleaf's original articulation of servant leadership must be done.

Research question

The research question therefore becomes Greenleaf's "best test". "Are the outcomes in the followers that Greenleaf claimed (*healthier, wiser, freer, more autonomous,* and *more likely themselves to become servants*) related to measured dimensions (defined later) of servant leadership? This study attempts to test for statistical relationships validating Greenleaf's theorization.

Significance of this research

For just over four decades servant leadership has enjoyed a place among several leadership conceptualizations. However, it has only been in the last 5 years that it has been possible to measure validated servant leadership dimensions in the leader. This addresses half the setup of the test. Greenleaf theorized that servant leadership was to be identified by personal growth of the followers, by the existence of several specific and personal *follower* outcomes. If these outcomes, too, can be measured we will now have the ability to test for statistically significant *relationships* between servant leadership and the follower outcomes Greenleaf hypothesized.

The significance of this study is that it will be the first known attempt to determine if any empirical relationship exists between measured servant leadership dimensions in the leader and the personal outcomes in their followers posited by Greenleaf. This is precisely the missing element in past decades of servant leadership research. Although there has been a warm and inviting appeal to the theory of servant leadership, it has suffered from this lack of empirical evidence regarding its founder's most basic claims. This project tests the clarified construct of servant leadership against the proposed outcomes framework originally articulated by Greenleaf (see Figure 1).

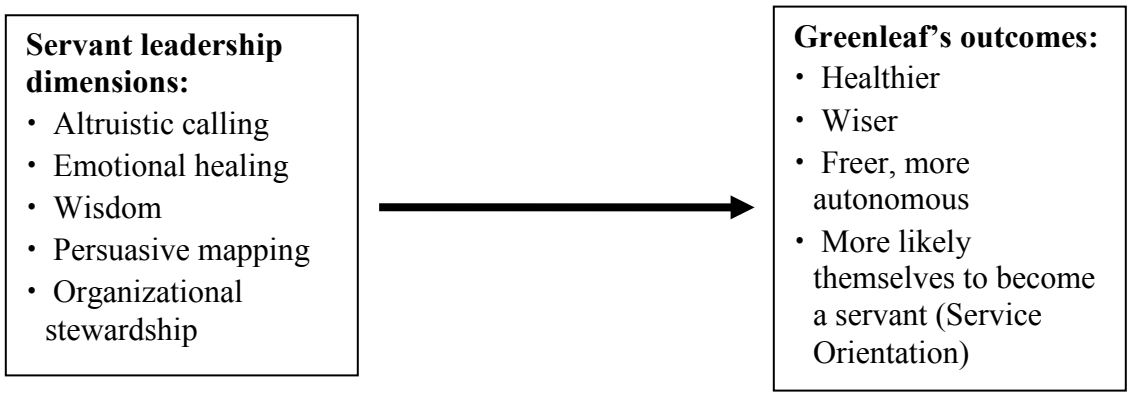

Figure 1. Servant leadership: Greenleaf's "best test" outcomes model.

Traditional research often tested very human variables in this manner, looking for empirical relationships between something measured in a leader and something measured in their follower (i.e. a single leader-follower dyad). Simple zero-order correlations and ordinary least squares regression were used to substantiate research claims. If such relationships between a leader and a follower existed apart from other organizational dynamics, such tools might fully and accurately capture the empirical relationships. Ehrhart (2004), however, argued that there were more than simple individual leader-follower dynamics operative within an organizational context. For example, if a person was the leader over several followers, this leader's impact affected

not only individual relationships between the leader and each follower, but also permeated the dynamics of the work unit and the relationships each follower had with other followers. To measure this effect requires more than a simple dyad-level analysis.

Relatively recent innovations in research methods now allow a researcher to perform multilevel analysis, testing for individual-level relationships while simultaneously accounting for additional unit-level dynamics. This study allowed testing for interactions at the individual level (level 1), and interactions among and between the followers in groups (level 2), to be performed simultaneously. Data obtained from multilevel analysis, when variables are capture from multilevel environments, was more reliable for determining if our hypotheses were supported (Brown, 2000) (see Figure 2).

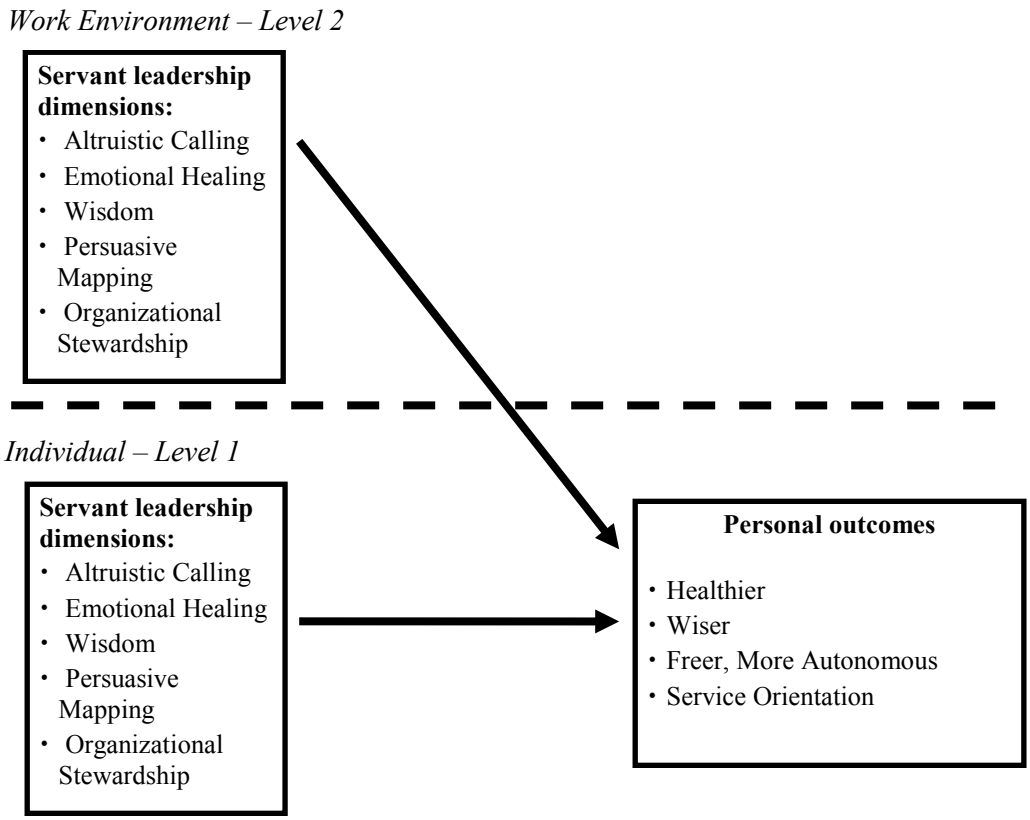

Figure 2. Group-level dynamics of Servant Leadership.

CHAPTER 2

REVIEW OF THE LITERATURE

This chapter examined the literature on service and servant leadership which led to this study. Service to others was a theme which predates the modern conceptualization of servant leadership. However, the formal juxtaposition of service and leadership into a construct is credited in this modern era to Robert Greenleaf. Review of popular and scholarly literature on the topic of servant leadership after Greenleaf, however, revealed that a shift in focus occurred, with the majority of writings focusing on the leader. The follower, very central to Greenleaf's theorization, was largely ignored. In addition, much of this work was not empirical in nature, instead being founded largely on intuition, anecdotal evidence, and repetitive literature reviews.

Evaluated also in this chapter were instruments purported to capture and measure servant leadership dimensions. Hypotheses related to Greenleaf's original articulation of servant leadership were presented for testing, using sophisticated multilevel modeling techniques.

The modern beginnings

The modern literature regarding servant leadership began with Robert Greenleaf's seminal essay on servant leadership entitled *The Servant as Leader*, first published over 40 years ago (Greenleaf, 1970). Greenleaf founded the Center for Applied Ethics (later to be named after him) following his early retirement in 1964. This original essay on servant leadership was expanded to become a book, *Servant leadership: A journey into the nature of legitimate power and greatness* (1977), and was followed by several other works. Greenleaf wrote that servanthood could be (*should* be) operationalized as a leadership philosophy for multiple domains. His books

reflected this. Regarding servant leadership within institutions he wrote, *The Institution as Servant* (1979); among trustees of these organizations; *Trustees as Servants* (1979); and in educational settings, *Teacher as Servant* (1979). Greenleaf strongly championed the effectiveness of this construct in *The Power of Servant Leadership* (1998), and attempted to provide guidance on how to become a servant leader in *On Becoming a Servant Leader* (1996) and *Seeker and Servant* (1996).

These writings of Greenleaf contained numerous, repetitive themes. It was these themes that most subsequent authors focused on, seeking to use them to define and measure servant leadership. The following ten themes have been variously re-named, expanded upon, re-ordered, and re-cast from differing vantage points, but form a core of servant leader characteristics which provide a basic understanding of Greenleaf's philosophy of leadership.

Greenleaf spoke of *listening*. He did not consider leadership as a one-directional endeavor, but spoke of followers as just as important as leaders. Ideas and knowledge were not considered the exclusive purview of leaders. All persons were viewed as capable, creative, and motivated. Therefore, leaders were to actively listen to their followers, listening not only for denotative 'content' (facts) but also for how the followers were being affected. This theme held a logical connection to the next theme.

Greenleaf wrote that it was incumbent upon a servant leader to be *empathetic* toward their followers. The leader was to mentally and emotionally put themselves in the follower's place in order to more fully understand the follower's holistic experience. How could a leader best serve their followers if they did not understand them?

Should the follower be experiencing some trauma or personal weakness in their life the servant leader was also to be a source of *healing*, said Greenleaf. A key component of servant leadership was to make followers more whole: healthier – both physically and emotionally. Listening and empathizing, the leader was to help their followers effectively cope with any burdens in their lives.

A good servant leader was to be *aware*. This trait, as expressed by Greenleaf, intimated a protective, almost paternalistic care. Closely related to this theme was *foresight*. The servant leader was to possess a kind of sixth sense, first seeing events, and then, almost intuitively, understanding where these events might lead, especially if the consequences were negative. Thus, the servant leader provided a sort of paternalistic advance warning system for their (less sensitive) followers.

Greenleaf also wrote about the responsibility of leaders to be able to effectively *persuade* their followers. However, this seemingly top-down, managerial trait was always to be expressed benevolently. That is, the leader, due to the previously mentioned attributes of awareness and foresight, did not simply act in an organizationally directive manner, but rather, always in the best interests of their followers. If necessary, the leader needed to persuade the followers of the merits of the direction they were being led.

Conceptualization was closely related to the previous theme. Greenleaf wrote that the servant leader possessed the capacity to conceive of possibilities – that is, to create a vision for what could be. It was this vision (conceptualization) which the followers were persuaded, benevolently, to follow.

Preeminent in Greenleaf's writings was the theme of *personal growth*. Primarily Greenleaf spoke of the growth of the follower, as an explicit result of good leadership. Followers of servant leaders were to become healthier, wiser, freer, and more autonomous. They were also, Greenleaf wrote, more likely to emulate the servant-leadership style by becoming servants themselves. Greenleaf's writings captured growth as a shared process; one where the leader facilitated, removed obstacles, encouraged, and provided the opportunities for their followers to grow in one of the above ways. Followers were not viewed as inept, unskilled, and ignorant - needing management (discipline), but as fellow human beings, capable and willing to make their unique contributions – given the proper environment. Recent authors have echoed these beliefs (Pfeffer, 2008).

Two final themes were also related: *stewardship* and *community building*. Greenleaf spent a career in a prototypical organization, but wrote of organizational responsibilities beyond profit and self-perpetuation. He argued that organizations had more stakeholders than just their investors, and that a gap existed between what a society could be, and the present state of affairs of his day. He wrote that organizations should act to make a positive difference in their communities: that they should be stewards of that which they had accumulated.

Servant leadership was originally described as a leadership philosophy that valued service to others over self-interests (Greenleaf, 1970, 1977). Greenleaf wrote about the many *ways* serving others might be expressed, but he did not propose these in a list form, like above. Instead, such lists were derived from his writings. As a theory, servant leadership carried with it much intuitive appeal, was somewhat counter to the

prevailing hierarchical leadership style of its time, and therefore popular press publications glorified the construct. However, very little empirical research accompanied this popularity. Consequently, for many years servant leadership was viewed as a conceptual, but rather elusive construct, lacking a consensus framework and empirical rigor (Bass, 2000; Bowman, 1997).

Historical appearances of servant themes

Although Greenleaf is credited with conceptualizing servant leadership, he was not the first to speak about service. As a whole, Eastern cultures tended to be less individualistic and more collective than western cultures (Hammer, 1989; Hofstede, 1983). Eastern philosophies reflected this *other-centeredness.* For example, Wren wrote, “The Chinese classics...are filled with hortatory advice to the country’s leaders about their responsibilities to the people” (Wren, 1995, p. 50). Eastern religions advocated similar selfless service. Lao Tzu, founder of Taoism in the 6th century B.C., advocated a selfless and non-directive leadership (Ching & Ching, 1995; Manz & Simms, 1989). He wrote, “A leader is best when [the] people barely know he exists.…When his work is done, his aim fulfilled, they will say: ‘We did it ourselves’” (Wren, 1995, p. 220). Chapter 67 of the Tao Te Ching mentions three general values (“Precious Attributes”) that should guide a Taoist lifestyle: Love (compassion, kindness, mercy), Moderation (simplicity, restraint, frugality, economy) and Humility (unimportance, "not daring to put oneself ahead of others", not competing) (New Taoist Community, 2011).

Buddhism's teachings (the Dharma) taught that by dedicating the merits of one's positive deeds (service), Buddhists helped lower beings to be reborn into human form where they would be able to strive for enlightenment. "The ideal of Buddhism is to devote one's life to serving all beings so that they might attain the goal of life, which is complete enlightenment and release from samara, the ceaseless wheel of birth and death in illusion" (Buddhist studies, 2011).

Hinduism, from which Buddhism was derived, also taught the value of service, however the object of this service was indefinite. One could serve God (Brahman), one could serve others, or one could serve a specific deity. Serving others would affect karma, the universal consequences of all actions. In this manner, all service to others (human or any living being) would assist both them and the servant in future incarnations (Rood, 2011).

Western religions, most notably Judaism and Christianity were also not void of service themes as they related to their religious figures. The Old Testament is replete with servant leaders, often selected by God and invited into service. Sometimes their service was evident only in direct obedience to God, as in Noah building the ark, or in Abraham's willingness to offer up his son Isaac (NASB, 1971, Genesis chapters 6-8, Genesis chapter 22, respectively). At other times men and women were called by God to serve their fellow believers. Moses, who argued with God regarding his inabilities and possible speech impediment, nonetheless became the leader of the Israelite exodus out of Egypt, and served as their leader for an additional 40 years (NASB, 1971, book of Exodus). Rahab, a Gentile prostitute from Jericho, provided servant leadership by lodging the Israelite spies, and was included in the earthly lineage of the Messiah

(NASB, 1971, Joshua chapter 2, Matthew chapter 1). Deborah led by serving as a judge over Israel (NASB, 1971, Judges chapter 4). Old Testament personages exalted as servants included prophets (Samuel, Nathan, and Isaiah), priests, and kings (David and Solomon), as well as ostensibly ordinary people (Esther and Job).

The New Testament (for Christians) was an extension of the Old Testament, claiming that Jesus was the prophesized Messiah of the Old Testament. The New Testament said of Jesus, that he did not come to be served, but to serve (NASB, 1971, Matthew 20:28, Mark 10:45). On one occasion Jesus illustrated the need for sacrificial service by sending his disciples out to preach the gospel (serve) without supplies, without expectation of payment, even without food (NASB, 1971, Matthew 10, Luke 9). He told them that service in his cause would require sacrifice and that people would even hate them (NASB, 1971, Luke 21:16, 17). The apostle Paul, credited with penning over half the New Testament, also called Christians to serve, “through love, serve one another” (NASB, 1971, Galatians 5:13). Paul also set moral standards for leaders, “And let these also first be tested; then let them serve as deacons if they are beyond reproach” (NASB, 1971, 1 Timothy 3:10).

The word Islam means “Self-surrender to the Will of God”. The Qurán (3:111) said, “You are the best people ever raised for the good of mankind because you have been raised to serve others; you enjoin what is good and forbid evil and believe in Allah." Rehmatullah (1999) claimed that the fundamental qualities Muslims must acquire to serve mankind or to develop a passion to serve mankind are: love for humanity, kindness in their hearts for others, a charitable disposition, humility, honesty, a thirst for knowledge, a desire to share knowledge with others and a constant desire to

strive in the cause of Allah by doing good. We must be a people from whom goodness flows towards others (Rehmatullah, 1999).

The understanding of leadership, however, as being something more than directive *management* was not limited to religious expressions. Thinkers contemporary with Greenleaf, in a variety of fields, had begun to write about the complexities of people and how traditional leadership conceptualizations (i.e. more *management* than leadership) might need to be revised.

Maslow (1954) developed a theory of human motivation: theorizing that people were not intrinsically lazy or unmotivated. When people appeared to be unmotivated, he argued, it was because their lower level needs were not being met in a manner to allow them to progress toward their higher *growth* needs. In his needs hierarchy, Maslow argued persons were essentially unable to serve (an other-centered activity) until their more basic needs had been met. Although he did not cast his theory in the context of leadership, it was clear that Maslow believed in the intrinsic capacity of humans to grow, provided they could have their lower level needs met. Those who had these lower level needs met moved into the psychological growth realms, where they were freed up to meet not only their own growth needs, but presumably also the needs of others (Maslow, 1954).

McGregor (1960) conceptualized a continuum of management behaviors, with Theory X and Theory Y assumptions about employees at the poles. Theory Y understandings of human psychology and motivation fit well with Maslow's theory; that what was missing in contemporary management (leadership) was a recognition that the follower was not just a *physical* resource, but was (at least capable of becoming) a

self-motivated, innovative, fully-engaged contributor. It was the manager's responsibility to treat (serve) the employees in a manner that facilitated the growth of these innate capabilities (McGregor, 1960).

The theme of servanthood juxtaposed with leadership even appeared in ordinary literature. Greenleaf himself credited a story he read with ultimately clarifying for him the idea that service and leadership were not incompatible. In *Journey to the East*, the character Leo first functioned as lowly servant to an expedition group, only to be found later to be the leader of the League which sponsored the expedition (Hesse, 1932). But regardless of what motivated him, it was Greenleaf in this modern era who first theorized servant leadership as a viable construct.

Early servant leadership conceptualizations

The most notable generalization of the works following Greenleaf was that they deviated in a substantial way from Greenleaf's articulation. Contrary to Greenleaf's outcome-based conceptualization, these works conceptualized servant leadership by focusing attention on attributes of the leader while mostly ignoring outcomes in the follower. Greenleaf's outcomes may have been assumed to exist in the followers in these studies, but were not tested for. When outcomes were discussed, these outcomes were of a non-personal nature. Not only did these writings deviate from servant leadership's roots, but the conceptualizations contained in them also lacked empirical rigor, depending largely upon anecdotal stories, cases, qualitative reflections, and repetitive literature reviews. Following is a review of some of these studies.

Several authors considered the spiritual and religious underpinnings of the servant leadership construct. Akuchie (1993) examined a single Bible passage related to servant leadership, and demonstrated its uniqueness to the typical secular understandings of the leader's role and status. Akuchie suggested the application of this lesson for daily life, but this work did not include a framework for understanding servant leadership as distinct from other styles of leadership.

Others used Biblical figures to simply illustrate the construct (Hawkinson & Johnson, 1993; Snodgrass, 1993). Sendjaya and Sarros (2002) used the same Bible account as Akuchie to claim that Jesus Christ, not Greenleaf, introduced the notion of servant leadership to everyday human endeavor (Sendjaya & Sarros, 2002, p. 58). They argued that this leadership principle was so important to Christianity that it was captured by all four gospel writers. Only a few events in Jesus' ministry are cited by all four gospel writers.

Other authors have written on servant leadership from a more practical standpoint, without citing the larger body of literature beyond Greenleaf (Blanchard, 1998; Covey, 1998; Hunter, 2004). These popular press contributions have perpetuated the information and knowledge gap and handcuffed servant leadership's growth as an empirically justifiable construct.

Graham (1991) was among the first to perform a comparative analysis between servant leadership and other leadership theories, but this was not followed up with empirical investigation. Graham concluded that servant leadership was distinct from the Weberian (authoritative) type charismatic leadership, the personality (celebrity) type charismatic leadership, but very similar to Burns' early (1978) conceptualization of

transforming leadership. Graham, did however, distinguish servant leadership from later conceptualizations of transformational leadership, describing servant leadership as being more about the follower and less about the organization (Bass, 1985, 2000; Bass & Avolio, 1994). The servant leader was characterized as both inspiring *and* providing a positive moral direction to their followers: humble, visionary, service-oriented, and believing in the need for follower autonomy and development (Graham, 1991).

Spears, who followed Greenleaf as CEO of the Greenleaf Center for Servant Leadership, began to codify the recurrent themes he saw in Greenleaf's writings. Ten major themes expounded were: listening, empathy, healing, awareness, persuasion, conceptualization, foresight, stewardship, commitment to the growth of people, and building community (Spears, 1995). However, Spears did no empirical testing of these dimensions to verify them. Rather, the warmth of the construct was exploited to affect its growing popularity. Spears authored, co-authored, or edited several additional books on servant leadership (Spears, 1997, 2001, 2004).

Bowman (1997) pointed out the lack of empirical support in the conceptual writings in the popular press. Other scholars also began to recognize, and then address, the lack of empirical evidence underlying the construct. Farling, Stone, and Winston (1999) noted the lack of empirical evidence within the writings on servant leadership. They created a model of servant leadership based on a review of the literature. While they did encourage other researchers to engage in more empirical research, the five variables they identified in the literature (vision, influence, credibility, trust, and service) were no more empirically grounded than the variables found in the stream of

literature they criticized. Their conclusion was that servant leadership was a form of transformational leadership (Burns, 1978).

Barbuto and Wheeler (2002) presented servant leadership as conceptualized in the major works of Greenleaf and Spears. They described eleven characteristics including the ten characteristics from Spears, and one not found in Spears, but which they felt was an additional dominant theme with Greenleaf, namely *calling.* This early work however was geared for practitioners and lacked the theoretical and empirical development needed to advance the servant leadership construct to an operational level.

Polleys (2002) explored servant leadership as a possible antidote for leadership problems at a University. Servant leadership was distinguished from several leadership paradigms - trait theories, behavioral theories, and contingency theories- but no distinctions were made to charismatic or transformational leadership. Polley's views were similar to Graham (1991) and Bowman (1997) in aligning servant leadership with Burn's (1978) transforming leadership.

Russell and Stone (2002) reviewed the literature and proposed nine 'functional' attributes of servant leadership (vision, honesty, integrity, trust, service, modeling, pioneering, appreciation of others, and empowerment) and eleven 'accompanying' attributes (communication, credibility, competence, stewardship, visibility, influence, persuasion, listening, encouragement, teaching, and delegation). They also argued that the servant leader must be a teacher in order to develop their followers, and that values and core personal beliefs were the antecedents to servant leadership.

Patterson (2003) developed a more spiritual conceptualization of servant leadership around leader values including: agapé love, humility, altruism, creating

vision for followers, being trusting, serving, and empowering their followers. This work was exploratory in nature. No confirmatory analysis was performed, no criterion was posited to establish validity, and convergent/divergent validity was not established.

As researchers began to develop measurements of servant leadership these same variations in identifying and labeling the constructs' dimensions continued, however this more focused research began to show promise to more accurately and reliably identify the true component dimensions of servant leadership (Barbuto & Wheeler, 2006; Liden, Wayne, Zhao, & Henderson, 2008; Sendaya, Sarros, & Santora, 2008).

Early measures of servant leadership

Laub (1999) created the *Organizational Leadership Assessment* (OLA). Six sub-scales were proposed based on a literature review and expert opinion of characteristics of servant leadership at an organizational level. Sixty items were developed to measure the six sub-scales and job satisfaction. Alphas ranged from .90 to .93. No convergent or divergent validity was reported, and no confirmatory factor analysis was performed. Only a rater version was available.

Page and Wong (2000) reviewed the literature and proposed 12 dimensions of servant leadership. They created the rater-only *Servant Leadership Profile* (SLP) which had 23 items. Alphas from .89 to .97 were reported. No convergent or divergent validity was reported, and no confirmatory factor analysis was performed. Dennis and Winston (2003) performed an exploratory factor analysis of the SLP data and reported three dimensions: empowerment, service, and vision.

Ehrhart (2004) developed a 14 item, one-dimensional model where procedural justice was hypothesized to mediate between leadership behavior (servant leadership) and unit-level organizational citizenship behavior. This model had 7 subscales: forming relationships with subordinates, empowering subordinates, helping subordinates grow and succeed, behaving ethically, having conceptual skills, putting subordinates first, and creating value for those outside the organization.

Dennis and Bocarnea (2005) developed the *Servant Leadership Assessment Instrument* (SLAI) using Patterson's (2003) earlier work. This rater-only measure was developed using a literature review, expert panel, and exploratory factor analysis. Alphas of .77 - .94 were reported. No confirmatory factor analysis was conducted.

Recent empirical measures

Barbuto and Wheeler (2006) clarified the servant leadership construct and developed and validated a measure using exploratory factor analysis, confirmatory factor analysis, substantive criterion validity, convergent validity, divergent validity, and predictive validity. This work, which provided a clarification of the construct and a reliable measure of its dimensions, stimulated subsequent empirical works on servant leadership (Liden et al., 2008; Neubert, Kacmar, Carlson, Chonko, & Roberts, 2008; Searle & Barbuto, 2011; Sendjaya, Sarros, & Santora, 2008).

Barbuto and Wheeler (2006) identified and confirmed five dimensions of servant leadership: *altruistic calling, emotional healing, wisdom, persuasive mapping,* and *organizational stewardship*. A brief description of each follows.

Altruistic calling - was defined as the fundamental conscious choice to serve others (Greenleaf, 1977). This desire to positively influence others through service was deemed central to servant leadership ideology (Barbuto & Wheeler, 2006). Servant leaders embraced service to followers and sacrifice self-interest to promote their followers' development (Bass, 2000; Graham, 1991). Servant leaders desired positive development in individuals, organizations, communities, and societies. The necessity for altruism in leadership has been recognized by many scholars (Avolio & Locke, 2002; Block, 1996) as has the altruistic nature of servant leadership (Greenleaf, 1977).

Emotional healing - described an ability to recognize when and how to facilitate the healing process. This included a leader's ability to foster a follower's spiritual recovery from hardship and trauma (Barbuto & Wheeler, 2006). Servant leaders were viewed as highly empathetic and able to show sensitivity to others. They created a safe environment that enabled their followers to voice personal and professional concerns (Barbuto & Wheeler, 2006). Scholars have recognized the need for leaders able to help followers recover hope, overcome broken dreams, and repair severed relationships (Dacher, 1999; Sturnick, 1998).

Wisdom - described an ability to pick up cues from the environment and to recognize their possible consequences and implications (Barbuto & Wheeler, 2006). Servant leaders were observant and anticipatory across multiple contexts, enabling them to translate their knowledge into forward action (Bierly et al., 2000). Scholars have recognized the need for leaders with a strong sense of awareness (Sosik & Megerian, 1999) coupled with an ability to apply this knowledge gained through observation (Kant, 1978; Plato, 1945).

Persuasive mapping - described an ability to use mental models and sound reasoning to encourage lateral thinking in others (Barbuto & Wheeler, 2006). Servant leaders high in persuasive mapping were skilled at articulating issues and conceptualizing possibilities by sharing their train of thought (Barbuto & Wheeler, 2006). They possessed the necessary knowledge to assist and support their followers effectively. Researchers have reported persuasiveness-based models to be more productive than authority-based models on creating positive outcomes (Druskat & Pescosolido, 2002).

Organizational stewardship - described the extent to which leaders prepared their organization to make a positive contribution to the community and society (Barbuto & Wheeler, 2006). A servant leader demonstrated a strong sense of social responsibility and encouraged their organization to implement moral and ethical actions that benefited all stakeholders. This emphasis was accomplished by reaching out to the community through community development programs, outreach activities, and facilitating company policies that benefited the surrounding community, society, and environment. Servant leaders' ideology advocated that their organizations create value for the community.

Two additional measures of servant leadership have followed Barbuto and Wheeler. Sendjaya et al. (2008) developed the *Servant Leadership Behavior Scale* (SLBS) using previous servant leadership measures, literature reviews, and qualitative interviews with 15 experts to obtain content validity. They reported six dimensions: voluntary subordination, authentic self, covenantal relationships, responsible morality,

transcendent spirituality, and transforming influence. No convergent or divergent validity data was provided, although confirmatory factor analysis was performed.

Van Dierendonck and Nuijten (2010) created the *Servant Leadership Survey* (SLS). Both exploratory and confirmatory factor analysis were performed. They reported eight characteristics of servant leadership: *empowerment, accountability, standing back, humility, authenticity, courage, interpersonal acceptance, and stewardship.* Alphas of .69 to .91 were reported.

With no recognized exception, the variables, dimensions, attributes, beliefs, characteristics, values, etc. proffered in the servant leadership literature were ascribed to the leader, not the follower of the leader-follower dyad. To fully test the tenets of Greenleaf's model, the impact on followers must also be measured.

Early outcomes measures

A review of servant leadership literature revealed no empirical measures explicitly designed to capture the precise outcomes Greenleaf claimed would flow naturally from the influence of a servant leader. This was partially due to the fact that most research focused not on the follower at all, but rather on behaviors, characteristics, beliefs, or values of the alleged servant leader. With no recognized exception, *all* of the variables, dimensions, attributes, beliefs, characteristics, values, etc. proffered in the literature stream related to the servant leadership construct were ascribed to the leader, not the follower of the leader-follower dyad. If outcomes were discussed at all, they were of a non-personal nature.

However, as work began on instruments to measure servant leadership, some attention was by necessity placed on how to 'prove' its existence. In essence, criterion posited as proofs of validity became de facto outcomes. But these outcomes were not personal in nature as were Greenleaf's outcomes, instead they possessed strong organizational overtones.

Laub's (1999) *Servant Organizational Leadership Assessment* (SOLA) used job satisfaction as the criterion. Ehrhart (2004) used organizational behavior. Barbuto and Wheeler (2006) used extra work, employee satisfaction, and organizational effectiveness as criterion. Liden et al. (2008) used community citizenship behaviors, in-role performance, and organizational commitment as criterion. With the possible exception of community citizenship behavior, these were not *personal* outcomes. They were measures of the follower's personal 'success', to some degree, but only within the context of the organization. They were also not necessarily transferable to another organization or context.

By contrast Greenleaf's outcomes of servant leadership were not limited to organizational settings. They were intensely personal and therefore transferable. They were not organization-bound, but should transcend individual circumstances. They may even be viewed as developmental, that is, although these outcomes from the tutelage of a servant leader made the follower more successful in that specific job and organization, they were also assimilated by the follower and integrated into who the follower *was*. Greenleaf's claimed outcomes were personal, not organizational. He described the *person* as becoming healthier, wiser, more autonomous, and more likely themselves to become servants. These *were* therefore developmental outcomes: characteristics the

follower would take with them wherever they went, into other jobs, circumstances, and situations.

Greenleaf (1970) postulated followers of servant leaders would *grow*. They were theorized to become *healthier, wiser, freer – more autonomous, and more likely themselves to become servants*. These outcomes were not, as theorized, related to any particular type leader-follower dyad or context. If Greenleaf's theory proves true, these outcomes should appear within for-profit, not-for-profit, familial, military, and governmental entities, that is, in any type of leader-follower relationships. One limitation to this study was that its population was organizational. This study will capture data to test for the existence of Greenleaf's postulated servant leadership outcomes in only one domain, and only one organization. It will, therefore, not be fully generalizable. But, before one can worry about generalizability, one must first empirically establish the relationship hypothesized. This study measured Greenleaf's personal outcomes.

Summary critique of extant studies and measures

The servant leadership literature and research has not followed Greenleaf's original articulation of the construct. Rather than focus on the follower first (where Greenleaf claimed evidence of servant leadership would be found) the literature (and research) created multiple, sometimes conflicting taxonomies of *leader* attributes, characteristics, values, beliefs, etc., most of which lacked empirical support. Early measures were little better. *No* instrument measured Greenleaf's theorized outcomes. Greenleaf's original articulation of servant leadership has gone untested.

Prior to Barbuto and Wheeler's instrument (2006), no empirically developed measure allowed measurement of servant leadership dimensions. And no major study of servant leadership searched for Greenleaf's postulated (personal) outcomes. Instead, most extant studies of servant leadership looked for outcomes which were less personal and more organizationally oriented.

This study proposes to directly measure the outcomes Greenleaf postulated to occur *in* the follower, and to test for positive relationships against measured servant leadership dimensions in the leader.

Hypotheses

Greenleaf framed his theory around personal outcomes in the follower as evidence of the existence of servant leadership. To establish the basis for performing Greenleaf's "best test" of servant leadership, as originally articulated, I hypothesize that *each* of the personal outcomes will be positively related to *each* of the dimensions of servant leadership, as measured using the *Servant Leadership Questionnaire* (SLQ) (Barbuto & Wheeler, 2006). Servant leadership dimensions shall be independent variables, and Greenleaf's outcomes shall be dependent variables.

Because this studies' data was collected from within an organization, where individual employees were nested in groups, these hypotheses will be tested using both simple correlations and multilevel modeling results. My hypotheses are:

H1a Altruistic Calling in the leader will be positively related to Health in the follower.

H1b Altruistic Calling in the leader will be positively related to Wisdom in the follower.

H1c Altruistic Calling in the leader will be positively related to Freedom-Autonomy in the follower.

H1d Altruistic Calling in the leader will be positively related to Service Orientation in the follower.

H2a Emotional Healing in the leader will be positively related to Health in the follower.

H2b Emotional Healing in the leader will be positively related to Wisdom in the follower.

H2c Emotional Healing in the leader will be positively related to Freedom-Autonomy in the follower.

H2d Emotional Healing in the leader will be positively related to Service Orientation in the follower.

H3a Wisdom in the leader will be positively related to Health in the follower.

H3b Wisdom in the leader will be positively related to Wisdom in the follower.

H3c Wisdom in the leader will be positively related to Freedom-Autonomy in the follower.

H3d Wisdom in the leader will be positively related to Service Orientation in the follower.

H4a Persuasive Mapping in the leader will be positively related to Health in the follower.

H4b Persuasive Mapping in the leader will be positively related to Wisdom in the follower.

H4c Persuasive Mapping in the leader will be positively related to Freedom-Autonomy in the follower.

H4d Persuasive Mapping in the leader will be positively related to Service Orientation in the follower.

H5a Organizational Stewardship in the leader will be positively related to Health in the follower.

H5b Organizational Stewardship in the leader will be positively related to Wisdom in the follower.

H5c Organizational Stewardship in the leader will be positively related to Freedom-Autonomy in the follower.

H5d Organizational Stewardship in the leader will be positively related to Service Orientation in the follower.

These hypotheses will first be tested using zero-order correlations. These correlations, if significant, will reflect only the relationships at the individual level. But, because our data was drawn from individuals belonging to multiple groups, simple correlations may include a certain amount of correlated error. This correlated error leads to the violation of the assumption of uncorrelated errors underlying ordinary least squares regression. Violation of the assumption of uncorrelated error results in smaller standard error estimates, and correlations which are too strong.

Leadership does not take place in a vacuum, nor does a leader typically have only one follower. A leader may have from a few, to perhaps a dozen direct reports. In situations where several employees report to a single leader, definitive (unit-level, or contextual-level) groups have been identified. These finite groups constitute a second level of interaction and possible analysis. In this almost universal organizational situation, a variable will likely have effects at both the individual and group level (Kinicki, 1994). Ehrhart (2004) tested servant leadership against organizational citizenship behavior, and argued that individual-level results will be affected by the additional interactions of group dynamics. To determine the effects of individuals being nested within groups requires multilevel modeling (Luke, 2004). Both within-group and between-group information can be gleaned using multilevel analysis techniques.

Researchers have indicated that the number of level one units included in an identifiable level two group is a major determinant of the reliability of the assessment of that particular second level unit (Bryk & Raudenbusch, 1992; Luke, 2004). Other research has indicated that the number of parallel groups (at the same level) is also important to reduce error (Snijders & Bosker, 1999).

This research was designed to capture data on individual employees reporting to the same leader. Although it was not known beforehand, it was anticipated that an adequate number of such groups (50 or more), with a minimum group size of two would be identified. Therefore, we sought to find evidence of any additional dynamics as a result of group membership. Therefore, the hypotheses will also be tested using

multilevel regression techniques. These, more accurate, results will be used to determine whether the hypotheses were supported, or not.

The belief that servant leadership may possess dynamics beyond simple leader-follower dyads (individual level effects) was partially premised on the contagious and reciprocal nature of service. If Greenleaf's theory was correct, then followers of servant leaders would be more likely themselves to serve. As a result of that service, the individual followers of a servant leader would have more than just one person (the leader) serving them. Their fellow followers would have also become servants, and due to their reporting structure, common interests and tasks, and probable physical proximity, they would be served not only by their leader, but also by one another. Multilevel analysis techniques are uniquely designed to analyze this multiple level interaction of variables.

CHAPTER 3

METHODOLOGY

This chapter describes the methods used to test the hypotheses developed in the previous chapter. This study tested for relationships between servant leadership dimensions of the leader and the personal outcomes in the followers that Robert Greenleaf theorized four decades ago. Included in the understanding of how the hypotheses would be tested was a belief that membership in a follower group would result in additional multi-level dynamics, affecting the relationships between servant leadership dimensions and outcomes. Therefore, final conclusions on the support of the hypotheses will be drawn from the multilevel regression results.

The research design began by eliminating potentially confounding demographic variables. The data was then tested for simple zero-order correlations between servant leadership dimensions and the personal outcomes hypothesized. Upon finding significant relationships between these individual as well as composite variables, multilevel modeling was applied, where individual employees from one medium sized utility company (level 1) were nested within groups who reported to the same leader (level 2). This multilevel analysis provided very valuable insight into the dynamics (individual versus group effects) of servant leadership.

Approvals

Prior to collecting data, Institutional Review Board (IRB) approval was sought through the University of Nebraska-Lincoln, Office of Research, which regulates and monitors all research conducted by University students and faculty on human subjects. Approval was obtained on April 11, 2011 under IRB approval # 20110411650EX (see Appendix A). The IRB must also approve participant Informed Consent Forms.

Approved Informed Consent Forms (ICFs) are contained in Appendix B (for electronic surveys) and Appendix C (for paper surveys). Due to using the researcher's place of employment for data collection, an Interest Reporting Form (IRF) was also completed and submitted. Approval of the IRF was received via e-mail on April 27, 2011 (see Appendix D). Finally, the organization sanctioning the research specified certain restrictions on the use, disclosure, and retention of the data (see Appendix E).

Following receipt of all approvals, the research began. The sections following provide additional details of the population, research design, and measures.

Population

The sample population for this study was all full time employees of a medium-sized urban, Midwestern utility. Although obviously not representative of all organizations, this organization possessed *many* characteristics and challenges common to organizations of its size today: diversity issues, multi-generational issues, technology changes, and environmental (regulatory and political) issues. Therefore, the population for this study was 452 employees of an urban, Midwest utility company.

Demographics

Respondents (followers) were comprised of 75.9% males and 24.1% females. Their ethnicity was 94.3% Caucasian, 0.5% African-American, 1.4% Hispanic/Latino, 0.9% of Asian descent, 0.5% of American Indian/Native American descent, 1.4% described themselves as "Other", and 0.9% preferred not to answer the ethnicity question.

Leaders were comprised of 86.2% males and 13.8% females. Leaders' ethnicity was described as 98.6% Caucasian, 1% as 'Other', and 0.5% preferred not to describe their leader's ethnicity. The average length of employment with the company for respondents was 18.2 years, while the leaders' average tenure with the company was 23.1 years.

The formal education of respondents (followers) and leaders also varied. Fourteen point five percent of the followers were High School graduates or had GEDs, 33.6% had Associates degrees or were Technical School graduates, 27.6% had 4 year degrees, 11.7% had completed some graduate work, and 12.2% had earned graduate or professional degrees. Leaders' education was reported as: 9.6% High School graduates or GED, 19.2% had Associates degrees or Technical School graduates, 44.7% had 4 year degrees, 9.1% had completed some graduate work, and 17.3% had earned graduate or professional degrees.

The average age of followers was 49 while the average age of leaders was 52. The average length of employment in the organization was 18.3 years for followers and 22.9 years for the described leaders. The average length of time leaders had been in their leadership position was 23.9 years and the average number of direct reports per leader was 10.8.

Research design

All data collection was performed via surveys. Some surveys were distributed on paper, and some surveys were distributed electronically. All survey data was

collected in a manner so as to maximize anonymity of the respondents and maintain confidentiality of the data.

Approximately one-third of the population did not have regular, private access to personal e-mail accounts. These employees were comprised of largely field personnel who, although they worked from a fixed location, spent the majority of their workdays in the field at non-fixed and varying locations away from (shared) e-mail and Internet access. Surveys to these employees were distributed manually in paper format by organizational mail. Paper surveys were unmarked, and were returned via organizational mail to the researcher in sealed envelopes marked 'Confidential'.

The other approximately two-thirds of the population received electronic surveys distributed from outside the company via a secure commercial survey site, into the organization's secure private e-mail system. Each recipient of the electronic survey possessed private e-mail and Internet access with confidential login and password protection. Company policy and programming required a password change every 90 days, and sharing of passwords and log-ins was forbidden. If a terminal was inactive for 20 minutes it froze into a secure state. Only the last person logged on, or a system administrator, could unlock the terminal.

All surveys were accompanied by an informed consent statement which stated that voluntary completion of the survey indicated acknowledgment and understanding of informed consent. Appendix B contains the informed consent statement for the electronic surveys. Hard copy (paper) surveys were accompanied by a similar informed consent form which the respondent was urged to retain (see Appendix C).

To encourage participation and assure anonymity, no personal identification beyond demographic information was collected from respondents. No IP addresses, e-mail addresses, or names were collected. Group level identifiers (leader's last names), necessary for multilevel analysis, were collected but were immediately coded to remove all personally identifiable data from the dataset.

Electronic results were downloaded from the survey site and into a spreadsheet. Paper surveys were manually input into the same spreadsheet. In this format the dataset was evaluated for obvious errors and omissions. Attempts were made to correct these if possible. Group (level 2) identifiers (leader's last names) were coded and the leader's names deleted from the working dataset. Composite variables (servant leadership composite and outcomes composite) were created. Ages were calculated from the birth year field. This anonymous dataset was then imported into the statistical program SAS™, used to perform the data analysis.

All variables related to demographics were analyzed for possible correlation to both the theorized personal leadership outcomes and the servant leadership dimensions to determine if there might exist some potentially confounding relationships between some demographic marker and the theorized benefits of servant leadership (that is, could any servant leadership dimensions or personal outcomes be due to [more accurately, correlated to] a demographic variable?

Next, the follower individual outcome scores, outcomes composite score, individual servant leadership dimension scores, and servant leadership composite scores were analyzed. Since the measure used to assess personal outcomes was developed by the researcher for this study, this analysis provided reliability values for these variables.

A major piece of information sought from this study was the data in the correlation matrix between servant leadership dimensions (as measured by the SLQ) and Greenleaf's proposed personal outcomes in the followers (as measured by the items developed for this purpose). If positive statistically significant relationships existed, then Greenleaf's theorized 'best test' of servant leadership had been performed, and his theory proven, at least at the individual dyadic level.

However, Bryk and Raudenbush (1992) indicated that if multiple respondents were included in identifiable groups, a second level analysis was possible. Brown (2000) also reported that individual-level results might be affected by the additional interactions due to group dynamics. The researcher's intent was to be able to perform a multilevel analysis if adequate numbers of adequately sized groups could be identified in the data. Fifty-one groups, with a total of 174 members were identified; therefore multi-level (hierarchical linear regression) modeling was performed. The relationships and dynamics of this population subset was analyzed and reported in support of the testing of the hypotheses.

Measures

Two measurement instruments were used. All measurement was from the followers' perspective. It might be argued that doing so may have injected single source bias. However, only the followers could address their perception of being served by their leader and only the followers could assess the personal outcomes proposed to flow from this style of leadership. For example, only they had a sense of the subjective

aspects of health (emotional/psychological) as well as their own perceptions of freedom and autonomy.

Servant leadership measure (Servant Leadership Questionnaire- SLQ)

Dimensions of servant leadership were collected using the Servant Leadership Questionnaire (SLQ) developed by Barbuto and Wheeler (2006). This instrument had 23 items (see Appendix G) divided among five dimensions of servant leadership. When developed, these five dimensions achieved reliability estimates as follows: altruistic calling (α =.93), emotional healing (α =.91), wisdom (α = .93), persuasive mapping (α =.90), and organizational stewardship (α =.89). When these dimensions were assessed for reliability in this study they all had the same reliability (α= .91).

The Barbuto and Wheeler (2006) instrument was chosen for use in this study for several reasons. As noted in the literature review this measure was the first measure created based on empirical methodology. Except for establishing initial face validity of the items to be examined, it was purely quantitative. Both exploratory and confirmatory factor analyses were included. Both convergent and divergent validity were tested using transformational leadership and leader-member exchange theories. And, organizationally relevant criterion validity showed all five dimensions were positively related to extra effort, satisfaction, and effectiveness.

The only other measure identified with comparable empirical rigor (Sendjaya, Sarros, & Santora, 2008) was rejected on two grounds. First, its identified dimensions differed significantly from the dimensions prevalent in the early writings on servant leadership. These dimensions appear, on their face, to be much more moral and perhaps

even spiritual in nature. In fact, these authors stated that they believed previous measures or articulations of servant leadership lacked these components. These dimensions, therefore, may not have flowed from collected data used for its development, but rather have been included as a starting point. It is also conjectured that such elements may be more easily measured by a participant-completed survey. Our study utilized only rater instruments. Second, this measure was developed using students, only some of whom may have been employed, while the Barbuto and Wheeler measure was developed using only employed adults. For these reasons, it was felt that the Barbuto and Wheeler (2006) Servant Leadership Questionnaire (SLQ) was a better measure for this study's aim, population, and environment.

Personal outcomes measure (Greenleaf's outcomes)

Although dozens of *leader* variables and a number of organizationally-bound outcomes of servant leadership were hypothesized in the literature, no instrument was identified explicitly aimed at measuring Greenleaf's *personal* outcomes. Therefore, this study used an instrument developed for that purpose (see Appendix H). The four variables Greenleaf strongly intimated were indicative of personal *growth* of the follower were assessed in this study. They were: *health, wisdom, freedom-autonomy,* and *likelihood to become a servant* themselves (labeled *Service Orientation*).

Since no instrument was found explicitly measuring Greenleaf's postulated personal outcomes, the researcher sought to develop a reliable measure. The process used was based on recommendations of Hinkin and Schreisheim (1989), DeVellis

(1991), and Spector (1992). The process began by developing conceptually consistent theoretical definitions of the constructs sought.

Health — was defined broadly, included components of physical, emotional, and psychological health. Physical health was an assessment of just that. Frequency and duration of illnesses was assessed from the raters as they compared these while working with the referent leader to a time when they were not working with this leader. Emotional and psychological health was assessed by items related to the workplace's emotional atmosphere.

Wisdom — was defined as a measure of a follower's assessment of their gain in knowledge and experience, and the ability to apply that knowledge and skill in the present circumstance. Items also assessed their situational awareness and ability to foresee the probable outcomes of decisions and organizational situations.

Freedom and Autonomy — were assessed together, with the conceptual distinction being that freedom was operationalized as actual organizational latitude to make decisions and take actions, and autonomy was operationalized as the underlying feelings (internal perceptions) of the follower as being less constrained. It captured components of trust by others as well as personal confidence in oneself.

Service Orientation — was a measure of the follower's natural (personal) bent and/or desire to helping others. This outcome was also a dimension of servant leadership in the SLQ (there as Altruistic Calling). As captured in the follower, however, we did not presume that the followers had assimilated all the servant leadership dimensions sufficiently to be gauged by the full servant leadership dimensions. These outcome items assessed only the follower's inclination to serve. It

was assumed (I believe, by Greenleaf) that if the theoretical construct of servant leadership is validated, that followers would subsequently grow into full-fledged servant leaders. But, these outcome items were carefully crafted to only assess the literal claim of Greenleaf's articulation; that the follower of a servant leader would grow in their service to others.

Initial item development

Once operational definitions were established, several sample items were developed for each outcome, incorporating the item development strategies recommended by DeVellis (1991). Wording was carefully reviewed to eliminate distracting or confusing language and grammar. The level of readability was also considered given the educational level of some of the intended population.

Face validity assessment

To ascertain face validity of the items, the items were sent to 10 faculty or senior doctoral students familiar with servant leadership, for a priori analysis. As recommended by Hinkin and Schriesheim (1989), and Revelle and Rocklin (1979) those items correctly categorized into one of the outcomes more than sixty percent of the time were retained. All items exceeded the recommended sixty percent. However, the items related to the outcome 'servant' showed a pattern of lower success in categorization. These items also received the most comments from raters. Most of these comments related to the wording of the statements being unclear. Despite meeting the recommended cut-off value of sixty percent (all were closer to 80%) these items were

revised to more closely capture the literal proposed outcome of Greenleaf "to become servants themselves" (*Service Orientation*). Review of the revised items by a senior leadership faculty member indicated a much improved assessment item.

From these items were chosen 16 items, four each for each of the personal outcomes to be measured. These outcome items were placed into an outcome measurement instrument, with a simple repeating, but not obvious pattern (see Appendix H). These four outcomes measures achieved reliability estimates as follows: healthier (α =.91), wiser (α =.91), freer, more autonomous (α = .92), service orientation (α =.94).

The outcomes measure items were also subjected to factor analysis using the SAS™ *Factor* procedure. A varimax rotation method was applied. Four factors were identified using the *Proportion* criterion. Graphical outputs showed strong clustering of the measurement items corresponding with their intended variable.

Outcomes were collected from followers in an ascriptive/comparative manner. That is, survey respondents were essentially being asked to make comparisons; the existence of these outcomes when working with this person as their leader, and when *not* working with this person as their leader. If a leader was rated as possessing the dimensions of servant leadership – as measured by a valid servant leadership measure – and if, simultaneously, the follower claimed a high level of Greenleaf's postulated outcomes, that relationship was measured for its significance and strength.

Data Analysis

From a total population universe of 452 full-time employees, 219 surveys were returned for a response of 48.5%. Eleven surveys were eliminated due to grossly incomplete data. Three surveys were eliminated due to putting the researcher's name as the leader being described. The researcher has no direct reports. This left an *N* of 205 useable surveys. However this number was further reduced by limiting the dataset to responses from employees nested in groups with two or more respondents per leader, for a final *N* of 174. Cleanup of obvious omissions (for example, the gender of the leader when the leader's name was included) and data entry errors (for example, four digit entries into two-digit field followed by missing data in the next [two-digit] field) was performed. The data was then imported into the SAS™ statistical program for analysis.

Full descriptives were obtained. Tsui and O'Reilly (1989) argued that demographics can have important effects on superior-subordinate dyads. All variables related to demographics were analyzed for correlation to both the theorized personal leadership dimensions and the theorized outcomes to determine if there might exist some potentially confounding relationships between demographic markers and any servant leadership dimension or theorized outcome of servant leadership. That is, could a servant leadership dimensions or personal outcomes be due to [more accurately, correlated to] a demographic variable? Performing these tests eliminated the need to control for these variables in subsequent analyses.

If zero-order correlations were significant, it then became necessary to determine how these relationships were affected by the dynamics operative within the

organization. Since the data was collected from a multilevel environment (individual employees nested within groups) I sought to determine if the performance of a multilevel analysis was warranted. Preliminary tests were performed to obtain intraclass correlation coefficients (ICCs). In the organizational context of this study, level one was the follower's (individual) relationship to their immediate leader. Level two was the nesting of these individual employees into groups led by the same leader. Significant ICCs would indicate that sufficient variability between or within groups existed to warrant a multilevel analysis.

Finding that ICCs were significant, and multilevel analysis was warranted, I analyzed the data using the *Mixed Proc* function of SAS™. The results of this multilevel analysis were used to determine if the hypotheses proffered were supported.

Summary

This chapter has outlined the strategies and methodology used in this study. Surveys were distributed to an organizational population to obtain servant leadership behavior and personal outcomes data. All of this data was collected from the rater's perspective. Descriptives analysis, specifically correlations to demographic data, determined if any confounding relationships existed between demographic markers and either independent or dependent variables. This simple correlations matrix also revealed significant and positive correlations between the dependent and independent variables, supporting the hypotheses at the individual (dyadic) level. However, this study was designed to not only test Greenleaf's theory at the dyadic level, but to determine if organizational dynamics beyond the dyadic affected the outcomes of

servant leadership. Therefore, ICCs were obtained, found to be significant, thus leading to the decision to perform multilevel analyses. The results of the multilevel analyses were used to determine if the hypotheses were supported.

CHAPTER 4

RESULTS

This chapter presents the analyses results of this study. Data collected was analyzed to determine the relationships between leaders' servant leadership dimensions and follower outcomes: *Health, Wisdom, Freedom-Autonomy*, and *Service Orientation*—accounting for the expression of these effects in the multilevel environment of an organization. The demographic data was first tested for correlations with both independent and dependant variables. Data was then tested for zero-order correlations between the variables of interest in this study to determine any empirical relationships. Significant relationships were found. Analyses were conducted to measure intraclass interactions to determine if multilevel analysis was warranted. Intraclass correlation coefficients (ICCs) were significant so multilevel modeling analysis was applied. This research specifically sought to determine how relationships between servant leadership dimensions and outcomes were affected as a result of individual employees (level 1) being included (nested) in groups (level 2) within the organization. Results at both the individual and group level were provided.

Response

The return rate of the electronic surveys was 58.1% and the return rate from the paper surveys was 28.9% for a combined return rate of 48.5%. Data from the paper surveys was input by the researcher directly into the same database as that from the electronic surveys. This resulted in a total of 219 surveys. Of these 219 surveys, three respondents had replied identifying the researcher as their designated leader. As the researcher has no direct reports, these surveys were rejected. Eleven additional surveys had significant and systematic amounts of missing data, such as completing only the

demographics section, or responding to only the outcomes section but not to the leadership style items. These were also rejected. A total of 205 useable surveys remained and were initially available for analysis.

The dataset used for this research was further truncated. The rationale for doing this was two-fold. First, the researcher sought to reduce any bias which could be injected if a single rater of a single leader had extreme ratings by restricting the data used to that collected on leaders with two or more raters. Using groups of at least two members precluded the group means from *automatically* being equal to a (single) respondent's response (i.e. no variance between the individual score and the group mean possible). Second, multilevel analysis results would be more reliable if conducted on groups with a minimum of two members per identified group. The final size of the dataset was 174 individual employees nested within 51 groups having two or more members, defined by their common leader.

Elimination of potentially confounding demographic correlations

Although Barbuto and Gifford (2010) had studied gender differences related to agentic and communal servant leadership behaviors and found no gender differences, other demographic variables had not been studied in the servant leadership literature. Therefore all demographic variables in the data were analyzed for possible correlation to both the theorized follower outcomes and the servant leadership dimensions to determine if there might exist some potentially confounding relationships between some demographic markers and the theorized components of servant leadership (that is, could

any servant leadership dimension or personal outcome be due to [more accurately, correlated to] a demographic variable? (see Table 1).

Table 1. Intercorrelations and reliabilities of demographics, servant leadership dimensions, & personal outcomes (2 pages).

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Age (F)	**(1.00)**										
2. Sex (F)	.01	**(1.00)**									
3. Org. Tenure (F)	.70*	-.05	**(1.00)**								
4. Yrs /w Leader (F)	.32*	.07	.36*	**(1.00)**							
5. Ethnicity (F)	-.09	.17*	-.06	.05	**(1.00)**						
6. Education (F)	-.06	-.02	-.14	-.12	-.03	**(1.00)**					
7. Age (L)	.08	.12	.06	.23	-.08	.04	**(1.00)**				
8. Sex (L)	.03	.34*	-.13	.05	.20*	-.02	-.01	**(1.00)**			
9. Ethnicity (L)	-.02	.12	-.02	-.08	.61*	.03	-.08	.20*	**(1.00)**		
10. Org Tenure (L)	.01	-.12	.16*	.23*	-.02	-.03	.67*	-.05	-.04	**(1.00)**	
11. Yrs in L pos (L)	-.06	.14	-.00	.54*	.06	-.14	.42*	.22*	.05	.40*	**(1.00)**
12. No. of Dir Reports (L)	-.04	-.01	-.05	-.00	-.04	.05	-.05	-.08	-.03	.01	-.02
13. Education (L)	.16*	.12	-.02	-.02	-.06	.42*	-.10	.21*	-.05	-.25*	-.15*
14. Altruistic Calling	.04	-.10	.03	-.07	-.02	.03	-.11	-.01	.01	-.03	-.08
15. Emotional Healing	.14	-.02	.11	.04	-.00	-.04	-.07	.05	.00	-.07	.01
16. Wisdom	.15*	-.01	.13	-.10	-.07	.08	-.09	.03	-.02	-.09	-.07
17. Persuasive Mapping	.10	-.05	.12	-.10	-.04	.06	-.12	.02	-.08	-.14	-.08
18. Org Stewardship	.07	-.01	.07	-.06	-.08	.01	-.09	-.09	.01	-.14	-.13
19. Health	.10	.00	.11	-.08	-.03	-.03	-.15*	-.06	-.01	-.05	-.10
20. Wisdom (dep. var.)	.06	.03	.08	-.02	.01	.03	.02	-.03	.05	.04	-.01
21. Freedom Autonomy	.04	.02	.06	-.05	-.01	.01	-.10	-.06	-.01	-.08	-.06
22. Service Orientation	-.01	.03	.07	.03	-.11	.14	-.02	.04	-.01	-.03	.09

N (174) *Significant at p<.05 Cronbach alphas along diagonal. (L)=leader, (F)=follower. **Servant leadership dimensions**: Altruistic Calling, Emotional Healing, Wisdom, Persuasive Mapping, and Organizational stewardship. **Personal outcomes**: Health, Wisdom, Freedom/Autonomy, and Service Orientation.

Table 1. Intercorrelations and reliabilities of demographics, servant leadership dimensions, & personal outcomes (Continued).

Variable	12	13	14	15	16	17	18	19	20	21	22
1. Age (F)											
2. Sex (F)											
3. Org. Tenure (F)											
4. Yrs /w Leader (F)											
5. Ethnicity (F)											
6. Education (F)											
7. Age (L)											
8. Sex (L)											
9. Ethnicity (L)											
10. Org Tenure (L)											
11. Yrs in L pos (L)											
12. No. of Dir Reports (L)	**(1.00)**										
13. Education (L)	.05	**(1.00)**									
14. Altruistic Calling	.08	.01	**(.91)**								
15. Emotional Healing	.09	.02	.76*	**(.91)**							
16. Wisdom	.02	.12	.75*	.65*	**(.91)**						
17. Persuasive Mapping	.11	.18*	.72*	.71*	.76*	**(.91)**					
18. Org Stewardship	.04	.18*	.68*	.66*	.67*	.78*	**(.91)**				
19. Health	-.03	.02	.72*	.69*	.68*	.63*	.58*	**(.91)**			
20. Wisdom (dep. var.)	-.00	.05	.68*	.64*	.67*	.69*	.69*	.79*	**(.91)**		
21. Freedom Autonomy	-.00	.03	.60*	.52*	.47*	.48*	.50*	.72*	.60*	**(.92)**	
22. Service Orientation	.03	-.01	.27*	.25*	.25*	.23*	.27*	.31*	.37*	.38*	**(.94)**

N (174) *Significant at p<.05 Cronbach alphas along diagonal. (L)=leader, (F)=follower. **Servant leadership dimensions**: Altruistic Calling, Emotional Healing, Wisdom, Persuasive Mapping, and Organizational stewardship. **Personal outcomes**: Health, Wisdom, Freedom/Autonomy, and Service Orientation.

Significant relationships existed between some of the demographic variables. Respondent (follower) age was related to organizational tenure (r=.70; p<.0001). Follower age was also related to time with their leader (r=.32; p<.0001). The leader's education and follower's education were related (r=.42; p<.0001). Several significant correlations were most likely effected by the limited racial and gender diversity in the study population. For example, follower's ethnicity was related to the leader's ethnicity (r=.61; p<.0001), the follower's sex was related to the leader's sex (r=.34; p<.0001), and the follower's sex was related to their ethnicity (r=.17; p=.024).

Three positive and significant correlations occurred between demographics and servant leadership dimensions (independent variables). Age of the follower was significantly related to ascribing wisdom to the leader (r=.15; p=.042). The leader's education was significantly related to the follower ascribing the servant leadership dimension of persuasive mapping to the leader (r=.18; p=.019). The leader's education was also significantly related to the follower ascribing the servant leadership dimension of organizational stewardship to the leader (r=0.18; p=.017). One negative correlation was found between the leader's age and the outcome health in the follower (r= -.15; p=.049).

Although it was important to test for possible confounding relationships among and between the demographic variables, and between the demographic variables and the independent variables, it was most important to test for relationships between demographic variables and dependent variables, as this might have been an indication of a mis-specified model. *None* of the demographic/descriptive variables were

positively and significantly related to the personal outcomes theorized to be related to servant leadership dimensions.

The same correlations matrix used to examine potentially confounding demographic variables also partially addressed the central question of this study, when organizational context is set aside. The single most important piece of information sought from this study was the determination of whether statistically significant relationships exist between servant leadership dimensions and the personal outcomes Greenleaf postulated. For over four decades the "best test" of servant leadership proposed by Robert Greenleaf had never been performed. The simple correlations matrix between the five servant leadership dimensions (once empirically measured) and Greenleaf's four postulated personal outcomes (also, once empirically measured) resulted in full vindication of Greenleaf's original articulation of servant leadership dynamics, but only when organizational context is ignored. Positive and significant zero-order correlations existed between all five servant leadership dimensions and all four of the outcomes Robert Greenleaf theorized. Pearson correlation coefficients ranged from .23 to .72. Therefore, ***had*** this study been designed to simply test for zero-order correlations, all hypotheses would have been fully supported.

H1a Altruistic Calling in the leader was significantly related to Health in the follower ($r=.72$; $p< .0001$) using only zero-order correlations.

H1b Altruistic Calling in the leader was significantly related to Wisdom in the follower ($r=.68$; $p< .0001$) using only zero-order correlations.

H1c Altruistic Calling in the leader was significantly related to Freedom-Autonomy in the follower ($r=.60$; $p< .0001$) using only zero-order correlations.

H1d Altruistic Calling in the leader was significantly related to Service Orientation in the follower (r=.27; p< .003) using only zero-order correlations.

H2a Emotional Healing in the leader was significantly related to Health in the follower (r=.69; p< .0001) using only zero-order correlations.

H2b Emotional Healing in the leader was significantly related to Wisdom in the follower (r=.64; p<.0001) using only zero-order correlations.

H2c Emotional Healing in the leader was significantly related to Freedom-Autonomy in the follower (r=.52; p<.0001) using only zero-order correlations.

H2d Emotional Healing in the leader was significantly related to Service Orientation in the follower (r=.25; p< .0011) using only zero-order correlations. .

H3a Wisdom in the leader was significantly related to Health in the follower (r=.68; p< .0001) using only zero-order correlations.

H3b Wisdom in the leader was significantly related to Wisdom in the follower (r=.67; p< .0001) using only zero-order correlations.

H3c Wisdom in the leader was significantly related to Freedom-Autonomy in the follower (r=.47; p< .0001) using only zero-order correlations.

H3d Wisdom in the leader was significantly related to Service Orientation in the follower (r=.25; p< .001) using only zero-order correlations.

H4a Persuasive Mapping in the leader was significantly related to Health in the follower (r=.63; p< .0001) using only zero-order correlations.

H4b Persuasive Mapping in the leader was significantly related to Wisdom in the follower (r=.69; p< .0001) using only zero-order correlations.

H4c Persuasive Mapping in the leader was significantly related to Freedom-Autonomy in the follower (r=.47; p< .0001) using only zero-order correlations.

H4d Persuasive Mapping in the leader was significantly related to Service Orientation in the follower (r=.23; p< .0027) using only zero-order correlations.

H5a Organizational Stewardship in the leader was significantly related to Health in the follower (r=.58; p< .0001) using only zero-order correlations.

H5b Organizational Stewardship in the leader was significantly related to Wisdom in the follower (r=.69; p< .0001) using only zero-order correlations.

H5c Organizational Stewardship in the leader was significantly related to Freedom-Autonomy in the follower (r=.50; p< .0001) using only zero-order correlations.

H5d Organizational Stewardship in the leader was significantly related to Service Orientation in the follower (r=.27; p< .0003) using only zero-order correlations.

In addition to performing correlations between the individual servant leadership dimensions and individual personal outcomes, a servant leadership composite (average) score was tested against a personal outcomes composite (average) score. As expected, there was a significant correlation (r=.76, p<.0001) (see Table 2).

Table 2. Intercorrelations and Reliabilities of Composite Variables

	Variable	1	2
1	Servant Leadership Dimensions - Composite	**(.86)**	
2	Personal Outcomes – Composite	0.76*	**(.86)**

N=174 * Significant at p< .0001. Cronbach alpha along the diagonal.

This correlation indicated that a composite servant leadership score is an even better predictor of composite follower outcome score than is any single variable. An r^2 of 0.58 indicates that approximately 58% of the variability in outcomes can be accounted for by knowing the composite score on servant leadership. This has important implications for organizations that desire to apply interventions intended to affect outcomes or champion certain leadership behaviors. But, as noted above, this correlation, too, was a simple zero-order correlation between variables, taking no account statistically of interactions potentially affecting (biasing) the results.

That significant correlations exist, however, does not address the issue of how these relationships operate within the multilevel environmental context of an organization. This study's aim was to look beyond simple correlations and test for additional organizational dynamics tied to the multilevel nature of organizations. Having established empirical relationships between Greenleaf's outcomes and servant leadership, the researcher was faced with how to assess the expression of these relationships in the workplace, where a significant amount of intended leadership takes place. For accuracy, context is critical. Dewey stated, *"I should venture to assert that the most pervasive fallacy of philosophic thinking goes back to neglect of context"* (Dewey, 1931). To determine if the data itself suggested a need to apply multilevel analysis techniques, each outcome variable was evaluated using two models.

Health. Comparison of a random intercept model with an unconditional model for health showed a significant improvement in model fit, with REML deviance

difference X^2 (df=1) = 13.52, p<.0001, and an ICC = .2284. This meant that 22.8% of the variance in health could be attributed to group membership. Therefore, based on this outcome variable, multilevel analysis was warranted.

Wisdom. Comparison of a random intercept model with an unconditional model for wisdom showed a significant improvement in model fit, with REML deviance difference X^2 (df=1) = 5.23, p<.0001, and an ICC = .1277. This meant that 12.8% of the variance in wisdom could be attributed to group membership. Therefore, based on this outcome variable, multilevel analysis was warranted.

Freedom/Autonomy. Comparison of a random intercept model with an unconditional model for freedom-autonomy showed a significant improvement in model fit, with REML deviance difference X^2 (df=1) = 4.17, p<.0001, and an ICC = .1240. This meant that 12.4% of the variance in freedom-autonomy could be attributed to group membership. Therefore, based on this outcome variable, multilevel analysis was warranted.

Service Orientation. Comparison of a random intercept model with an unconditional model for service orientation showed a significant improvement in model fit, with REML deviance difference X^2 (df=1) = 0.79, p<.0001, and an ICC = .0528. This meant that 5.3% of the variance in service orientation could be attributed to group membership. Therefore, based on this outcome variable, multilevel analysis was warranted.

All four outcomes showed indications of intraclass effects. Significant ICCs alone, however, do not indicate at what level (individual or contextual) the group effects occur, nor do they explicitly indicate the size or even direction (sign) of the coefficient.

Therefore to appropriately parse and accurately measure the coefficients between servant leadership dimensions and outcomes—in a multilevel organizational environment—required the use of multilevel techniques.

Data Analysis Using a Multilevel Model

In modeling human behavior variables, which are much different than variables obtained under experimental settings, context *is* terribly important. Individuals' outcomes may be affected by both individual differences and contextual differences (Bliese, 2000, 2004). Given these possible effects from different levels, the researcher might choose to simply expand upon an ordinary least squares (OLS) regression model, with a formula such as: $V = a + bI + cS + dN + eP + u$, where a is the intercept; V, I, and S are individual-level measures of three variables; N and P are group-level measures of two additional variables and u is error. Parameters of the individual effects are labeled b and c, and parameters of the contextual effects are labeled d and e. This approach is most useful, and would perhaps be appropriate, ***if*** the variables operating at the different levels were independent of one another. But, when studying human responses to human stimuli, operating in multilevel contexts, this is rarely the case. Therefore it can be difficult for such an approach to meet the classical regression assumptions of independence. Having individuals in the same group will very likely lead to the violation of the assumption of uncorrelated errors (Luke, 2004). When characteristics or processes occurring at a higher level of analysis are also influencing characteristics or processes at a lower level, specialized analytical tools are required to

properly evaluate these relationships. Multilevel modeling with maximum (or restricted) likelihood estimation is required (Luke, 2004).

When OLS regression is used inappropriately for clustered data, with correlated error, the resulting standard errors become smaller than they should be, resulting in an inflated correlation and therefore a greater chance of committing a Type 1 error. Multilevel modeling relaxes the assumptions of independence of variables, and allows (but accounts for) correlated error structures. Multilevel models will therefore more accurately estimate the (unbiased) error and provide more accurate regression coefficients at multiple levels.

Multilevel models have been called by various names including: hierarchical linear models (Bryk & Raudenbush, 2002), random coefficients models (Longford, 1993), mixed effects models (Pinheiro & Bates, 2000), covariance structure models (Muthen, 1994), and growth-curve models (McArdle & Epstein, 1987), and can be either single equation or utilize multiple simultaneous equations. Many statistical software packages now allow multilevel modeling, among them SAS™, R, Stata™, and SPSS™. I used SAS™ *Proc Mixed* module to perform my analyses.

The goal of multilevel modeling is to allow more accurate prediction of some dependent variable based on a function of predictor variables, at more than one level. In this study I sought to examine how a follower's outcomes were influenced individually by the characteristics of their leader's servant leadership style, as well as by any group consensus of opinion on servant leadership characteristics of their leader. A simple two-level structure, with five predictor variables each at level-1 and level-2, and four outcome variables, was shown in Figure 2 (repeated below).

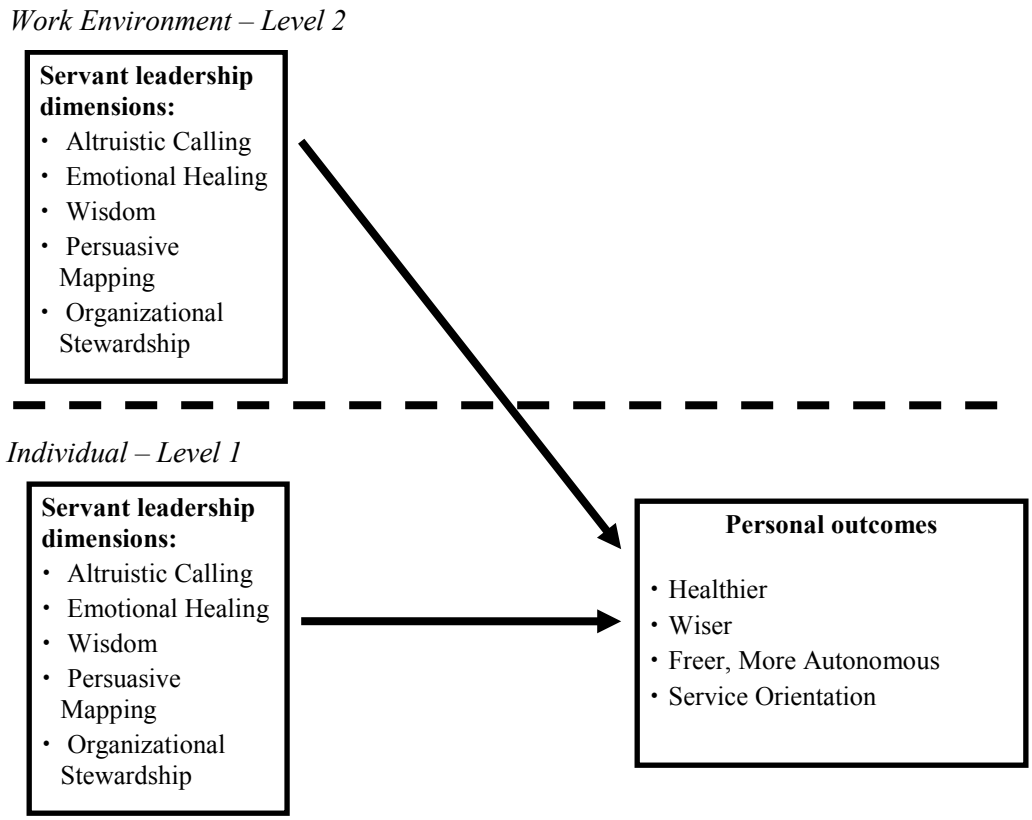

Figure 2. Group-level dynamics of Servant Leadership.

Data from the study was input into multilevel modeling software (SAS™). In summary, level 1 (the individual level) data was embedded (nested) within level 2 (the group of individuals reporting to a single leader) data as it was analyzed. It was implicit in the hypotheses due to the intended multilevel design of the study that dynamics beyond those explained by simple leader-follower dyads would be operative in an organizational setting. For one example, it was theorized that if a leader was rated as high on servant leadership dimensions, and if Greenleaf's theory was correct, then followers in these groups would, themselves, (in addition to other outcomes) exhibit more service orientation. However, this service orientation could not affect only the follower, as service requires an object. Although it is likely that service would be

demonstrated back to the leader (a reciprocal service) it is also logical that it would spill over in service to others. The most likely recipients of this service orientation would be fellow members of their leader's group.

In the logical full expression of Greenleaf's theory, followers of servant leaders become full-blown servant leaders themselves. However, I tested only the explicit outcome Greenleaf claimed, namely that followers of servant leaders would be more likely to become servants themselves (exhibit more of a service orientation) in addition to the other outcomes he articulated. Multilevel modeling software allowed testing of relationships across these multiple levels simultaneously.

Hierarchical Linear Modeling Process

Hierarchical linear modeling (multilevel analysis) is an iterative process. First, mean scores of all respondents (grand means) on the variables of interest were obtained. Second, group means on these same variables were obtained. Enders and Tofighi (2007) recommended grand mean centering when considering cross-level models. Therefore grand means were centered. Group means and centered grand means were then used by the software algorithm to determine at what level(s) the effects of servant leadership dimensions were most operative in predicting the outcomes. Individual ratings of the leader's servant leadership dimensions are compared by the software algorithm to both the group mean, and grand mean, and the dependent variable, to calculate two regression coefficients; one for the individual level (level 1) and one for the contextual level (level 2). The process is as follows.

To determine multilevel interaction, the dependent variable of interest was first modeled in an unconditional manner using group membership as the only classification variable. Next, the random intercept of the group mean was modeled. Following that, variables may be entered as control variables. And finally, the group means and grand means are entered as criterion variables.

Because potentially confounding variables had been previously tested, only three models for each dependent variable were estimated. Model 1 was a null (empty) model. Model 2 included only the random intercept for the group. Model 3 included both grand means and group means of the leader's servant leadership dimensions as predictors.

As each of the above iterations was processed, results were analyzed for an improved (significant) prediction of the dependent variable, with a commensurate (significant) decrease in the random error component. Significant improvements indicated a better fit of the model which indicated that there was a significant relationship between the outcome being examined and the variables entered into the model. In this study, in addition to the universally significant relationships (correlations) between servant leadership dimensions and outcomes, several significant predictive regression coefficients were found. Multilevel analysis allowed the researcher to determine at what level these predictive interactions were operative.

Hierarchical Linear Modeling Results

Each personal outcome was entered as the dependent variable, and subjected to multilevel analysis separately. This was a limitation of the software module used. The results of each series of regression models are shown in Tables 3-6.

Table 3. Multilevel Estimates for the Health Outcome

Model	Health		
	Null	**Group random intercept**	**Full (SL dimensions)**
Intercept	3.55	3.57	2.92
Individual Differences (Level 1)			
Servant leadership dimensions			
Altruistic Calling			.20*
Emotional Healing			.24*
Wisdom			.23*
Persuasive Mapping			.10
Organizational Stewardship			-.04
Contextual Differences (Level 2)			
Servant leadership dimensions			
Altruistic Calling			.29
Emotional Healing			-.09
Wisdom			.05
Persuasive Mapping			-.22
Organizational Stewardship			.14
Random effects			
σ^{2a}	.73	.56*	.28*
τ_{00}^{b}	--	.16	.02
R^{2c}	--	.23	.62

N=174 (Level-1, direct reports); *N*=51 (Level-2, group leaders); *Values are significant at p<.05
[a] Individual level residual variance.
[b] Variance in the level-1 intercepts across groups.
[c] The proportion of level-1 variance explained by all independent variables included in the model.

Table 4. Multilevel Estimates for the Wisdom Outcome

Variable Model	Wisdom		
	Null	**Group random intercept**	**Full (SL dimensions)**
Intercept	3.67	3.68	3.85
Individual Differences (Level 1)			
Servant leadership dimensions			
Altruistic Calling			.22*
Emotional Healing			.07
Wisdom			.15
Persuasive Mapping			.15
Organizational Stewardship			.28*
Contextual Differences (Level 2)			
Servant leadership dimensions			
Altruistic Calling			-.12
Emotional Healing			.10
Wisdom			.10
Persuasive Mapping			-.08
Organizational Stewardship			-.03
Random effects			
σ^{2a}	.75	.65*	.31*
τ_{00}^{b}	--	.09	.01
R^{2c}	--	.13	.59

N=174 (Level-1, direct reports); *N*=51 (Level-2, group leaders); *Values are significant at p<.05
[a] Individual level residual variance.
[b] Variance in the level-1 intercepts across groups.
[c] The proportion of level-1 variance explained by all independent variables included in the model.

Table 5. Multilevel Estimates for the Freedom-Autonomy Outcome

Variable Model	Freedom Autonomy		
	Null	**Group random intercept**	**Full (SL dimensions)**
Intercept	4.00	3.99	3.44
Individual Differences (Level 1)			
Servant leadership dimensions			
Altruistic Calling			.41*
Emotional Healing			.07
Wisdom			-.19
Persuasive Mapping			-.08
Organizational Stewardship			.19
Contextual Differences (Level 2)			
Servant leadership dimensions			
Altruistic Calling			.00
Emotional Healing			.04
Wisdom			.47
Persuasive Mapping			-.43
Organizational Stewardship			.04
Random effects			
σ^{2a}	.72	.63*	.45*
τ_{00}^{b}	--	.09	.01
R^{2c}	--	.13	.38

N=174 (Level-1, direct reports); *N*=51 (Level-2, group leaders); *Values are significant at p<.05
[a] Individual level residual variance.
[b] Variance in the level-1 intercepts across groups.
[c] The proportion of level-1 variance explained by all independent variables included in the model.

Table 6. Multilevel Estimates for the Service Orientation Outcome

Variable Model	Service Orientation		
	Null	**Group random intercept**	**Full (SL dimensions)**
Intercept	4.25	4.25	4.00
Individual Differences (Level 1)			
Servant leadership dimensions			
Altruistic Calling			.19
Emotional Healing			-.04
Wisdom			-.12
Persuasive Mapping			-.08
Organizational Stewardship			.23
Contextual Differences (Level 2)			
Servant leadership dimensions			
Altruistic Calling			-.35
Emotional Healing			.22
Wisdom			.41*
Persuasive Mapping			.06
Organizational Stewardship			-.25
Random effects			
σ^{2a}	.38	.36*	.35*
τ_{00}^{b}	--	.02	.00
R^{2c}	--	.05	.08

N=174 (Level-1, direct reports); *N*=51 (Level-2, group leaders); *Values are significant at p<.05
[a] Individual level residual variance.
[b] Variance in the level-1 intercepts across groups.
[c] The proportion of level-1 variance explained by all independent variables included in the model.

Contrary to the unanimously positive and significant zero-order correlations, most (33 out of the possible 40) regression coefficients obtained from these models failed to achieve significance, and therefore multilevel (regression) analysis results did not support all the hypotheses. Similarities among the individual employees, grouped as they were by their leader; and also being employees of the same company, working in the same industry, and living in the same country, state, and city (all of which *could* also be used as additional *levels*), likely resulted in some correlated errors, smaller

standard error terms, and therefore possibly inflated correlations. However, even without inflation, correlations do not reflect the full picture of how variables operate in multilevel environments. The multilevel software algorithm relaxes the assumption of independence between variables to provide more accurate estimates of the predictive relationships between variables. In addition, because the variables have been standardized, they can be readily compared. Therefore, due to these advantages of multilevel modeling, and the implicit intent of this study to test Greenleaf's articulation of servant leadership's theorized outcomes in the real-life environment of an organization, the regression results in Tables 3-6 were used to determine whether this study's hypotheses were supported, below.

Hypothesis H1a was supported. Altruistic Calling in the leader was a significant predictor of Health in the follower at the individual level ($b = .20$; $p < .05$), however the level 2 coefficient was not significant (there was no additional significant contextual effect as a result of group dynamics).

Hypothesis H1b was supported. Altruistic Calling in the leader was a significant predictor of Wisdom in the follower at the individual level ($b = .22$; $p < .05$), however the level 2 coefficient was not significant (there was no additional significant contextual effect as a result of group dynamics).

Hypothesis H1c was supported. Altruistic Calling in the leader was a significant predictor of Health in the follower at the individual level ($b = .41$; $p < 05$), however the level 2 coefficient was not significant (there was no additional significant contextual effect as a result of group dynamics).

Hypothesis H1d was not supported. Altruistic Calling in the leader was not a significant predictor of Service Orientation in the follower at either the individual level or the group level.

Hypothesis H2a was supported. Emotional Healing in the leader was a significant predictor of Health in the follower at the individual level (b=.24; p< 05), however the level 2 coefficient was not significant (there was no additional significant contextual effect as a result of group dynamics).

Hypothesis H2b was not supported. Emotional Healing in the leader was not a significant predictor of Wisdom in the follower at either the individual or group level.

Hypothesis H2c was not supported. Emotional Healing in the leader was not a significant predictor of Freedom-Autonomy in the follower at either the individual or the group level.

Hypothesis H2d was not supported. Emotional Healing in the leader was not a significant predictor of Service Orientation in the follower at either the individual or group level.

Hypothesis H3a was supported. Wisdom in the leader was a significant predictor of Health in the follower at the individual level (b=.23; p< 05), however the level 2 coefficient was not significant (there was no additional significant contextual effect as a result of group dynamics).

Hypothesis H3b was not supported. Wisdom in the leader was not a significant predictor of Wisdom in the follower at either the individual or group level.

Hypothesis H3c was not supported. Wisdom in the leader was not a significant predictor of Freedom-Autonomy in the follower at either the individual or group level.

Hypothesis H3d was supported. Wisdom in the leader was not a significant predictor of Service Orientation in the follower at the individual level, but was a significant predictor at the group level (b=.41; p< 05).

Hypothesis H4a was not supported. Persuasive Mapping in the leader was not a significant predictor of Health in the follower at either the individual or group level.

Hypothesis H4b was not supported. Persuasive Mapping in the leader was not a significant predictor of Wisdom in the follower at either the individual or group level.

Hypothesis H4c was not supported. Persuasive Mapping in the leader was not a significant predictor of Freedom-Autonomy in the follower at either the individual or group level.

Hypothesis H4d was not supported. Persuasive Mapping in the leader was not a significant predictor of Service Orientation in the follower at either the individual or group level.

Hypothesis H5a was not supported. Organizational Stewardship in the leader was not a significant predictor of Health in the follower at either the individual or group level.

Hypothesis H5b was supported. Organizational Stewardship in the leader was a significant predictor of Wisdom in the follower at the individual level (b=.28; p< 05), however the level 2 coefficient was not significant (there was no additional significant contextual effect as a result of group dynamics).

Hypothesis H5c was not supported. Organizational Stewardship in the leader was not a significant predictor of Freedom-Autonomy in the follower at either the individual or group level.

Hypothesis H5d was not supported. Organizational Stewardship in the leader was not a significant predictor of Service Orientation in the follower at either the individual or group level.

Summary of results

Results of multilevel analysis demonstrated that there were significant regression coefficients between some, but not all, servant leadership dimensions and outcomes. That servant leadership is therefore, related to the personal outcomes Greenleaf theorized is clear. But the smaller coefficients and the fact that not all the relationships were statistically significant (as in the zero-order correlations) indicated that there *are* dynamics beyond those explained by the simple leader-follower dyads operative. That the relationship between servant leadership and some outcomes is stronger than others, or more affected by certain servant leadership dimensions is also clear.

There was only one servant leadership dimension (Wisdom) which the model indicated could reliably predict a contextual effect on only one outcome (Service Orientation). With this one exception, all the predictive capabilities of the models were related to dynamics which take place at the individual level, statistically unaffected by contextual effects. Table 7 illustrates the distribution of servant leadership dimensions with significant regression coefficients across the two levels of analysis (see Table 7). In the next chapter we discuss the implications of these findings.

Table 7. Distribution of significant multilevel effects across levels

Outcome	Servant leadership dimensions with significant coefficients	
	Individual level	**Group level**
Health	*Altruistic Calling* *Emotional Healing* *Wisdom*	--
Wisdom	*Altruistic Calling* *Organizational Stewardship*	--
Freedom-Autonomy	*Altruistic Calling*	--
Service Orientation	--	*Wisdom*

N = 174 employees in *N*= 51 groups. All coefficients significant at p< .05.

CHAPTER 5

DISCUSSION

This chapter summarizes and interprets the findings of the previous chapter, identifies limitations of the study, expounds on its implications, and proposes directions for future research efforts.

When tested using multilevel analysis techniques, only four of the five servant leadership dimensions were significantly predictive of any outcomes. I will begin the discussion with the dimension which did *not* yield significant results compared to any of Greenleaf's theorized outcome. This dimension was Persuasive Mapping. As operationalized, Persuasive Mapping included elements such as: alignment with corporate strategy, awareness of organizational politics, knowledge of 'how things work around here', and several components conceptually similar to legitimate power, authority, hierarchy, and even mild coercion. Persuasive Mapping was therefore the most *managerial* of the servant leadership dimensions.

It is speculated that this characteristic/behavior of leaders was not viewed by the followers as supporting their understanding of servant leadership. It is suggested that followers interpreted these behaviors of the leader as simply filling their expected role within the formal organizational structure. That is, the followers failed to interpret the persuasive behaviors of their leaders as serving them. Any paternalistic *intent* by the leader to mediate or communicate the larger organizational goals to them, for their benefit, was either not recognized or was interpreted by the followers as the leader 'doing their job' and no personal outcome (benefit) was attached to it.

When this dimension of servant leadership was developed, it was clear that servant leaders use their legitimate positions, authority, and power within an organization in a benevolent, almost paternalistic manner. That the participants of this

study apparently failed to recognize that the leader, in so doing, was attempting to serve them seems to indicate that followers expect servant leadership to exhibit itself as some set of behaviors *outside* the norms of organizational behavior.

It is speculated that when servant leaders do indeed use their positions within organizations in a benevolent manner, some followers fail to appreciate the behaviors as an expression of servant leadership. Barbuto (2000) wrote about follower's resistance to task assignments. It seems intuitive that if a follower misinterprets the leader's intent, they will likely also not comply as desired or expected. An interesting study would be to collect data from both leaders and followers on this dimension and compare the leaders' *intent* with the followers' *perceptions*.

The servant leadership dimension which had the largest influence on outcomes was Altruistic Calling. Altruistic Calling was the foundation of the servant leadership construct in Greenleaf's work. It was defined as a deep desire to serve others and to serve them *first*. This, said Greenleaf, is what distinguishes servant leaders. It is service above self. It is putting one's follower's growth above one's own needs or desires. A true servant leader leads *by* serving. By focusing on the follower, the leader helps the follower *grow* in the four outcomes. Three of the four outcomes could be reliably predicted by Altruistic Calling at the individual level: *Health, Wisdom,* and *Freedom-Autonomy.* Only *Service Orientation* could not.

Leaders who put their followers' interests ahead of their own facilitate increased health in their followers. As measured, health included emotional and psychological well-being. Followers of leaders who are willing to make sacrifices for them will *feel* better. They describe themselves as more positive, having fewer illnesses. The work

environment created by leaders who try to meet the needs of their followers is conducive to the growth of the followers as human beings.

The opposite is also true. Leaders who think only of themselves, or who judge that it is the followers' duty to serve them will be associated with followers who report poorer health. Leaders are not better, or more worthy of service. All people need to serve and be served, not based upon position, but upon need. This mutual, interactive service promotes increased emotional, and psychological, and physical health.

This service by leaders to followers is not an obsequious, self-deprecation. Servant leadership theory does not sanction a leader fawning over their followers, but rather, simply serving their follower's legitimate needs in a professional manner. This result was consistent with expectations.

Altruistic Calling in the leader was also related to wisdom in the followers. Altruistic Calling is synonymous with service. Service can take many forms in an organization. One of the ways a leader can serve their followers is to help them become more successful *in* the organization. Wisdom in the servant leadership literature is strongly linked to awareness, political savvy, intuitiveness, a sixth sense, organizationally. A servant leader who helps their subordinates navigate organizational waters, warns them of pitfalls, gives them advice, and protects them from particularly hurtful mistakes makes them wiser.

Followers of servant leaders develop (grow) their wisdom through guided experience, free from the need to learn everything the hard way, because their leader mentors them in acquiring their own wisdom. Wisdom is the successful application of knowledge and skills – within a given context. The leader who helps their followers

increase their knowledge, improve their skills, and most importantly, convert these into wisdom within the organizational context will, as a result, have followers who are more aware, more discerning, and who will make better decisions.

Altruistic Calling in the leader was related to Freedom-Autonomy in the followers. Altruistic Calling is not about position or authority; it is about possessing a desire to assist others. It is not about giving directions or telling someone *how* to do something. Many organizations (insert *leaders, managers, bosses)* dictate *how* a task should be done. This forces square people into round holes, attenuating their autonomy. One way a leader can serve their followers is by not creating unnecessary or excessive structure, and by not dictating unnecessary prescriptive means to the end. The servant leader can serve the follower by first trusting them, and then by getting out of their way.

Followers are then freer to apply their own creative energies to the task. These followers experience not only the outward actual latitude to pursue a task as they see fit, but also inner freedom. This was labeled autonomy although it could be called self-confidence, self-esteem, perhaps even self-actualization (Maslow, 1954). The leader who serves their followers in this manner has removed barriers which exist to a lesser or greater degree in every organization, and will develop more engaged, creative, and autonomous workers. This result was consistent with research on autonomy (Deci & Flaste, 1995). Deci claimed people are most productive when there is a balance between 3 things: competence, autonomy, and relatedness (Deci & Flaste, 1995).

Emotional Healing in the leader was significantly related to health in the follower. Emotional Healing represents the capacity and willingness of the servant

leader to interact with their followers at personal levels. Healing implies the follower has been hurt, wounded, humiliated, disenchanted, or traumatized in some way.

This interaction of the leader is not 'business', it's personal in nature. It's emotional. The leader who is able to effectively connect with followers who have experienced some emotional trauma, at an emotional/personal level, and assist them in the healing process, will gain healthier employees. The leader who empathizes with hurting employees, and makes an emotional connection with them, actually affects the healing process. This finding was also consistent with expectations. Previous research on servant leadership and Leader Member Exchange (LMX) revealed that Emotional Healing was the strongest predictor of LMX (Barbuto & Hayden, in press).

Wisdom in the leader was a significant predictor of Health in the follower. Wisdom as a servant leadership characteristic captures several themes Greenleaf wrote about. Among them were awareness and foresight. When a servant leader is aware of what's going on around them in the organization, and can foresee the potential consequences, they are less likely to be surprised by change. They are also in a position to educate their followers. Change, especially unexpected change, can cause a great deal of stress in people's lives. By remaining aware, perceiving organizational and environmental clues, by being politically savvy, etc. the leader effectively prepares their followers for change, thereby reducing their stress levels. When stress is reduced, emotional/psychological, even physical health is improved.

Wisdom in the leader was also a significant predictor of Service Orientation in the follower, at the group (contextual) level. Followers do not think it 'wise' for an organization to simply 'take' from a community or society and not give back. In their

own lives they donate to charity, serve on committees, hold fund-raisers, etc. Followers expect similar acts of stewardship from their leaders and organizations. Servant leaders who champion their organization's involvement in the community find strong allies in their followers. Followers believe it unwise for an organization to simply amass wealth, or to serve only their stockholders. And they understand the probable negative consequences of *not* being good stewards in the community. They believe that organizations have stakeholders as well as stockholders. These stakeholders may not have invested monetarily in the organization, but they feel that the organization has a responsibility to acknowledge them, and to serve them.

The fact that this significant coefficient occurred at the contextual level and not at the individual level indicates that there was also a reasonably large variation between groups on this relationship. The *within* (individual level) coefficient (although not statistically significant) is actually negative (-.12). However, when the *within* (level 1) coefficient was added to the *contextual* (level 2) coefficient (.41), the *between group* effect (coefficient) would be .29; relatively high among my findings.

The most surprising finding in this study was that *none* of the servant leadership dimensions were significant predictors of Service Orientation at the individual level. Based on the fact that Greenleaf viewed servant leadership as developmental and cyclical (i.e. followers of a servant leader would ultimately *become* servant leaders themselves) one would have expected Service Orientation to have been the easiest to predict given evidence of servant leadership. Instead, this study revealed that *none* of the servant leadership dimensions were significant predictors of Service Orientation at the individual level.

Although this finding was unexpected, a closer examination of Greenleaf's theory may actually help explain it. Rather than reacting to servant leadership dimensions as a dependent variable, Service Orientation responds more like an independent variable or an innate characteristic of the followers. A thoughtful review of Greenleaf's theory supports the understanding that the desire to serve (called Altruistic Calling as a servant leadership variable and Service Orientation as an outcome variable) may in fact *be* the same innate personal characteristic, distributed to all persons in varying degrees. If this is true, then no 'stimulus' (such as servant leadership characteristics in one's leader) is required for the follower to express their Service Orientation. This would explain the notably weaker zero-order correlations between servant leadership dimensions and Service Orientation and the absence of significant predictive capability of these variables in the multilevel model.

If this explanation is true then Service Orientation (despite being theorized as an outcome of servant leadership) is in fact very similar to Altruistic Calling in the leader. It would be very interesting to develop a study where the desire to serve others was tested in both leaders and followers, but apart from their relationship to one another, to determine if Altruistic Calling and Service Orientation are conceptually identical.

Effects due to inclusion in servant-led groups

One key aspect of this study was to ascertain whether belonging to a group explained any additional predictive capability. Multilevel analysis, with the individual follower-leader dyads being level one, and the followers being nested in groups being level two, revealed that the answer to this question was negative, with one exception.

ICC scores (between groups) varied. This meant that group membership (irrespective of *the* group) did have an effect on how strongly servant leadership dimensions predicted followers' outcomes. However, multilevel analysis demonstrated that this relationship between leaders' servant leadership scores and followers' outcomes existed almost entirely at the individual level, largely unaffected by contextual (level 2) effects.

Membership in a group does not appear to significantly affect the dynamics between servant leaders and their individual followers beyond that already existent at the individual level. Followers, although nested in groups, do not appear to be significantly affected by the contextual effect of groupings.

Relationships between servant leadership and personal outcomes summary

This study validated Greenleaf's claim that servant leadership would have an effect on followers' *Health, Wisdom, Freedom-Autonomy*, and *Service Orientation*.

Health. The strongest relationships between servant leadership and outcomes were for the outcomes of *Health* and *Wisdom*. Health included both physical and emotional/psychological health. Three of the five servant leadership dimensions were significant predictors of *Health* at the individual level. Clearly servant leadership creates a very positive, healthy work environment. Employees *grow* when they feel they are served by their leader.

Wisdom. Two of the five servant leadership dimensions were significant predictors of *Wisdom* at the individual level. Increased situational awareness, the ability to perceive the direction things will go and to respond effectively, the ability to apply

personal knowledge more effectively, and to make better decisions are all positive outcomes of servant leadership. Enhancing outcomes such as these is very valuable to any organization. The potential benefit to organizations is evident. Not only do servant leaders demonstrate wisdom themselves, they also foster this in their (multiple) followers. Growth was understood by Greenleaf (like Maslow) as an innate need or desire. All that was theorized for its actualization was the removal of impediments or obstacles. Servant leadership functions to remove these.

Freedom-Autonomy. One of the five servant leadership dimensions was a significant predictor of *Freedom-Autonomy* at the individual level. The servant leadership style is not explicitly tied to any particular organizational paradigm; however, on its face it does not seem to be a strong ally of a highly hierarchical structure. That is, servant leadership as a style appears to be much less *directive* than say a transactional style of leadership. Employees who are accustomed to a hierarchical, transactional structure are more likely to *wait* for direction or instruction from their superiors. They come to expect others make the decisions and set the direction for them. This places the responsibility for (and the rate of) progress in the hands of a select few. Followers just 'do as they're told' and wait for direction from above.

The outcome freedom/autonomy, in sharp contrast, is a characteristic reflective of personal confidence, self-esteem, and competence on the part of the followers. It is a willingness to take more (reasonable) risks, to proceed without explicit direction or permission based on an increased *wisdom*. Deci and Flaste (1995) promoted a model composed of *autonomy, competence,* and *relatedness*.

For organizations which desire to maximize their employee's engagement, this outcome appears to be very desirable. A popular management buzzword is *engagement*. Freedom-autonomy is functionally synonymous with engagement. Servant leaders *give* their followers the latitude to function autonomously, that is, to do their jobs without oppressive, sometimes demeaning oversight. They *trust* their employees to do the right thing, on their own. They also trust their employees to know the limits of their own authority and to seek guidance at the right times.

Service Orientation. The last personal outcome theorized by Greenleaf was *Service Orientation* (to become servants themselves). None of the five servant leadership dimensions was a significant predictor of this outcome at the individual level, although this outcome was the only outcome to posses a significant second level regression coefficient. To serve requires an object. It *seemed* somewhat intuitive that the follower would reciprocate being served by serving their leader. It also seemed logical that the followers' service would also have demonstrable effects on other followers of the same (servant) leader, premised on the nested, multilevel relationships in the organization. This study did not support this.

The theory behind my hypothesis on multilevel effects was that Greenleaf's understanding of servant leadership was a cyclical and developmental one. That is, he believed that the practice of servant leadership would ultimately result in followers who would blossom into servant leaders themselves. However, the original 'best test' articulated by Greenleaf, which I tested, stopped somewhat short of actually claiming full servant leadership as an outcome of servant leadership, but the germinal idea is evident in Greenleaf's writings.

Service Orientation did not reveal itself as an outcome as did the other outcomes. The smaller zero-order correlations and the absence of significant individual level coefficients indicate that Service Orientation reacted much more like an independent variable, or innate characteristic of the followers. A thoughtful review of Greenleaf's theory supports this understanding that Service Orientation is in fact distributed to all persons in varying degrees. Future studies could assist in determining if Service Orientation is synonymous with Altruistic Calling.

Summary conclusions

This study confirmed Greenleaf's 'best test' of servant leadership based on correlations. In addition, multilevel analysis indicated significant predictive coefficients for 3 of the 4 outcomes at the individual level. One significant contextual group effect was also found. *Some* conclusions appear to be safe to draw from these results, and are also the most significant contributions of this study.

As a specific dimension of servant leadership, Altruistic Calling is the most important trait or characteristic defining a servant leader. This is in absolute agreement with the underlying tenets of servant leadership theory as promulgated by Greenleaf. It is the Altruistic Calling dimension of the servant leader which stimulates them to apply any other servant leadership dimensions they might have to serve their followers. The motive for servant leadership therefore is the calling of the leader to serve.

The single outcome most strongly affected by servant leadership was Health. Apparently servant leaders create and sustain an environment where their followers feel, and actually are, healthier. It is theorized that this is based mostly on the

emotional/psychological component within the health variable. Future research should intentionally develop separate, reliable measures for these two constructs to confirm this.

The outcome *Service Orientation* does not behave like an outcome at all. Rather, the pattern of its statistical relationships indicates that *Service Orientation* is much more of an innate quality of all persons, both leaders and followers, than it is an outcome dependent on leader stimulus. Future studies could be devised to measure the expression of this trait or characteristic in followers and leaders, independent of one another, to determine how such a characteristic is distributed within an organization.

Finally, group dynamics (being a member of *a* group) do not appear to play a major role in affecting follower outcomes. Six of the seven significant coefficients found in this study occurred at the individual level. This finding is similar to the fact that leaders develop a separate LMX relationship with each of their followers. And, this finding has significance for any intended study of leadership at the group level.

Limitations and future research

Despite the pressing need for this study, it possessed several elements considered to be limitations. First, all data was collected from followers. This could potentially inject single source bias, however in the present study was deemed necessary. Although there are multiple styles of leadership, there is no single style of leadership which has garnered universal support as being the *best* style of leadership for every occasion or every type of organization. Nevertheless, servant leadership could be viewed as a socially desirable style of leadership. By using raters (followers) of leaders

to rate their leader's leadership style, the bias of social desirability (if leaders rated themselves) was avoided. Conversely however, if a follower viewed servant leadership as desirable, and simultaneously felt their leader did *not* exhibit this style, a similar (though negative) bias could have been injected.

In defense of the single source data collection, a couple of the dependent variables would have been difficult for the leader to assess. For example, health was measured for both physical illness and also for emotional and psychological components. Only the follower could accurately rate these latter components. Similarly, freedom was measured by items related to actual ability and opportunity to perform independently. However, autonomy was assessed by an item which included the element of confidence, which only the follower can accurately answer.

Future studies should consider ways to obtain data from both the leader and the follower perspectives. This will allow testing for the social desirability bias from *either* the leaders or the followers. It will also reveal how accurately leaders are able to assess the more subjective outcomes in their followers.

A second limitation of this study was that it was conducted using participants all of whom were embedded in a traditional organizational structure. Although it is probable that the results could be applied to other organizations – particularly of the same size and in similar industries, it cannot be assumed that the results are generalizable to other types of leadership environments, such as government, familial, military, or non-profit organizations. Greenleaf spent an entire career in a traditional organization, which presumably led him to proffer the idea of a more servant-leader style of leadership in traditional organizations. However, his writings on the application

of servant leadership covered not only such organizations, but also churches, schools, and foundations. Future studies of leadership style to personal outcomes should be designed to collect data from a broader cross-section of organizations. Such designs will facilitate comparison of variables at this organization type level (yet another level in a multilevel analysis).

This study was conducted using groups as small as 2, although the average number of direct reports to each leader was 10.7. Although fully reliable results were obtained from this study it is recommended that future studies attempt to collect and use data from larger populations, resulting in both a greater number of groups, and ideally a more complete representation of each group. As in any study, one never knows what information the non-respondents would have given, or the impact of this information on the results, had they participated.

Another limitation of this study was that it was conducted with a single organization, in a single U.S. location. It was argued that this organization was representative of many similarly sized organizations in similar industries, however it cannot be argued that U.S. organizations are similar to organizations in other countries. Most notable, the U.S. is a very individualistic society. This individualistic bent of Americans has huge implications for leadership, especially servant leadership. This individuality orientation likely affects not only followers at the individual dyadic level, but is most certainly operative when groups (level 2) are considered. This type of bias most likely cannot be eliminated from a study conducted entirely with U.S. employees. It would be ***very*** interesting to find out whether a sample population drawn from a collectivistic society would have significant relationships at the group level.

Organizations in collectivistic societies should intentionally be included in future studies. This will allow comparisons of an additional multilevel effect between individualistic societies and more collectivistic ones. It is theorized that there will be significant differences in group effects between individualistic and collectivistic societies.

The fact that this study was purely quantitative could be considered to be a limitation. That is, data was obtained solely by closed response (multiple-choice) surveys. Although this study fully answered the research question there was no opportunity to obtain any more personal (subjective) data, or obtain explanation of why a respondent replied as they did. Since servant leadership is, by definition, more relational than other leadership styles, this seems to be a deeply needful area of exploration. Now that this study establishes that personal outcomes are indeed related to the leadership style of the leader, it is incumbent on future research to determine *why* this is so, and if possible, *how* to increase this effect. A study with a qualitative or mixed-methods design will provide a better design for that research.

Implications

This study proved *the* most basic assertion made about servant leadership. It filled a knowledge gap. Although scholars had assumed the veracity of servant leadership's basic premise, it had *not* been empirically proven. By measuring and comparing servant leadership against the outcomes Greenleaf postulated, the field of leadership now has proof that practitioners of the servant leadership style do indeed effect positive outcomes in their followers. Servant leadership can no longer be

considered contradictory, an oxymoronic conceptualization, a pie-in-the-sky theory. The field has proof of servant leadership effects, and no longer has to rely on anecdotal evidence, subjective examples; it has facts. Therefore this study also provides validation of the legitimacy of studying servant leadership as a leadership style (paradigm) side by side with other leadership theories.

The implications for business are evident. What would a business pay for all its employees to be healthier? With healthcare costs increasing exponentially, and most businesses sharing the lion's share of insuring against these costs, any improvement in health (physical or emotional) would save huge sums of money. And productivity? What is the impact on productivity when employees aren't 'there', but are instead distracted by some emotional issue?

Wisdom, as operationalized within servant leadership, includes employees becoming more aware, more savvy, less defensive of change. What would be the impact on business if the majority of employees better understood the need for change, and instead of resisting it embraced it?

And how would greater autonomy affect business? How much more real work could a company get done if those who really understood the problem-and the solution-didn't have to get 'permission' to apply the solution to the problem?

Final conclusion

This study performed Robert Greenleaf's "best test" of servant leadership. The results vindicated Greenleaf's claim that servant leadership is related to the personal outcomes he theorized. Servant leadership dimensions at level 1 were related to three

of the four theorized personal outcomes. However, inclusion in groups led by the same leader generally did not have any additional effects on these outcomes, with one exception.

Answering the empirical question regarding servant leadership's most basic tenet clears the way for future research. Many avenues lay unexplored or underexplored. Most interesting is the exploration of the antecedents of servant leadership. Is servant leadership, or its dimensions, simply innate within individuals? , Are they latent, needing to be developed? Or can they be taught to anyone desiring to learn this style of leadership? If so, how? Will servant leadership operate similarly in a collectivistic society as it does in America? What reasons do followers give for how they view leaders?

CHAPTER 6

DRAFT MANUSCRIPT FOR SUBMISSION TO A JOURNAL

GREENLEAF'S "BEST TEST" OF SERVANT LEADERSHIP: A MULTI-LEVEL ANALYSIS

by

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Abstract

This study empirically tests Robert Greenleaf's (1970) seminal articulation of servant leadership. The four personal outcomes he theorized (*health, wisdom, freedom-autonomy*, and *service orientation*) were tested against established dimensions of servant leadership. All correlations were significant and positive. Using multilevel analysis, the predictive strength of these servant leadership dimensions were assessed at two levels within an organization, and explained. Implications and future direction of research were discussed.

Introduction and Statement of the Problem

In the seminal essay on servant leadership, *The Servant as Leader*, Robert Greenleaf introduced the concept of servant leadership and theorized that several specific outcomes would flow to followers of servant leaders (Greenleaf, 1970). Servant leadership has since grown into a recognized theory of leadership in its own right. Despite this construct's popularity, Greenleaf's outcomes-based "best test" of servant leadership's outcomes has not been performed. Greenleaf described this "best test" of servant leadership as follows:

> The difference manifests itself in the care taken by the servant – first to make sure that the other people's highest priority needs are being served. The best test, and difficult to administer, is this: 'Do those served grow as persons? Do they, while being served, become healthier, wiser, freer, more autonomous, more likely themselves to become servants? And, what is the effect on the least privileged in society? Will they benefit or at least not be further deprived?' (Greenleaf, 1970, p7).

Understanding the original articulation of the servant leadership construct is critically important, because Greenleaf's essay sparked a torrent of writings advocating servant leadership as a novel approach to leadership (Autry, 2001; Blanchard, 2003; Hunter, 1998, 2004; Pollard, 1996; Sipe & Frick, 2009; Spears & Lawrence, 2004). The attention which flooded the popular press literature, however, preceded empirical testing of the original articulation of the construct.

Problem statement and research question

Since Greenleaf's original essay, 35 years passed with no empirical work clearly defining the dimensions of servant leadership. No reliable scale existed for measuring these dimensions. With the development of an empirically-based list of servant leadership dimensions, and a reliable and valid scale to measure them, we are now in a

position to test Greenleaf's central theoretical tenet: that certain specific outcomes will flow to the followers of servant-leaders. The research question of this study *is* Greenleaf's "best test". "Are the outcomes in the followers that Greenleaf claimed (*healthier, wiser, freer, more autonomous,* and *more likely themselves to become servants*) related to measured dimensions of servant leadership?

The significance of this study is that it will be the first known attempt to determine if any empirical relationship exists between measured servant leadership dimensions of leaders and personal outcomes in their followers, as posited by Greenleaf (see Figure 1).

INSERT FIGURE 1 ABOUT HERE

Ehrhart (2004), however, argued that more than individual leader-follower dynamics are operative within organizational contexts. Leaders with several followers impact not only the individual relationships between themselves and each follower, but also relationships each follower has with other followers. Multilevel analysis software allows testing for interactions at the individual level, and among and between the followers in groups, to be performed simultaneously. Our study hypothesized additional servant leadership dynamics would be discovered when the data was analyzed using multilevel tools to evaluate the construct (Brown, 2000) (see Figure 2).

INSERT FIGURE 2 ABOUT HERE

Review of the Literature

Greenleaf was not the first to speak about service. Ancient Chinese philosophers (Wren, 1995), Eastern religious founders (Buddhist studies, 2011; Ching & Ching, 1995; Manz & Simms, 1989; New Taoist Community, 2011; Rood, 2011), Judaism, Christianity, and Islam (Rehmatullah, 1999) all espoused the need for their adherents to serve one another, and society.

The understanding of leadership as being something more than directive *management* was also not limited to religious expressions. Contemporaries of Greenleaf had explored the dynamics of human growth (Maslow, 1954) and the dynamics of organizations (McGregor, 1960). Even ordinary literature included allegorical teachings relating servanthood to leadership (Hesse, 1932).

The modern genesis of servant leadership, however, is credited to Robert Greenleaf's seminal essay on servant leadership *The Servant as Leader* (Greenleaf, 1970), expanded to become a book, *Servant leadership: A journey into the nature of legitimate power and greatness* (1977). Greenleaf's writings contained numerous, repetitive themes. It was these themes that many subsequent authors focused on, seeking to use them to define and measure servant leadership. These themes, which have been re-named, expanded upon, re-ordered, and re-cast from many vantage points, nonetheless form the core to a basic understanding of the philosophy of servant leadership. Spears (1995) attempted to codify these themes as follows: *listening,*

empathy, healing, awareness, persuasion, conceptualization, foresight, stewardship, commitment to the growth of people, and *building community*. Barbuto and Wheeler (2002) added *calling*.

A review of popular and scholarly literature following Greenleaf revealed a shift in focus, with the majority of the writings focusing on the leader. Greenleaf's follower outcomes were not tested for. When outcomes were discussed, they were non-personal in nature. Much of this work was also not empirically rigorous, instead being founded largely on intuition, anecdotal evidence, and repetitive literature reviews. Following is a brief review of some of the more prominent studies.

Several authors considered the spiritual and religious underpinnings of the servant leadership construct (Akuchie,1993; Hawkinson & Johnson, 1993; Sendjaya & Sarros, 2002; Snodgrass, 1993). These used Bible passages and Biblical figures to illustrate servant leadership, some even claiming religion as its legitimate source.

Others authors wrote on servant leadership from a more practical standpoint, without citing the larger body of literature beyond Greenleaf (Blanchard, 1998; Covey, 1998; Hunter, 2004).

Graham (1991) performed a comparative analysis between servant leadership and other leadership theories and concluded that servant leadership was distinct from two types of charismatic leadership, distinct from later conceptualizations of transformational leadership, but very similar to Burns' early (1978) conceptualization of transforming leadership. Graham, describing servant leadership as being more about the follower and less about the organization (Bass, 1985, 2000; Bass & Avolio, 1994). Bowman (1997) pointed out the lack of empirical support in the conceptual writings in

the popular press. Other scholars also began to recognize, and then address, the lack of empirical evidence underlying the construct. Farling, Stone, and Winston (1999) noted the lack of empirical evidence within the writings on servant leadership. While they encouraged other researchers to engage in more empirical research, the variables they identified (vision, influence, credibility, trust, and service) were no more empirically grounded than the variables found in the stream of literature they criticized. Their conclusion was that servant leadership was a form of transformational leadership (Burns, 1978). Laub (1999) created the Organizational Leadership Assessment (OLA). Sixty items were developed to measure six sub-scales and job satisfaction. Page and Wong (2000) created a rater-only 23 item *Servant Leadership Profile* (SLP) which purported 12 dimensions of servant leadership. Polleys (2002) explored servant leadership as a possible antidote for leadership problems at a University. Polley's conclusion was similar to Graham (1991) and Bowman (1997) in aligning servant leadership with Burn's (1978) transforming leadership. Russell and Stone (2002) reviewed the literature and proposed nine 'functional' attributes of servant leadership (vision, honesty, integrity, trust, service, modeling, pioneering, appreciation of others, and empowerment) and eleven 'accompanying' attributes (communication, credibility, competence, stewardship, visibility, influence, persuasion, listening, encouragement, teaching, and delegation). Barbuto and Wheeler (2002) presented servant leadership as it was conceptualized in Greenleaf and Spears. They described eleven characteristics from Greenleaf and Spears. This early work however was geared for practitioners and lacked the theoretical and empirical development needed to advance the servant leadership construct to an operational level. Patterson (2003) developed a more

spiritual conceptualization of servant leadership around leader values including: agapé love, humility, altruism, creating vision for followers, being trusting, serving, and empowering their followers. This work was exploratory in nature with no confirmatory analysis and no criterion posited to establish validity, convergent/divergent validity not established. Dennis and Winston (2003) performed an exploratory factor analysis of the SLP data and reported three dimensions: empowerment, service, and vision. Ehrhart (2004) developed a 14 item, one-dimensional model to test servant leadership against organizational citizenship behavior. This model had 7 subscales: forming relationships with subordinates, empowering subordinates, helping subordinates grow and succeed, behaving ethically, having conceptual skills, putting subordinates first, and creating value for those outside the organization. Dennis and Bocarnea (2005) developed the *Servant Leadership Assessment Instrument* (SLAI) using Patterson's (2003) earlier work.

Several of these authors had recognized the lack of empirical support for these many and varied conceptualizations. But it was not until researchers began to develop measurements of servant leadership that more focused research began to show promise to accurately and reliably identify the true component dimensions of servant leadership (Barbuto & Wheeler, 2006; Liden, Wayne, Zhao, & Henderson, 2008; Sendaya, Sarros, & Santora, 2008).

Recent empirical measures

Barbuto and Wheeler (2006) clarified the servant leadership construct, and developed and validated a measure using exploratory factor analysis, confirmatory factor analysis, substantive criterion validity, convergent validity, divergent validity,

and predictive validity. This work, stimulated subsequent empirical works on servant leadership (Liden et al., 2008; Neubert, Kacmar, Carlson, Chonko, & Roberts, 2008; Searle & Barbuto, 2011; Sendjaya, Sarros, & Santora, 2008).

The Barbuto and Wheeler (2006) *Servant Leadership Questionnaire* (SLQ) identified and confirmed five dimensions of servant leadership: *altruistic calling, emotional healing, wisdom, persuasive mapping,* and *organizational stewardship*. A very brief description of each follows.

Altruistic calling - was defined as the fundamental conscious choice to serve others (Greenleaf, 1977). This desire to positively influence others through service was deemed central to servant leadership ideology (Avolio & Locke, 2002; Barbuto & Wheeler, 2006; Bass, 2000; Graham, 1991; Greenleaf, 1977; Liden et al., 2008; Sendjaya et al., 2008).

Emotional healing - described an ability to recognize when and how to facilitate the healing process. This included a leader's ability to foster a follower's spiritual recovery from hardship and trauma (Barbuto & Wheeler, 2006), to help followers recover hope, overcome broken dreams, and repair severed relationships (Dacher, 1999; Sturnick, 1998), to be highly empathetic and able to show sensitivity to others (Liden et al., 2008).

Wisdom - described an ability to pick up cues from the environment and to recognize their possible consequences and implications (Barbuto & Wheeler, 2006). Servant leaders were observant and anticipatory across multiple contexts, enabling them to translate their knowledge into forward action (Bierly et al., 2000). Wisdom included

a strong sense of awareness coupled with an ability to apply this knowledge gained through observation.

Persuasive mapping - described an ability to use mental models, sound reasoning, and clear articulation to encourage lateral thinking, and to support their followers (Barbuto & Wheeler, 2006; Liden et al., 2008). Persuasiveness-based models have been found more productive than authority-based models on creating positive outcomes (Druskat & Pescosolido, 2002).

Organizational stewardship - described leaders who prepared their organization to make a positive contribution to the community and society (Barbuto & Wheeler, 2006). With a strong sense of social responsibility these leaders encouraged their organization to implement moral and ethical actions that benefited all stakeholders (Liden et al., 2008; Sendjaya et al., 2008). Servant leaders' ideology advocated that their organizations create value for the community (Liden et al., 2008).

Two additional measures of servant leadership have followed Barbuto and Wheeler. Sendjaya et al. (2008) developed the *Servant Leadership Behavior Scale* (SLBS) using previous servant leadership measures, literature reviews, and qualitative interviews. They reported six dimensions: voluntary subordination, authentic self, covenantal relationships, responsible morality, transcendent spirituality, and transforming influence. No convergent or divergent validity data was provided, although confirmatory factor analysis was performed.

Van Dierendonck and Nuijten (2010) created the *Servant Leadership Survey* (SLS) Both exploratory and confirmatory factor analysis were performed. They reported eight characteristics of servant leadership: *empowerment, accountability,*

standing back, humility, authenticity, courage, interpersonal acceptance, and stewardship. Alphas of .69 to .91 were reported.

Outcomes measures

With no recognized exception, the variables, dimensions, attributes, beliefs, characteristics, values, etc. proffered in the servant leadership literature were ascribed to the leader not the follower of the leader-follower dyad. To fully test the tenets of Greenleaf's model, the impact on followers must also be measured. As work began on instruments to measure servant leadership, however, some attention was by necessity placed on how to 'prove' its existence. In essence, criterion posited as proofs of validity became de facto outcomes. But these outcomes were not personal in nature as were Greenleaf's outcomes, instead they possessed strong organizational overtones. These pseudo-outcomes included: job satisfaction (Laub, 1999), organizational behavior (Ehrhart, 2004), extra work, employee satisfaction, and organizational effectiveness (Barbuto & Wheeler, 2006), community citizenship behaviors, in-role performance, and organizational commitment (Liden et al., 2008).

By contrast Greenleaf's outcomes of servant leadership were intensely personal Greenleaf described the *person* as becoming *healthier, wiser, freer – more autonomous,* and *more likely themselves to become servants.* And if Greenleaf's claims hold true, these outcomes should also be true in for-profit, not-for-profit, familial, military, governmental – that is, in any type of leader-follower relationship.

Summary critique of extant studies and measures

The servant leadership literature and research has not followed Greenleaf's original articulation of the construct. The literature (and research) sought to create

multiple, sometimes conflicting taxonomies of *leader* attributes, characteristics, values, beliefs, etc., most of which lacked any empirical support. Early measures were little better. *No* instrument measured Greenleaf's theorized outcomes. Greenleaf's original articulation of servant leadership has gone untested.

Hypotheses

To perform Greenleaf's "best test" of servant leadership, as originally articulated, we hypothesize that *each* dimensions of servant leadership will be positively related to *each* personal outcome.

H1 Each Servant Leadership dimension in the leader will be positively related to each Outcome in the follower.

This hypothesis was based upon predicted relationships between servant leadership and outcomes without regard to any particular context. To measure hypothesized additional, contextual effects as a result of membership within organizational groups (Bryk & Raudenbusch, 1992; Ehrhart, 2004; Kinicki, 1994; Luke, 2004; Snijders & Bosker, 1999) a second hypothesis was posited:

H2 Group membership (within an organizational environment) will result in contextual differences in how servant leadership affects outcomes.

Methodology

The research design began by eliminating potentially confounding demographic variables. Data was then tested for correlations between individual servant leadership dimensions and the individual personal outcomes hypothesized. Composite variable were also tested. Upon finding significant relationships the data was tested for intraclass correlation coefficients (ICCs) to determine if multilevel analysis was

warranted. Finding significant ICCs, multilevel modeling was applied to provide more insight into the dynamics (individual versus group effects) of servant leadership on outcomes.

Population

The sample population for this study was all full time employees (*N*= 452) of a medium-sized urban, Midwestern utility. It was strongly felt that this organization, although obviously not representative of all organizations, possessed *many* characteristics and challenges common to organizations of its size today.

Demographics

Demographics lacked ethnic and gender diversity (not uncommon to this industry, particularly in the Midwest), but were otherwise unremarkable. Followers were 75.9 % male, 24.1% female; 94.3% Caucasian, 0.5% African-American, 1.4% Hispanic/Latino, 0.9% of Asian descent, 0.5% American Indian/Native American, and 1.4% described themselves as "Other". Leaders were 86.2% male, 13.8% female; 98.6% Caucasian, 1% 'Other', and 0.5% preferred not to describe their leader's ethnicity. The average length of employment for raters was 18.2 years, and 23.1 years for leaders.

The formal education of respondents and leaders varied. Raters were 14.5% High School graduates or had GEDs, 33.6% had Associate degrees or were Technical School graduates, 27.6% had 4 year degrees, 11.7% had some graduate work, and 12.2% had earned graduate or professional degrees. Leaders were 9.6% High School graduates or had GEDs, 19.2% had Associate degrees or were Technical School

graduates, 44.7% had 4 year degrees, 9.1% had completed some graduate work, and 17.3% had earned graduate or professional degrees.

Average age and length of service with the company between followers and leaders did not vary much. The average age of followers was 49; average age of leaders was 52. The average length of employment in the organization was 18.3 years for followers and 22.9 years for the leaders. The average length of time leaders had been in their leadership position was 23.9 years. The average number of direct reports per described leader was 11.

Research design

Data collection was via confidential surveys, some distributed on paper and some were distributed electronically. Two measurement instruments were used. All measurement was from the followers' perspective.

Servant leadership measure (Servant Leadership Questionnaire- SLQ) (IVs)

Dimensions of servant leadership were collected using the *Servant Leadership Questionnaire* (SLQ) developed by Barbuto and Wheeler (2006). This instrument had 23 items divided among five dimensions of servant leadership. These five dimensions all achieved reliability estimates reliabilities of (α= .91).

The Barbuto and Wheeler instrument was chosen for use in this study for several reasons. As noted in the literature review this measure was the first measure created based on empirical methodology. Both exploratory and confirmatory factor analyses were included. Convergent and divergent validity were tested using transformational leadership and leader-member exchange theories. And, organizationally relevant

criterion validity showed all five dimensions were positively related to extra effort, satisfaction, and effectiveness.

The only other measure identified with comparable empirical rigor (Sendjaya, Sarros, & Santora, 2008) was rejected on two grounds. First, its identified dimensions differed significantly from the dimensions prevalent in the early writings on servant leadership. These dimensions appeared, on their face, to be much more moral and perhaps even spiritual in nature. In fact, these authors stated that they believed previous measures or articulations of servant leadership lacked these components. Second, this measure was developed using students, while the Barbuto and Wheeler measure was developed using only employed adults. For these reasons, it was felt that the Barbuto and Wheeler (2006) Servant Leadership Questionnaire (SLQ) was a better measure for this study's aim, population, and environment.

***Personal outcomes measure (Greenleaf's outcomes)* (DVs)**

Since no instrument was found explicitly measuring Greenleaf's postulated personal outcomes: *health, wisdom, freedom-autonomy,* and *likelihood to become a servant* themselves (we labeled this *Service Orientation*), the researcher sought to develop a reliable measure. The process used was based on recommendations of Hinkin and Schreisheim (1989), DeVellis (1991), and Spector (1992). The process began with conceptually consistent theoretical definitions of the constructs sought.

Health – was defined broadly, including components of physical, emotional, and psychological health related to the workplace.

Wisdom - was defined as a measure of a follower's assessment of their gain in knowledge, the ability to apply that knowledge in the present circumstance, and items related to situational awareness and foresight in organizational situations.

Freedom and Autonomy - were assessed together, with the conceptual distinction being that freedom was operationalized as actual organizational latitude to make decisions and take actions, and autonomy was operationalized as the underlying feelings (internal perceptions) of the follower as being less constrained. It captured components of trust by others as well as personal confidence in oneself.

Service Orientation – was a measure of the follower's inclination to serve and/or desire to help others.

After establishing operational definitions, measurement items were developed using the strategies recommended by DeVellis (1991). Face validity was established using 10 faculty or senior doctoral students familiar with servant leadership for *a priori* analysis. Items correctly categorized into one of the outcomes more than sixty percent of the time (all were closer to 80%) were retained (Hinkin & Schriesheim, 1989; Revelle & Rocklin, 1979). From these, 16 items were selected for the outcomes measurement instrument. These achieved reliability estimates as follows; healthier (α =.87), wiser (α =.92), freer, more autonomous (α = .92), service orientation (α =.91).

The outcomes measure items were also subjected to factor analysis (SAS *Factor* procedure) using a varimax rotation method. Four factors were identified. Graphical outputs showed strong clustering of the measurement items commensurate with their intended variable.

Response

Two hundred and nineteen (219) surveys were returned for a response of 48.5%. Fourteen (14) surveys were eliminated due to errors or incomplete data, leaving an *N* of 205 useable surveys. This dataset was further truncated to those respondents belonging to groups with 2 or more members. This precluded the group means from *automatically* being equal to a (single) respondent's response (i.e. no individual variance from the group mean possible).

Analysis

Elimination of potentially confounding demographic correlations

All variables related to demographics were analyzed for possible correlation to both the theorized follower outcomes and the servant leadership dimensions to determine if there might exist some potentially confounding relationships between some demographic markers and the theorized benefits of servant leadership (that is, could any servant leadership dimensions or personal outcomes be due to [more accurately, correlated to] a demographic variable?

Although several significant correlations existed within the demographic data, no demographic/descriptive variable was positively and significantly related to the personal outcomes theorized to be related to servant leadership dimensions. A benefit of performing this test for correlation between demographics and personal outcomes was to eliminate the need to include controls for these demographic variables in subsequent multilevel analyses

The single most important piece of information sought from this study was the determination of whether statistically significant relationships existed between servant leadership dimensions and the personal outcomes Greenleaf postulated. All five servant

leadership dimensions were positively and significantly correlated to all four of the outcomes Robert Greenleaf theorized; therefore hypotheses H1 was supported. Pearson correlation coefficients ranged from .23 to .72 (see Table 1).

INSERT Table 1(landscape) approximately here.

In addition to performing correlations on the individual servant leadership dimensions and individual personal outcomes, calculated servant leadership composite (average) scores were correlated to calculated personal outcomes composite (average) scores. There was a significant correlation ($r=.76$, $p<.0001$) (see Table 2).

INSERT Table 2 approximately here

This indicated that a composite servant leadership score is an even stronger predictor of a composite follower outcome score than is any single variable of the measure. An r^2 of 0.58 indicates that approximately 58% of the variability in outcomes can be accounted for by knowing the composite score on servant leadership.

Having established the empirical relationships between Greenleaf's outcomes and servant leadership, we next tested for intraclass correlation coefficients (ICCs) to determine if multilevel analysis was warranted. Finding significant ICCs, we applied multilevel analysis to assess the dynamics of these relationships in the workplace, where a significant amount of intended leadership takes place.

Multilevel Model Analysis

In modeling human behavior variables, which are much different than variables obtained under experimental settings, context *is* terribly important. Individuals' outcomes may be affected by both individual differences and contextual differences (Bliese, 2000, 2004). When characteristics or processes occurring at a higher level of analysis are also influencing characteristics or processes at a lower level, specialized analytical tools are required to properly evaluate these relationships. Multilevel modeling with maximum (or restricted) likelihood estimation is required (Luke, 2004).

Multilevel models have been called by various names including – hierarchical linear models (Bryk & Raudenbush, 2002), random coefficients models (Longford, 1993), and mixed effects models (Pinheiro & Bates, 2000), covariance structure models (Muthen, 1994), and growth-curve models (McArdle & Epstein, 1987) – and can be either single equation or utilize multiple simultaneous equations. Many statistical software packages now allow multilevel modeling, among them SAS™, R, Stata™, and SPSS™.

In summary, level 1 (the individual level) data was embedded (nested) within level 2 (groups of individuals reporting to a single leader) data as it was analyzed. We hypothesized that group membership would result in contextual differences in how servant leadership affects outcomes.

Hierarchical Linear Modeling Process

To determine multilevel interaction, the variable of interest is first modeled in an unconditional manner using only the group membership as a classification variable. Next, only the intercept of the group mean is entered. Following that, any variables of interest are entered as control variables. And finally, the group means for criterion

variables of interest are entered. Because potentially confounding variables had been previously tested, only three models for each dependent variable were estimated. Model 1 was a null (empty) model. Model 2 included only the intercept for the group. Model 3 included group means and grand means of the ratings of a leader's servant leadership dimensions.

As iterations were processed, results were analyzed for an improved (significant) prediction of the dependent variable, with a commensurate (significant) decrease in the random error component. Significant improvements indicated a better fit of the model, which indicated that there was a group (multilevel) effect.

Hierarchical Linear Modeling Results

Health. Comparison of an unconditional model with a second unconditional intercept model resulted in a significant improvement in model fit, REML deviance difference X^2 (df=1) = 13.52, p<.0001, ICC = .2284, or 22.84% of the variance in health can be attributed to group membership. When the group mean servant leadership dimension scores of the leader were included in the model the individual residual variance (σ^2) decreased from .56 to .28 (see Table 4).

Wisdom. Comparison of an unconditional model with a second unconditional intercept model resulted in a significant improvement in model fit, REML deviance difference X^2 (df=1) = 5.23, p<.0001, ICC = .1277, or 12.77% of the variance in wisdom can be attributed to group membership. When the group mean servant leadership dimension scores of the leader were included in the model the individual residual variance (σ^2) decreased from .64 to .31 (see Table 4).

Freedom/Autonomy. Comparison of an unconditional model with a second unconditional intercept model resulted in a significant improvement in model fit, REML deviance difference X^2 (df=1) = 4.17, p<.0001, ICC = .1240, or 12.4% of the variance in freedom/autonomy can be attributed to group membership. When the group mean servant leadership dimension scores of the leader were included in the model the individual residual variance (σ^2) decreased from .63 to .45 (see Table 4).

Service Orientation. Comparison of an unconditional model with a second unconditional intercept model resulted in a significant improvement in model fit, REML deviance difference X^2 (df=1) = 0.79, p<.0001, ICC = .053, or 5.3% of the variance in servant can be attributed to group membership. When the group mean servant leadership dimension scores of the leader were included in the model the individual residual variance (σ^2) decreased from .361 to .349 (see Table 4).

Insert Table 3. (landscape) approximately here

Results of multilevel analysis indicated three significant regression coefficients for the outcome Health at the individual level, two significant regression coefficients for the outcome Wisdom at the individual level, and one significant regression coefficient for the outcome Freedom-Autonomy at the individual level. There were no significant regression coefficients for the outcome Service Orientation at the individual level but one significant regression coefficient at the contextual level. That servant leadership is related to the personal outcomes Greenleaf theorized is clear. That the relationship between servant leadership and some outcomes is stronger than others, or more affected

by group membership is also clear. However, the outcomes appear to be less affected at the group level than they are at the individual level. The predictive capacity of servant leadership (how strongly a servant leadership dimension will predict an outcome) is more dependent on the one-to-one relationship with the servant leader than by group dynamics.

Discussion

This study validated Robert Greenleaf's claim that servant leadership would have an effect on followers' Health, Wisdom, Freedom-Autonomy, and Service Orientation.

Health. The strongest relationships between servant leadership and outcomes were for the outcomes of Health and Wisdom. Clearly the servant leadership style creates a very positive and healthy work environment. Employees *grow* when served by their leader.

Wisdom. Increased situational awareness, the ability to perceive the direction things will go and to respond effectively, the ability to apply personal knowledge more effectively and make better decisions are all positive outcomes of servant leadership. Enhancing outcomes such as these is very valuable to any organization.

Freedom-Autonomy. The servant leadership style appears to be much less *directive* than say a transactional style of leadership. Employees who are accustomed to a hierarchical, transactional structure are more likely to *wait* for direction or instruction from their superiors. They come to expect others make decisions and set the direction for them. This places the responsibility for (and the rate of) progress in the hands of a select few. Followers just 'do as they're told' and wait for direction from above.

The outcome freedom/autonomy, in sharp contrast, is a characteristic reflective of more personal confidence, self-esteem, and competence on the part of the followers. It is a willingness to take more (reasonable) risks, to proceed without explicit direction or permission based on an increased *wisdom*. Deci and Flaste (1995) promoted a model composed of *autonomy, competence,* and *relatedness*. As with the other predictors, this dimension also appears to be most operative at the individual level.

Service Orientation. The last personal outcome theorized by Greenleaf was Service Orientation (to become servants themselves). To serve however, requires an object. It seemed *somewhat* intuitive that the follower would reciprocate being served by serving their leader. We also hypothesized that the followers' service would have demonstrable effects on other followers of the same (servant) leader. This hypothesis was based on Greenleaf's understanding of servant leadership as cyclical and developmental; that is, he believed that the practice of servant leadership would ultimately result in followers who would blossom into servant leaders themselves.

I found instead that Service Orientation did not respond as much as an outcome as did the other outcomes. It reacted much more like an independent variable, or innate characteristic of the followers. A thoughtful review of Greenleaf's theory supports this understanding that Service Orientation (similar to Altruistic Calling) is in fact distributed to all persons in varying degrees.

Effects due to inclusion in servant-led groups

Hypothesis 2, *Group membership (within an organizational environment) will result in contextual differences in how servant leadership affects outcomes,* was therefore only partially supported.

One key aspect of this study was to ascertain whether belonging to a group resulted in the ability to predict any additional benefits for the followers of these groups. Overall, ICC scores (between groups) varied significantly. This meant that group membership affected the predictive capability of servant leadership differently at the two levels of interaction. Membership in groups affected the relationships between predictors and outcomes. The greatest number of significant predictors occurred at the individual level. Only one significant coefficient occurred at the contextual (level 2) level.

The implications of this finding are significant. It clearly demonstrates that the human response to servant leadership follows rules related to mostly the individual relationships with leaders, and is only mildly affected by dynamics which take place between a follower and their peers. This should highlight the importance of efforts to increase the use of the servant leadership style within an organization, and at least tentatively support that these efforts should begin by focusing on the leaders' individual interactions with followers. Some conclusions appear to be safe to draw from this study, and are probably also the most significant.

As a specific dimension of servant leadership, Altruistic Calling is the most important trait or characteristic defining a servant leader. This is in absolute agreement with the underlying tenets of servant leadership theory as promulgated by Greenleaf. It is the Altruistic Calling dimension of the servant leader which stimulates them to apply any other servant leadership dimensions they might have to serve their followers. The motive for servant leadership therefore is the calling of the leader to serve.

The single outcome most strongly affected by servant leadership appears to be Health. Apparently servant leaders create and sustain an environment where their followers feel, and actually are, healthier. It is theorized that this is based mostly on the emotional/psychological component with the health variable. Future research could intentionally develop separate reliable measures for these two aspects of health to test this hypothesis.

Finally, the outcome Service Orientation does not behave like an outcome at all. Rather, the pattern of its statistical relationships implies that Service Orientation is much more of an innate quality of all persons, both leaders and followers, than it is an outcome dependent on leader stimulus. Future studies could be devised to measure the expression of this trait or characteristic in followers and leaders, independent of one another, to determine how such a characteristic is distributed within an organization.

Limitations and future research

Despite the pressing need for this study, it possessed several elements considered to be limitations. First, all data was collected from followers. This could potentially inject single source bias, however in the present study was deemed to be necessary. Although there are multiple styles of leadership, and there is no single style of leadership which has garnered universal support, nevertheless servant leadership could be viewed as a socially desirable style of leadership. By using raters (followers) of leaders to rate their leader's leadership style, the bias of social desirability (if leaders rated themselves) was avoided. Conversely, however, if a follower viewed servant leadership as desirable, and felt their leader did *not* exhibit this style, a similar (though negative) bias could have been injected.

Future studies should consider ways to obtain data from both the leader and the follower perspectives. This would allow testing for the social desirability bias from *either* the leaders or the followers. It would also reveal how accurately leaders are able to assess the more subjective outcomes in their followers.

A second limitation of this study was that it was conducted using participants all of whom were embedded in a traditional organizational structure. Although it is probable that the results could be applied to other organizations – particularly of the same size and in similar industries, it cannot be assumed that the results are generalizable to other types of leadership environments, such as government, military, or non-profit organizations.

Future studies of leadership style to personal outcomes should be designed to collect data from different types of organizations. Such designs would facilitate comparison of variables at this organization type level (yet another level in a multilevel analysis).

This study was conducted using groups as small as 2, although the average number of direct reports to each leader was 10.7. Although fully reliable results were obtained from this study it is recommended that future studies attempt to collect and use data from much larger populations, resulting in both a greater number of groups as well as (ideally) more complete representation of each group. As in any study, one never knows what information the non-respondents would have given, had they participated.

Another limitation of this study was that it was conducted with a single organization, in a single U.S. location. It was argued that this organization was representative of many similarly sized organizations in similar industries; however it

cannot be argued that U.S. organizations are similar to organizations in other countries. The individualistic bent of Americans has implications for leadership, especially servant leadership (Hofstede, 1983). This individualistic bent likely affects not only followers at the individual dyadic level, but is most certainly operative when groups (level 2) are considered. This type of bias likely cannot be eliminated from a study conducted entirely with U.S. employees. Organizations in collectivistic societies should intentionally be included in future studies. This will allow comparisons of the strength of the multilevel effect between individualistic societies and more collectivistic ones.

The fact that this study was purely quantitative could be considered to be a limitation. That is, data was obtained solely by closed response (multiple-choice) surveys. There was no opportunity to obtain any more personal (subjective) data, or obtain explanation of why a respondent replied as they did. Since servant leadership is, by definition, more relational than other leadership styles, this seems to be a deeply needful area of exploration. Now that this study establishes that personal outcomes are indeed related to the leadership style of the leader, it is incumbent on future research to determine *why* this is so, and if possible, *how* to increase this effect. A qualitative or mixed-methods study would be a better design for this research.

Conclusion

This study performed Robert Greenleaf's "best test" of servant leadership. The results vindicated Greenleaf's claim that servant leadership is empirically related to the personal outcomes he theorized. Simple correlations confirmed that servant leadership dimensions were statistically related to each of the four theorized personal outcomes. In addition, using multilevel analysis techniques, it was determined that the predictive

capacity of servant leadership on outcomes was strongest at the individual level, and only one relationship had significance at the contextual level.

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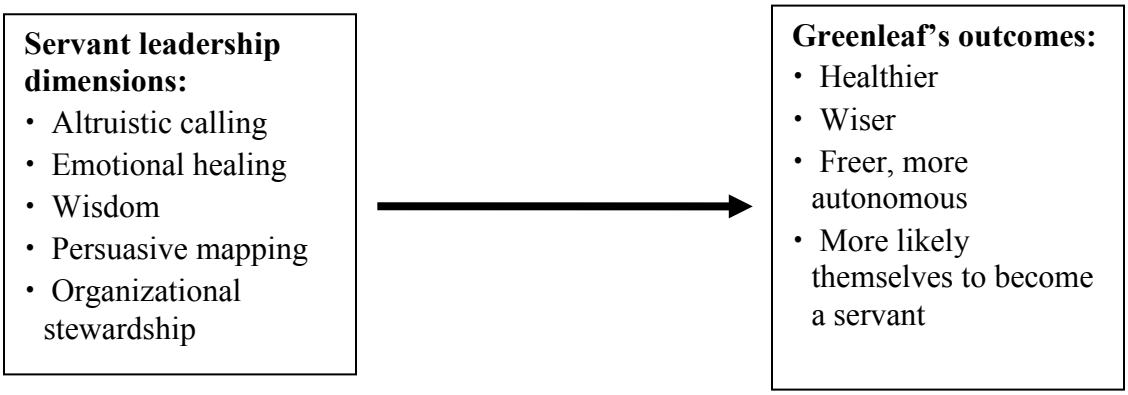

Figure 1. Servant leadership: Greenleaf's "best test" outcomes model.

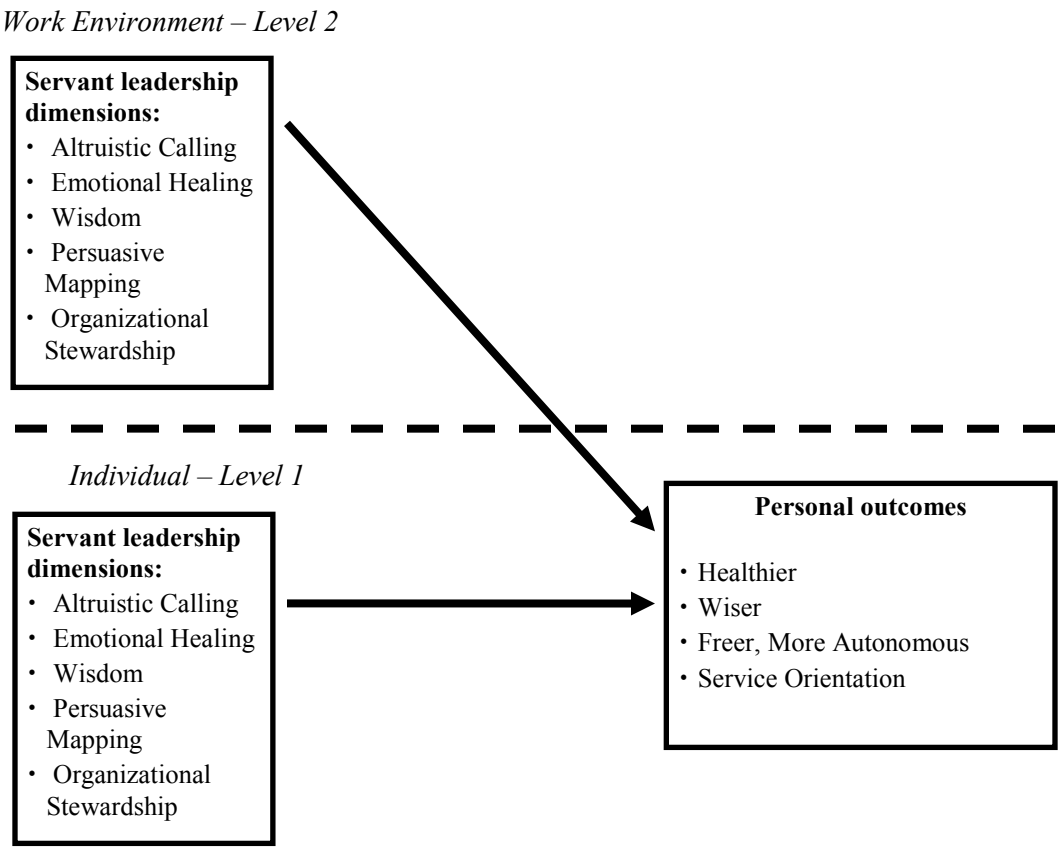

Figure 2. Group-level dynamics of Servant Leadership.

Table 1. Intercorrelations and Reliabilities of Latent Factors

	Variable	1	2	3	4	5	6	7	8	9
1.	Altruistic Calling	**(.91)**								
2.	Emotional Healing	.76*	**(.91)**							
3.	Wisdom	.75*	.65*	**(.91)**						
4.	Persuasive Mapping	.72*	.71*	.76*	**(.91)**					
5.	Organizational Stewardship	.68*	.66*	.67*	.78*	**(.91)**				
6.	Health	.72*	.69*	.68*	.63*	.58*	**(.91)**			
7.	Wisdom (dep. var.)	.68*	.64*	.67*	.69*	.69*	.79*	**(.91)**		
8.	Freedom-Autonomy	.60*	.52*	.47*	.48*	.50*	.72*	.60*	**(.92)**	
9.	Service Orientation	.27*	.25*	.25*	.23*	.27*	.31*	.37*	.38*	**(.94)**

N=174. (Run from dataset with 2 or more members per identified group (level 2)). *Significant at p<.05 **Correlations above .31 were significant at p< .0001.** Coefficient alphas along the diagonal. **Servant leadership dimensions**: Altruistic Calling, Emotional Healing, Wisdom, Persuasive Mapping, Organizational Stewardship. **Personal Outcomes**: Healthier, Wiser, Freer-more Autonomous, Service Orientation.

Table 2. Intercorrelations and Reliabilities of Composite Variables

	Variable	1	2
1	Servant Leadership Dimensions - Composite	**(.86)**	
2	Personal Outcomes – Composite	0.76*	**(.86)**

N=174 * Significant at p< .0001. Cronbach alpha along the diagonal.

Table 3 Multilevel Modeling Estimates for Personal Outcomes

Variable	Health			Wisdom			Freedom Autonomy			Service Orientation		
	1	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**
Intercept	--	3.57	2.92	--	3.68	3.85	--	3.99	3.44	--	4.25	4.00
Individual Differences (Level 1)												
Servant leadership dimensions												
Altruistic Calling			.20*			.22*			.41*			.19
Emotional Healing			.24*			.07			.07			-.04
Wisdom			.23*			.15			-.19			-.12
Persuasive Mapping			.10			.15			-.08			-.08
Organizational Stewardship			-.04			.28*			.19			.23
Contextual Differences (Level 2)												
Servant leadership dimensions												
Altruistic Calling			.29			-.12			.00			-.35
Emotional Healing			-.09			.10			.04			.22
Wisdom			.05			.10			.47			.41*
Persuasive Mapping			-.22			-.08			-.43			.06
Organizational Stewardship			.14			-.03			.04			-.25
Random effects												
σ^{2a}	.73	.56*	.28*	.75	.65*	.31*	.72	.63*	.45*	.38	.36*	.35*
$\tau_{00}{}^{b}$	--	.16	.02	--	.09	.01	--	.09	.01	--	.02	.00
R^{2c}	--	.23	.62	--	.13	.59	--	.13	.38	--	.05	.08
ΔR^{2d}	--	.23	.39	--	.13	.46	--	.13	.25	--	.05	.03

N=174 (Level-1, direct reports); *N*=51 (Level-2, group leaders); *Values are significant at *p<.05

[a] Individual level residual variance.

[b] Variance in the level-1 intercepts across groups.

[c] The proportion of level-1 variance explained by all independent variables included in the model.

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Appendix A. Institutional Review Board approval.

Sent By: IRB NUgrant System
Sent On: 04/26/2011 05:18 am
Reference: IRBProjectForm - 15680
Subject: Official Approval Letter for IRB project #11650
Message: April 18, 2011

Robert Hayden
Agricultural Leadership, Education and Communication
300 AGH, UNL, 68583-0709

John Barbuto Jr
Agricultural Leadership, Education and Communication
300 AGH, UNL, 68583-0709

IRB Number: 20110411650 EX
Project ID: 11650
Project Title: Greenleaf's Best Test of Servant Leadership: A Multi-level Analysis

Dear Robert:

This letter is to officially notify you of the approval of your project by the Institutional Review Board (IRB) for the Protection of Human Subjects. It is the Board's opinion that you have provided adequate safeguards for the rights and welfare of the participants in this study based on the information provided. Your proposal is in compliance with this institution's Federal Wide Assurance 00002258 and the DHHS Regulations for the Protection of Human Subjects (45 CFR 46).

Date of EP Review: 4/14/11

You are authorized to implement this study as of the Date of Final Approval: 04/11/2011. This approval is Valid Until: 04/17/2012.

1. The approved paper version of the informed consent form has been uploaded to NUgrant (file with -Approved.pdf in the file name). Please use this form to distribute to participants. If you need to make changes to the informed consent form, please submit the revised form to the IRB for review and approval prior to using them.

2. The informed consent for the on-line participants has been uploaded to NUgrant with the approval number included in the text. The number is located next to the IRB contact information. Please post this text on-line.

We wish to remind you that the principal investigator is responsible for reporting to this Board any of the following events within 48 hours of the event:
* Any serious event (including on-site and off-site adverse events, injuries, side effects, deaths, or other problems) which in the opinion of the local investigator was unanticipated, involved risk to subjects or others, and was

possibly related to the research procedures;
* Any serious accidental or unintentional change to the IRB-approved protocol that involves risk or has the potential to recur;
* Any publication in the literature, safety monitoring report, interim result or other finding that indicates an unexpected change to the risk/benefit ratio of the research;
* Any breach in confidentiality or compromise in data privacy related to the subject or others; or
* Any complaint of a subject that indicates an unanticipated risk or that cannot be resolved by the research staff.

For projects which continue beyond one year from the starting date, the IRB will request continuing review and update of the research project. Your study will be due for continuing review as indicated above. The investigator must also advise the Board when this study is finished or discontinued by completing the enclosed Protocol Final Report form and returning it to the Institutional Review Board.

If you have any questions, please contact the IRB office at 472-6965.

Sincerely,

William G. Thomas

William Thomas, Ph.D.
Chair for the IRB

Appendix B. Informed consent statement, electronic surveys.

University of Nebraska Lincoln

IRB# 20110411650 EX
Date Approved: 04/11/2011
Valid Until: 04/17/2012

INSTITUTE OF AGRICULTURE AND NATURAL RESOURCES
Department of Agricultural Leadership,
Education and Communication

INFORMED CONSENT FORM

The hyper-linked survey on leadership is part of an LES employee's dissertation research for obtaining a Ph.D. in the field of leadership. This is the primary purpose of the survey. All full-time LES employees are being invited to participate. The survey has been sanctioned, but not sponsored by LES. LES has approved the completion of this survey on company time, although it should take no more than 15-20 minutes. There are no risks to you by participating. You must be 19 years of age or older in order to participate.

The title of the research is: "Greenleaf's 'best test' of Servant Leadership". You will be asked to respond to questions on your perception of your immediate leader and demographic questions. It is very important to the student-researcher to get as many employees as possible to participate, but you are free to decide not to participate in this research. You can also withdraw at any time without harming your relationship with the researchers, the University of Nebraska-Lincoln, or LES.

LES will receive only a summary of the findings, and hopes to use this information to aid future leadership development. No individual data will ever be provided to LES.

You may ask the student-researcher or his advisor questions regarding this research. Their contact information is at the bottom of this e-mail.

Sometimes study participants have questions or concerns about their rights. In that case, you should call the University of Nebraska-Lincoln Institutional Review Board (IRB) at 402-472-6965. Please refer to IRB#20110411650 EX when corresponding with the IRB.

> If you are willing to participate in the survey, please click on the hyperlink below (when you have time to complete the survey). By completing and submitting this survey, your consent is implied. You should print or save a copy of this page for your records. If you do not wish to participate, delete this e-mail.

INSERT **HYPERLINK** TO ELECTRONIC SURVEY SITE HERE

Student-researcher:
Robert W. Hayden
467-7522 work
261-5543 home
Rhayden2@unl.edu

Doctoral advisor:
John E. Barbuto, Jr., Ph.D.
jbarbuto@unl.edu

Appendix C. Informed consent statement, paper surveys.

University of Nebraska Lincoln

IRB# 20110411650 EX
Date Approved: 04/11/2011
Valid Until: 04/17/2012

INSTITUTE OF AGRICULTURE AND NATURAL RESOURCES
Department of Agricultural Leadership,
Education and Communication

INFORMED CONSENT FORM

The enclosed survey on leadership is part of an LES employee's dissertation research for obtaining a Ph.D. in the field of leadership. This is the primary purpose of the survey. All full-time LES employees are being invited to participate. The survey has been sanctioned, but not sponsored by LES. LES has approved the completion of this survey on company time, although it should take no more than 15-20 minutes. There are no risks to you by participating. You must be 19 years of age or older in order to participate.

The title of the research is: "Greenleaf's 'best test' of Servant Leadership". You will be asked to respond to questions on your perception of your immediate leader and demographic questions. It is very important to the student-researcher to get as many employees as possible to participate, but you are free to decide not to participate in this research. You can also withdraw at any time without harming your relationship with the researchers, the University of Nebraska-Lincoln, or LES.

All data will be kept confidential. LES will receive only a summary of the findings, and hopes to use this information to aid future leadership development. No individual data will ever be provided to LES.

You may ask the student-researcher or his advisor questions regarding this research. Their contact information is at the bottom of this page.

Sometimes study participants have questions or concerns about their rights. In that case, you should call the University of Nebraska-Lincoln Institutional Review Board at 402-472-6965.

By completing and returning the enclosed survey, your consent is implied. You should keep this letter for your records. If you do not wish to participate, please place the entire package into a shredding bin.

Student-researcher:
Robert W. Hayden
467-7522 work
261-5543 home
Rhayden2@unl.edu

Doctoral advisor:
John E. Barbuto, Jr., Ph.D.
jbarbuto@unl.edu

Appendix D. Interest Reporting Form (IRF) approval e-mail.

Your IRF has been Approved

Maria Moreno to: rhayden2 04/27/2011 01:26 PM

Bcc: Robert W Hayden Show Details

Dr. Hayden,

Thank you for taking the time to complete the Interest Reporting Form (IRF). We have received and reviewed your IRF and no further action is required at this time. However, if your circumstances change, please remember to update your IRF via NUgrant.

If you have any questions, please feel free to contact me at 402.472.1837.

Thank you,

Maria

--

Maria Moreno Hernandez

Research Compliance Specialist
209 Alexander West
University of Nebraska - Lincoln
mmoreno2@unl.edu
402 / 472.1837

Appendix E. Organizational contract with researcher.

AGREEMENT

This Agreement is made and entered into by and between [redacted], an administrative agency of [redacted] and Robert Hayden, Principal Investigator, University of Nebraska-Lincoln ("Hayden").

WHEREAS, Robert W. Hayden is a doctoral student at the University of Nebraska-Lincoln and is engaged in developing a research paper together with secondary investigator John Barbuto, Jr., Associate Professor, Leadership Studies, University of Nebraska-Lincoln on Testing Relationships between Servant Leadership dimensions and Robert Greenleafs' theorized outcomes; and

WHEREAS, the participants in said study are full-time employees of [redacted] who will participate on a voluntary basis, who may withdraw at any time, and whose responses are completely confidential; and

WHEREAS, [redacted] may benefit from a better understanding of the level of a particular style of leadership within LES.

NOW THEREFORE, be it agreed between the parties hereto that:

1. That [redacted] HR Department will provide a list of full-time employees to Hayden who may be willing to participate in the study.

2. That said [redacted] employees will be contacted by Hayden and will be invited to voluntarily participate in the survey. Participation in the survey is voluntary and [redacted] employees agreeing to participate may withdraw at any time. Participation in the survey will be without pay from Hayden.

3. The research study must include adequate provisions to protect the privacy of [redacted] participants. Participants will complete surveys either online with high security features or through secured paper surveys. All responses to the surveys and data related thereto shall be confidential as to the participants in the survey and all such data will be maintained separate and apart from [redacted] premises after collection. No names or unique identifiers of the respondents will be collected and only basic demographic data will be released as part of the study.

4. No persons beside the principal investigator, the secondary investigator and the doctoral advisory committee shall participate in or have access to the data generated by the surveys. Only such persons connected with Hayden as are IRB/CITI current shall have access to any of the survey information. Any online survey will be conducted through a commercial survey site using secure servers and state of the art security measures.

5. [redacted] employees will be approached about participating in the study through [redacted] generated internal paper mailing, e-mails and group meetings, if necessary. Consent by [redacted] participants in the surveys will be evidenced by the completion of written forms or e-mails in English. [redacted] participants shall complete a single survey only once. The survey is comprised of the Servant Leadership Questionnaire (23 items) which participants will answer on their perception of their immediate leader and 16 items developed specifically to capture the dependant variables (their response to this leader), plus demographic questions, on themselves and the referenced leader. All such individual information and individual survey answers must remain confidential and not be available to nor released to anyone outside of the principal investigator, the secondary investigator and the advisory committee. Generalized demographic information relating to the conclusions of the study may be released without specific attribution to individual survey participants.

6. All [redacted] employees are under no obligation to participate in the survey, they may withdraw at any time and their responses, if they do participate, even partially, are completely confidential. All surveys must be conducted in English.

7. All collected data will be maintained on the personal computer or laptop of the researcher on a computer that is partitioned and password protected. Only the researcher is an Administrator on said computer. All collected data will be maintained and kept for a period not to exceed five (5) years after the surveys have been completed, at which time all such data must be deleted and destroyed using the computer methodology then available for the destruction and removal of such data from the computer.

8. The terms and conditions of this Agreement shall be governed by the laws of the State of Nebraska and any lawsuit resulting therefrom shall be tried in the appropriate court of competent jurisdiction located in Lincoln, Nebraska.

9. The term of this Agreement shall commence upon the date upon which the last party to sign this Agreement, does so. The Agreement shall terminate when the individual participants in the surveys have completed such surveys, and the Agreement shall terminate as to [redacted] when Hayden has furnished a copy of the demographic information and conclusions related thereto, to [redacted].

Dated this 15th day of April, 2011.

[redacted]

By: _____//s//_____
[redacted], Administrator & CEO

ROBERT HAYDEN

_____//s//_____

Appendix F. Demographic questions.

Demographics – on you: (for statistical analysis only, will not be used for identification of individuals)

1. What year were you born? _____
2. Your gender ___ Male /Female
3. Number of years you've worked for [redacted] ___. (If less than 1 year, enter 1)
4. Number of years working for the leader you are describing ___. (If less than 1 year, enter 1)
5. How would you describe your ethnicity?
    a. Pacific Islander
    b. White/Caucasian
    c. Hispanic/Latino
    d. Black/African American
    e. Asian
    f. American Indian/Native American
    g. Other
    h. Prefer not to answer
6. What is the highest level of formal education you have completed?
    a. Did not finish High School
    b. High School diploma or GED
    c. Associates degree or Technical school
    d. Bachelor's degree
    e. Master's degree or above

f. Professional degree (JD, MD)

<u>Demographics – on the leader: (for statistical analysis only, will not be used for identification of individuals)</u>

1. Leader's age ___ (estimate as closely as you can or ask him/her)

2. Leader's gender ___ Male / Female

3. How would you describe your leader's ethnicity?

    a. Pacific Islander

    b. White/Caucasian

    c. Hispanic/Latino

    d. Black/African American

    e. Asian

    f. American Indian/Native American

    g. Other

    h. Prefer not to answer

4. Number of years the leader has worked for [redacted] (estimate as closely as you can or ask him/her) ____

5. Number of years the leader has been in his/her current position ___

6. Number of direct reports this leader has (including yourself) ___

7. What is the highest level of formal education your leader has completed?

    a. Did not finish High School

    b. High School diploma or GED

    c. Associates degree or Technical school

    d. Bachelor's degree

e. Master's degree or above

f. Professional degree (JD, MD)

8. To allow group-level analysis (your responses analyzed together with responses of other persons reporting to the same leader), work groups must be identified. Again, there will be NO person or group identifiable in the final report. What is your leader's last name? _____

Appendix G Servant leadership measure.

This measure is the Servant Leadership Questionnaire (SLQ) developed by Barbuto and Wheeler (2006). It is composed of 23 items reflecting the 5 identified dimensions of servant leadership. The items are listed below by their dimension: Data was collected using a five part Likert scale, rating how often the leader exhibited the indicated behavior. Ratings were 'Never'(1), 'Rarely'(2), 'Sometimes'(3), 'Often'(4), and 'Always'(5).

Altruistic calling (α .82)

This person puts my best interests ahead of his/her own.

This person does everything he/she can to serve me.

This person sacrifices his/her own interests to meet my needs.

This person goes above and beyond the call of duty to meet my needs.

Emotional healing (α .91)

This person is one I would turn to if I had a personal trauma.

This person is good at helping me with my emotional issues.

This person is talented at helping me to heal emotionally.

This person is one that could help me mend my hard feelings.

Wisdom (α .92)

This person seems alert to what's happening.

This person is good at anticipating the consequences of decisions.

This person has great awareness of what is going on.

This person seems in touch with what's happening.

This person seems to know what is going to happen.

Persuasive mapping (α .87)

This person offers compelling reasons to get me to do things.

This person encourages me to dream "big dreams" about the organization.

This person is very persuasive.

This person is good at convincing me to do things.

This person is gifted when it comes to persuading me.

Organizational stewardship (α .89)

This person believes that the organization needs to play a moral role in society.

This person believes that our organization needs to function as a community.

This person sees the organization for its potential to contribute to society.

This person encourages me to have a community spirit in the workplace.

This person is preparing the organization to make a positive difference in the future.

Appendix H Outcomes measure.

This measure was developed by the researcher to capture the explicit outcomes Greenleaf postulated. It is composed of 16 items reflecting the 4 identified personal outcomes hypothesized to be related to servant leadership dimensions in the leader. The items are listed below by their dimension: Data was collected using a five part Likert scale, rating whether the follower agreed with each statement. Ratings were 'Strongly disagree (1), 'Disagree (2), 'Neither agree or disagree (3), 'Agree (4), and 'Strongly Agree (5).

Healthier

I feel emotionally healthy working with this person.

I have had fewer illnesses working with this person.

I feel positive working with this person.

I feel psychologically healthy working with this person.

Wiser

I have learned to make wiser decisions with this person.

I make better use of my knowledge working with this person.

I have increased my awareness working with this person.

I've become wiser working with this person.

Freer, more autonomous

This person lets me make decisions on my own.

This person allows me to work independently.

This person gives me freedom to make decisions.

This person makes me feel confident to work alone.

More likely themselves to become servants

I like to help colleagues when they have a problem.

I want to help others whenever I can.

I like to help others.

I like to serve others.