A STUDY OF LEADERSHIP DEVELOPMENT IN THE REGIONAL INSTITUTE FOR HEALTH AND ENVIORNMENTAL LEADERSHIP

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A Dissertation

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CHAPTER I

INTRODUCTION

The commencement of the 21st century has brought with it social and political dilemmas that challenge the leadership capacities of many of our nation's systems. Public health leadership is no exception. When public health scholars Boedigheimer and Gebbie (2001) posed the question, "Are public health administrators prepared for the challenges they face?" (p. 30), few knew to what degree those challenges would be amplified only a few months later. The tragedy of September 11th, followed quickly by population-wide threats of bioterrorism, has created a sobering context in which this question has taken on new meaning and concern throughout federal, state and local public health agencies (Frist, 2002). This study is concerned with the problem of public health leadership development in a turbulent and uncertain time.

The struggle for effective leaders is widespread, and often thought to be a result of the increase in demands and changing role or characteristics of the leadership context today. The needed shift from authority focused leadership to collaborative and team oriented leadership has not been met with adequate leadership education and training. Ashby suggests that the leadership need for the future "is both quantitative and qualitative" (1999, p. 9). Not only do critical leadership positions need to be filled as vacancies and restructuring occur, but

also leaders with relevant knowledge and skills to meet the current challenges and innovations in the work place are essential. In the field of public health, the reported shortage of public health leaders (Roper, 1994) coupled with the increased complexities and threats to public health is problematic.

When the Institute of Medicine (1988) issued its report on the public health system, it credited the lack of leadership development as one of the factors contributing to the system's ineffectiveness. This particular report called for a focused development of leaders after observing a present lack of direction and strategic planning for comprehensive public health leadership development. In 1991, the Center for Disease Control and Prevention (CDC) created a national leadership program focusing on senior public health officials in hopes of providing more direction in the leadership development process (Scutchfield, Spain, Pointer and Hafey, 1995). This Public Health Leadership Institute then became a model for regional and state based programs focused on public health leadership development throughout the country. Leaders in close to 45 states now have access to training institutes that are collaborations between schools of public health and state or local departments of health. The training provided is intended to equip public health leaders with understanding and skills that "deal with the multidimensional public health problems of today and the future" (Roper, 1994). Yet the shortage of leaders with relevant knowledge and skills

still plagues the system (Wright, Rowitz, Merkle, Reid, Robingson, Herzog, Weber, Carmichael and Baker, 2000).

Statement of the Problem

In 1994 the National Public Health Leadership Development Network (NLN) was established to promote cooperation amongst public health leadership institute directors and promote collaboration on mutual goals (Wright, et al., 2000). Shortly thereafter, it was pointed out that, "There is no literature on leadership development or leadership education specifically for public health" (Scutchfield, et al., 1995, p. 304), adding to the concern that leadership training needed consistency across the field to increase quality and competitiveness. Public health leadership competencies were then drafted and integrated into institute leadership programs, creating a more unified foundation to build training programs (Wright, et al., 2000; Allegrante, et al., 2001).

But while experts responsible for the education and training of public health officials have responded to the call for leadership development, little time has been devoted to assessing the longer-range impact of the many forces, including training, upon public health leadership development in the public and private sectors. Specifically, there is no systematic evidence or common impact information on the benefits of the various public health leadership training programs and institutes. While there have been exit evaluations and retrospective

analysis utilized for program assessment (Woltring, Constantine, & Schwarte, 2003), there has been little research on the leadership development journey of the public health worker after completion of leadership training. There is a need for sound theory and insightful literature to inform us on how leaders are developing and what accounts for that development. Substantial government and private funds are devoted annually to leadership training for public health; therefore it is in the public interest to understand the impact of this training for maximization. It is also in the best interest of the public's health to have competent and knowledgeable leaders ready for the challenges of this new century's unstable and multi-hued context.

Purpose of the Study

The purpose of this study was to describe how leadership practices have changed over time for public health and environment leaders and describe factors that might account for these changes. Specifically, this study was designed to compare the before and after leadership practices profiled by participants who have completed the one year Regional Institute for Health and Environmental Leadership (RIHEL) in the Rocky Mountain region during the four years of 1999-2002.

The research questions were three fold. (Q1) The first question sought to understand what leadership practices have changed for public health and

environmental leaders since their completion of the Regional Institute for Health and Environmental Leadership (RIHEL). (Q2) The second question explores what factors account for any changes. In other words, what factors do leaders identify as encouraging their leadership development? (Q3) To what extent has RIHEL contributed to the leader's development?

London (2002) and others who study leadership development as a process (Kirkpatrick, 2001; Barr & Barr, 1994) identify multiple features of influences and strategies that need to be understood in the general development of leaders. Apply this to the specific field in which the leader is working and the complexities of leadership become uniquely situated. The objectives of this research were to explore those features in order to better understand leadership development in public health and environmental contexts in the Rocky Mountain west. The factors encouraging leadership development in this study may provide data for future investigations in other leadership programs.

RIHEL Program Description

This study focuses on alumni from 1999-2002 of a specific leadership development program, the Regional Institute for Health and Environmental Leadership. These four years of alumni make up the first four years of professionals participating in this cohort program designed to:

> …enhance the leadership skills of the individual participants, and to create an interdisciplinary network of leaders who are dedicated to the health and environment of our region ("Regional Institute", 2002).

The one year program utilized four three-day training events conducted in sites around the region throughout. Hands-on projects were created and executed by the fellows as a "learning laboratory for leadership principles" ("Regional Institute", 2002). Housed in the University College of the University of Denver, professors from the University of Colorado Health Sciences Center and the University of Denver jointly led and taught in the program. Several leadership models and skill sets were taught including collaboration, team-building, problem-solving and interpersonal and mass communication. The LPI, a 360-degree assessment (Kouzes and Posner, 1987), was used as an incoming feedback tool. Peer and faculty coaching enhanced the program throughout the year.

Since 1998, RIHEL has received financial support from various local, state and federal sources. Stakeholders therefore span such agencies as the U. S. Centers for Disease Control and Prevention, the U.S. Environmental Protection Agency, several state departments of public health and environment, and local community foundations. RIHEL is an affiliate of the National Public Health Leadership Development Network and during the span of years studied was one

of the few leadership training programs of the network to emphasize both environment and health as well as recruit from public and private sectors.

Theoretical Assumptions

What is leadership? What makes a leader great? How do leaders develop? The answers to these questions are not unlike American poet Wendell Berry's *Window Poems,* (1985) which describe his farmland from thirty-one different windows throughout his house. Each poem describes his land, but from a slightly different vantage point. Leadership research is similar. Metaphorically the windows that give view to the leadership landscape may hold contrasting epistemological and conceptual assumptions. One window may give view to leadership from a positivist's perspective, suggesting an almost reification of leadership as a phenomenon that is observable, measurable and responsive to laws or regularities. As such, leadership has an objective nature. In contrast the window of the social constructionist suggests that leadership "emerges out of the complex social-political network of relationships in organizations" (Hunt, 1984, p. 1). Consequently, meaning is constructed and is contextual. Leadership then is regarded as an emerging phenomenon which is dependent on community. This study supports the assumption that both approaches are valid and helpful in explaining the situation of leadership development. The mixed quantitative and

qualitative design is intended to expand our view of public health leadership development with views from different windows, so-to-speak.

Two more questions regarding the assumptions of this study need to be satisfied. The first has to do with the assumption that public health leadership bears some distinction from other forms of leadership meriting specific study. Is it any different than any other leadership situation? Leadership is a multidimensional phenomenon. No one theory of leadership or application could apply to the public health field, just as it could not in other fields. Some argue that the social justice component of public health leadership makes it distinct (Rowitz, 2001). While it does distinguish it from more commonly thought of leadership contexts such as business, it is the specific contexts and wide spread responsibility of public leadership that compels attention (IOM, 1998). Much is at stake in terms of basic community well-being and the future of our nation's health and security. Leadership or the lack thereof in public health has far reaching societal impact.

The final assumption has to do with the field of communication. How does it contribute to the study of leadership? Leadership is largely a discursive process (Hunt, 1984). It is a function of the prevailing symbols and meaning ascribed those symbols within a group. Language is therefore central. Discourse within groups and societies produces a set of shared meaning that approximates

that group's understanding of the nature of reality (Blumer, 1969). Out of that reality certain norms and roles of relationships are established and defined through interaction. Leadership then is a function of those shared meanings of normative behavior.

Haiman (1951) was among the first to characterize leadership as a communication process. He defined leadership as, "…an interaction process in which an individual, usually through the medium of speech, influences the behavior of others toward a particular end" (p. 24-25). Later, Barnlund and Haiman (1960) used this perspective as a way to distinguish leadership as process rather than merely status or task. Barnlund (1962) articulated five principles of human communication that Hackman and Johnson (2004) reiterate in their argument for a communicational view of leadership. They argue first that human communication is dynamic, not static, denoting a process that is ever changing. Second, communication is continuous and non-linear; a trans-actional phenomenon indicating circular movement. Thirdly, communication is complex, involving more than just messages, which leads to the fourth principle. Communication is not separate from the person communicating. It involves the whole person. Fifth, communication is irreversible; it cannot be "undone." A communication view of leadership that embraces these principles frames an

understanding of leadership as a dynamic and complex interpersonal phenomenon, subject to the negotiated and shared meanings of a group.

Reflecting on the idea that leadership involves this interpersonal (communication) function as well as task functions (Barnlund and Haiman, 1960), Goldberg and Larson (1975) explained how this functional approach to defining leadership accounts for its complexities and provides critical understanding for training and evaluation. In other words, a trait theory approach to leadership does not account for the manipulation or change in the leadership/followership situation, but a functional, interaction focused approach does. Because leadership is "…a relationship between two or more persons" (Stech, 1983, p. 13) and relationships are constructed through symbolic interaction, a communicational approach is more explanatory and accounts for the intricacies of the leadership processes. This approach also thwarts the limiting and isolated view of leader as separate from followers. A communication approach to leadership inherently assumes relationship and views that relationship both in theory and praxis. In defining leadership communicationally, Stech (1983) reminds scholars that it "is the nature of relationships, rather than that of persons, in which we are interested. Knowing something about persons will help, since people constitute relationships, but

there is more to a relationship than two separate personalities added together" (p. 2).

Communication scholars Dance and Larson (1976) theorized that there are three functions of human communication: first, that of linking or relating self to others and the environment; secondly, that of assisting in the development of higher human mental processes; and third, that of regulation of human behavior. Leadership draws upon all three of these functions, particularly that of regulating the behaviors of others or oneself. In a summary of this application of human communication functions to leadership, Hackman and Johnson (1996) describe the phenomenon this way:

> Three clusters of communication skills are essential for leaders: 1) linking, 2) envisioning, and 3) regulating. Linking skills include monitoring the environment, creating a trusting climate and team building. Envisioning involves creating new agendas or visions out of previously existing elements. Regulating means influencing others by developing credibility and power, using effective verbal and nonverbal communication, creating positive expectations, managing change, gaining compliance, and negotiation (p. 27).

Northouse (2001) notes that the macro level approach to understanding leadership as commonly undertaken by approaches utilizing traditional leadership definitions tell us little about the real-world applications of leadership. A communication approach however does. "Communication is not simply a medium through which leadership happens to be exercised; it is part of its substance" (Cohen, 2004). Communication then is both a tool and a process as it

relates to leadership. Leadership gains it's meaning through communication as symbolic interaction, yet it also requires communication as a skill to be effective.

It was the intent of this study to understand leadership development among public health and environment leaders from a human communication perspective, one that reflects the social interaction processes which contribute to leadership development.

Significance of Study

The significance of this study is that, insofar as there is a dearth of literature on how development of public health leadership occurs, it will expand the existing knowledge of public health leadership competencies to describe how those competencies are acquired. While this study sought to understand this process more broadly, it also provides useful information to the Regional Institute for Health and Environmental Leadership on its specific impact in that learning process. Program changes and improvements can be made to capitalize on naturally occurring processes and optimal pedagogical approaches.

Despite the fact that many leadership scholars note that leadership is a largely communicational activity (Kellerman, 1984; Hunt, 1984; Rost, 1993) little by the way of communication scholarship makes its way into the most cited works of leadership. Both Ciulla (1998) and Rost (1993) note that a truly multi-disciplinary approach to leadership studies is lacking. Much of the research and

consequent literature is written by management or business scholars. Rost claims, “By far, most leadership scholars are in schools of business and write for corporate executives and business students” (1993, p. 1). He goes on to suggest “The study of leadership has been mired in a single disciplinary view for most of the twentieth century;” (p. 2.). Leadership Quarterly was developed with the idea that the journal would glean from multi-disciplinary authors and research approaches (DeRuyver, 2001). But after ten years of publications it was noted that two thirds of the works published were from academics in management or business and another 16% from psychology. In addition, members of the journal’s editorial board authored 42%. DeRuyver, who maintains the professional website for the Leadership Learning Community, comments:

> Obviously, academic politics, the protection of academic turf, and the determination of which journals count for promotion to tenure, could derail even the most proactive attempts at broadening the scope of Leadership Quarterly, but the group that has the most academic clout in the study of leadership, business/management scholars and psychologists—if they truly desire the interdisciplinary study of leadership—must be willing to risk more…to work more to bring scholars from other disciplines on board. (p. 3)

Ciulla (1998), in her review of leadership research, concludes that the unidisciplinary approach reveals not only a myopic view, but also one steeped in positivism in search of a ‘Rosetta stone’ to decode leadership. Kellerman (1984) in her introduction to one of the first multi-disciplinary works on leadership remarks:

> As much as anything else that comes to mind, leadership is a subject that demands an interdisciplinary approach. It has been our inability to recognize the need for a multidisciplinary and even cross-cultural effort that has fostered our persistent ignorance in this truly critical area (p. xi).

The summons by those most popularly associated with leadership studies, has invited the larger academic world to enter the collaboration of leadership studies. While human communication scholars have studied and written about leadership over the years (Haiman, 1951; Goldberg & Larson, 1975; Chrislip & Larson, 1994; Northouse, 2001; Hackman & Johnson, 2004), it may take an intentional persistence to see the influence of the discipline upon leadership studies. Perhaps then a common language of terms and a bricolage of approaches will fill in the gaps and expose the blind spots that currently exist in leadership studies today.

Since leadership can be described as a process of human communication, this research intersects the field of communication and provides another avenue for the discipline to afford perspective and knowledge in an interdisciplinary manner. Human communication may help define processes of leadership, but understanding leadership development itself as a communication action is largely unstudied. Understanding the features that both encourage and discourage leadership to emerge in the public health setting is crucial for public health development today. Studying public health leadership development as both a

context and process endeavor contributes specifically to the call for infrastructure reforms and development of effective leadership (IOM, 1988).

CHAPTER II

LITERATURE REVIEW

This literature review begins with a discussion of the leadership problematic. It continues with an historical overview of the conceptualization of leadership, current definitions and issues related to defining leadership, and

major theories of leadership. It then moves on to discuss skills and competencies often measured in leadership and processes or factors related to leadership development. It ends with a consideration of the state of public health and leadership development.

The Leadership Problematic

The struggle to find good leaders is widespread, and often thought to be a result of the increase in demands and changing role or characteristics needed from leaders today. Conger, Spreitzer and Lawler (1999) in their research on the challenges facing leadership in organizations today argue:

> …that intense global competition, rapid technological change, and international capital markets are creating more demand for change leadership than at perhaps any other time in history. These forces, combined with the complexity of new and more global organizational forms that span nations and unite organizations through alliances, joint ventures, and mergers and acquisitions, make the job of leadership increasingly difficult (p. xlv).

In any age, leadership and leadership development is an important social process. But the changing nature of both business and government creates unusual pressures. Private and public agencies as well as community groups have decentralized, spreading the impact of decision making and leadership more broadly, changing the landscape of accountability. Such corporate restructuring and reengineering—and its public variant, "reinventing government"--puts a premium on leadership not just at the top, where it has always mattered, but

throughout an organization" (Useem, 1998, p. 7). This shift in demand from authority focused leadership to collaborative and team oriented leadership has not been met with sufficient leadership education and training.

Gandossy and Effron (2004) forecast major changes in the leadership landscape by the year 2015. They predict a 15% drop in the available leadership pool due to the sociological boomer age reaching retirement. In addition female leaders have been departing the leadership ranks in the past decade by double the amount of their male counterparts as they seek creative forms of employment and motherhood (pp. 4-5). Other sources confirm the same. A recent survey of Fortune 500 companies discovered that "the average company expects 30 percent turnover at the executive ranks in the next five years, with one-third of human resources executives believing they'll have significant difficulty finding suitable replacements" (Ashby, 1999, p. 3). Ashby suggests that the leadership need for the future "is both quantitative and qualitative" (p. 9). Not only do critical leadership positions need to be filled as vacancies and restructuring occur, but also leaders with capacities and characteristics to meet the current challenges and innovations in the work place are essential.

Take for example the changing role of the public health leader. The need for collaborative leadership capacities to represent and engage many perspectives has been identified as essential in meeting public health goals (Wilson, 2002). In

a recent study of 63 public health departments, it was reported that more than 26% of the efforts to promote health involved outside agencies (Lovelace, 2000). While that number is expected to increase as new health initiatives are made, little has been done to develop capable leaders for such collaborations, let alone document the impact of these collaborations on health outcomes (Wilson, 2002). Furthermore, a survey of over 240 healthcare companies revealed that although 86 % have formal leadership development programs, only eight percent believe they are effective (Leadership Development Not Effective, 2002). The implications of such leadership development failure could have far reaching public health consequences.

In the business world alone, training for leadership rose from an estimated $10 billion in the mid-1980's to $45 billion in the mid-1990's, with some companies reporting at least a quarter of that training focused on executive leadership (Vicere & Fulmer, 1997). Not only has the cost of training increased, so has the complexity of leadership skills required. The kinds of questions facing business leaders in the shifting, challenging and globalizing economy are mind-boggling:

> What happens to leaders when the group they are leading is spread out over ever increasing physical distances?
> Does there come a point when the tried and true leadership approaches of the 1990s are stretched too far, to a point where these methods simply will not work any more?

> Can you flatten your corporate hierarchies so far that traditional systems of controls will break down?
> Can you spread your talent across such a wide swath of the globe where people can communicate and operate very efficiently, but where language and cultural barriers stifle ideas and creativity?
> Can you parcel out your work to so many independent sources that you lose the cohesiveness, the vision, and the emotional commitment needed to make any team function well?
> Can you as a leader create the culture and teamwork that act as the glue to hold together an organization that, even if very fluid, will still function as one? (Esrey, 2000, p. 18).

So while training efforts have increased both monetarily and programmatically, leaders that are equipped to handle the changing landscape of the work world are still scarce.

Historical Overview

Pre-Enlightenment Era Leadership

During this era of ecclesiastically determined reality and knowledge, leadership in the western world took on a transcendent and endowed nature through the process of ordination and/or coronation (Middleton & Walsh, 1995). Theistically influenced, those who were wholly committed to God and the corresponding laws and books of teaching were those entrusted to lead, particularly in the production of knowledge: priests, bishops, and monks. On the other hand, those born into their place of leadership, not by trait but by blood, ruled the state. Leadership in this era was one of control and hierarchy, primarily based in power.

Probably the most notable non-religious leader of this era was Niccolo Machiavelli. He has been attributed with the practices of leadership commonly known as "Machiavellian." Chrislip and Larson (1994) comment on his leadership:

> For Machiavelli, the objective of the leader is to win at any cost. He wants leaders to recognize that power is finite: if you want power, you must take it from someone else. He observes that self-interest or fear motivates most people and that leaders can use these motivations to manipulate others to act on their behalf. (p. 55)

This approach to leadership was the model of the era in which power was something to be exercised over others and domination was seen as a given condition of the created order of things.

Enlightenment or Modern Era Leadership

Attacks were brought against the theistic worldview and its narrow leadership paradigm through a variety of voices in the 1600 and 1700's. The modern worldview provided a shift in authority from the ecclesiastical to individual minds steeped in the scientific method of knowing (Middleton & Walsh, 1995). Leadership during this era expanded beyond the ecclesiastical and royal elite, as new methods of knowing were applied. Individual reason combined with Newton's scientific approach describing the world (Grenz & Olson,1992) ushered in a causal component to the explanation of leadership. Several theories of leadership were later articulated from this epistemological

shift in knowing. Hackman and Johnson (1996) suggested four categories to understand the theories that emerged largely as a result of this shift to better explain leadership: the traits approach, focusing on innate qualities of leaders; the situational approach, which suggests the contingent nature of environment and leadership; the functional approach, which explains group roles; and the transformational approach, which satisfies higher level needs of the follower (p. 56). Each of these approaches can be seen in various theoretical frameworks describing leadership today.

Post-modern Leadership

As the post-industrial era settles in among us, the role of the leader is evolving to meet the current needs. The homogenous situation of the past, with its intersecting understanding of leadership-followership as an activity of cause and effect, has been challenged. Today's world is marked by chaos more than not. Rapid technological advancements have not only increased communication, they have complicated communication. Complexity and chaos, advancements and disintegration mark the organizational climate in almost every sector and call for changes in leadership skills, competencies and capacities (Denis, Langley & Cazale, 1996). We have shifted from a view of the leader as sole actor to a team or community centered view of leadership (Rost, 1993, Heifetz & Linsky, 2002). The social and economic times of most organizations have produced a demand

for skills and abilities that are as complex as the situations in which they are found. The rapid change and adaptation of leaders has expanded theories beyond a hierarchical model to include trait, situational, transactional, transformational and now adaptive and collaborative models (Kanter, 1989; Chrislip & Larson, 1994; Heifetz, 1994.) Leadership is no longer viewed as one-dimensional and is even seen more as a process of developing, using a variety of skills and competencies rather than a position or role (Avolio, 1999).

Defining Leadership

The Oxford English Dictionary (2005) notes the appearance of the word "leader" in the English language in about 1300 A.D. Up until that time the notion of leader was embedded in such concepts as ruler, king, chief, or commander. In Bass's (1981) studies of the word, he reports that an interest in leadership as something other than headship was more commonly found in Anglo-Saxon related countries. Leadership itself as a concept did not appear until the first half of the nineteenth century and was related to political influence and power in the British Parliament. But the concept of leadership is now strongly embedded in the social structures of the Western world (Ciulla, 1998; Hackman & Johnson, 2004). Many leadership scholars have oft repeated the words of Bass to emphasize the volumes on the subject, "There are almost as

many different definitions of leadership as there are persons who have attempted to define the concept" (p. 7).

In his comprehensive literature review of definitions, Bass (1981) identifies eleven topical approaches in defining leadership since the early 1900's:

> Leadership as a Focus of Group Processes
> Leadership as Personality and Its Effects
> Leadership as the Art of Inducing Compliance
> Leadership as the Exercise of Influence
> Leadership as Act or Behavior
> Leadership as a Form of Persuasion
> Leadership as a Power Relation
> Leadership as an Instrument of Goal Achievement
> Leadership as an Emerging Effect of Interaction
> Leadership as a Differentiated Role
> Leadership as the Initiation of Structure (pp. 7-14).

These various approaches depict the evolving nature of leadership studies as scholars developed theories out of these definitions. Theories that emerged include: the Great-Man Theory (Woods, 1913), Trait Theory (Bernard, 1926), Situational Theory (Stogdill, 1948), Psychoanalytic Theory (Frank, 1939), and Humanistic Theory (McGregor, 1960) to name a few.

One of the more recent and critical works examining leadership definitions and theories was done by Rost (1993). Rost argues that many theories were never developed from clear definitions and articulated assumptions about leadership. Rather theories were developed and became the definitions themselves. He claims that leadership studies are inadequate because of two

poorly placed emphases: a focus on issues that are peripheral to the real nature of leadership and a focus on content that is specific to a particular leadership field of application. He believes these two aspects have detracted from studying and understanding leadership as a process, leadership as an interactive process. "The process of leadership, the understanding of leadership as a relationship, the connection among leaders and followers—all these are far down on the list of priorities that scholars and practitioners must have in order to understand how to put leadership to work" (Rost, 1993, p. 4). His critique is especially important to communication scholars, given his relational emphasis.

A second indictment that Rost makes of leadership research up to this point is the inability to deliver a definition of leadership that is agreeable. He reasons that because "most of what is written about leadership has to do with its peripheral elements and content,"(p. 4) we know little about the real process in a way that can be defined. In his survey of close to 600 works on leadership since early 1900, he found that less than half of them even attempted to define leadership (p. 46). He attempts to categorize those that do according to decades and themes of discussion. From 1900 through1940 he noted that the discussion was one of power in leadership definitions. He juxtaposes Moore's (1927) work, which focused on inducing followership through will with that of Schenk's (1928), which centered inspiration and persuasion in his definition of leadership.

Trait theory also dominated this age as leadership was defined also by personality (Bogardus, 1934). The group approach to leadership emerges in the 1940's with various perspectives on the way in which leaders are instantiated: leadership through persuasion of the group (Reuter, 1941); leadership through ascription by the group (Jennings, 1944) and leadership through organizational function of the group (Davis, 1942). Group theorists continued to influence definitions in the 1950's, as facilitation became the focus of leadership research in works such as Group Dynamics (Cartwright & Zander, 1953). Rost (1993) notes also that the ideas of effectiveness and democratic processes are introduced during this era through the work of Stogdill (1951) and others but that the emphasis is not so much on product as on process at this time (Gordon, 1955).

The 1960's-70's however would see a turn in emphasis toward goals, be they shared or not. Leadership as moving a group toward a goal, a specific direction, became more prominent through authors such as Bass (1960), Gibb (1969) and Merton (1969). Rost notes two hallmarks of the discussion of leadership in the 1970's. First was the critique that there was no unifying definition of leadership. Rost studied ninety-nine books that were published during this time, finding none of them offering any remedy to this dilemma, and yet many commenting on the lack of coherency in definitions and approaches. Secondly, there was a move to normalize leadership as any social interaction. This can be heard in the

following definitions: “For wherever and whenever two or more persons are involved in personal interaction, there is some form of leadership present” (Cassel, 1975, p. 87); and leadership is “the initiation and maintenance of structure in expectation and interaction” (Stogdill, 1974, p. 411). While none would argue that leadership is not social interaction, these definitions fail according to Rost to “distinguish leadership from other forms of social interaction” (1993, p. 58). As the 1980’s provided an explosion of literature on leadership, with over 130 books and countless articles, leadership definitions were fewer and Rost grouped them into six conceptual frameworks:

1. Leadership as “Do the Leader’s Wishes” (an extension of the great man/woman theory)
2. Leadership as Achieving Group or Organizational Goals (assumptions are that the goals are not shared)
3. Leadership as Management
4. Leadership as Influence (influence is the most commonly sited word in 1980’s definitions)
5. Leadership as Traits
6. Leadership as Transformation (Rost, 1993, pp. 70-88).

The conclusion Rost finally reached in his research was that the emerging models from the ‘80’s that he once thought were leading us through a paradigm shift in the ‘90’s, a transformation if you will from old frameworks, was simply a re-make of the old. Leadership was constantly being defined with a unifying theme of “leadership as good management” (p. 94). Rost goes on to say, “This understanding is what I have called the industrial leadership paradigm. It is

industrial because it accepts almost all of the major characteristics of the industrial paradigm" (1993, p. 180). This industrial paradigm is characterized by a structural-functionalist view of organizations with management at the center; an elevated, self-interested and individualistic focus on the leader, a utilitarian and male outlook, with a "rational technocratic, linear, quantitative and scientific language and methodology" (p. 180). Rost's epiphany-like experience following his research of the some 300 books and articles in the last half of the century demanded of him a new definition to meet 21st Century challenges: "Leadership is an influence relationship among leaders and followers who intend real changes that reflect their mutual purposes" (p. 102).

According to Rost this definition includes four essential elements that when taken together provide a clearer definition of leadership that will guide us into the future:

1. The relationship is based on influence that is multidirectional and noncoercive
2. Leaders and followers are the people in this relationship, characterized by a community of active followers with unequal influence relationships
3. Leaders and followers intend real changes that are substantive and transforming
4. Leaders and followers develop mutual purposes. (summarized from pp. 104-107).

This new definition he hopes "will help people change the dominant paradigm governing their society, thereby empowering them to transform their society and

one hopes, solve some of these outstanding problems" (p. 181). Remarkably this definition resembles that of communication scholars, Hackman and Johnson (2004), which states: "Leadership is human (symbolic) communication which modifies the attitudes and behaviors of others in order to meet shared group goals and needs" (p. 12). While the latter more clearly specifies how the influence relationship occurs, through communication, the basic themes of an influencing relationship and mutual goals are similar.

But few seem to be as disturbed as Rost by this lack of definitional consistency in either the history of defining leadership or current approaches to leadership research. Many authors make no attempt to give the history of leadership research that influences them and they omit definitions that frame their research or theories (Kouzes and Posner, 1995; Heifetz, 1994). Perhaps Ciulla's (1998) critical assessment of Rost's work explains why. She suggests that the crucial question isn't whether we can agree on an adequate leadership definition or history of leadership studies, but rather can we determine "What is good leadership?" (Ciulla, 1998, p. 13). More recent leadership theories such as transformational (Burns, 1978) and adaptive (Heifetz, 1993) seem more concerned with answering this question. She notes that the problem with leadership definitions from the 1970's-80's is that they were non-participatory and coercive. Leadership was defined as getting things done through other

people and theories emerged on the best ways to do that. Leadership in this sense is defined as a means to an end. In contrast she and Rost find definitions from the 1940's-60's to be more democratic in their description of the leader and follower relationship, possessing a moral question that gets to the heart of leadership today. Rost's (1993) definition, as well as Hackman and Johnson's (2004) follow in this vein as they define leadership as an influencing relationship in which there is voluntary participation and the needs of the followers are included. As such, these definitions introduce an ethical or moral implication that is missing from other approaches.

Burns (1978) has been one of the few to more clearly articulate the moral nature of leadership in the following elucidation:

> Transforming leadership…occurs when one or more persons engage with others in such a way that leaders and followers raise one another to higher levels of motivation and morality. Their purposes which might have started out separate but related, in the case of transactional leadership, become fused. Power bases are linked not as counterweights but as mutual support for common purpose. Various names are used for such leadership: elevating, mobilizing, inspiring, exalting, uplifting, exhorting, evangelizing. The relationship can be moralistic, of course. But transforming leadership ultimately becomes moral in that it raises the level of human conduct and ethical aspirations of both the leader and the led, and thus has a transforming effect on them both… (p. 20).

Ciulla observes that the "good" in the question of 'what is good leadership?' "has two senses, morally good and technically good or effective"(p. 12). Many

approaches to defining leadership deal with the later and not the former. She goes on to say:

> The question of what constitutes a good leader lies at the heart of the public debate on leadership. We want our leaders to be good in both ways. It's easy to judge if they are effective, but more difficult to judge if they are ethical, because there is some confusion over what factors are relevant to making this kind of assessment (Ciulla, 1998, p. 13).

Uncovering ethical values and normative assumptions about leadership and morality opens new windows that call into question former definitions and approaches to leadership. "By doing so, we have a better chance of understanding the relationship between what leadership is and what we think leadership ought to be" (Ciulla, 1998, p. 14). Perhaps the traditional social scientific approach itself constrains this type of questioning and defining of leadership as a social enterprise. Yet it appears that this sort of approach affords us a greater opportunity for not just explaining leadership but also understanding it. Illuminating the goals *and* morality issues of the leadership relationship, which is largely communicational in nature, exposes power differentials and consequent ethical inferences and responsibilities of the relationship. This approach has implications for the leadership development process itself.

Leadership Theories

Leadership development today does not happen in a vacuum. Those organizing and leading training operate with particular views or theories of

leadership and the capacities they are trying to build into leaders. This section of the literature review will consider the prominent theoretical influences upon leadership understanding through recent history.

Trait Theories

In the 1800's the original trait conception of leadership was common, holding an assumption that certain universal characteristics would be present in leaders (Hollander & Offerman, 1990). A unitary style was assumed with traits that were considered innate. The "Great Man Theory" put forth by Galton (1869) suggested that leadership characteristics were fixed, innate and generalizable across contexts. This theory stimulated studies of leadership with a goal to discover those traits and determine who had them in order to effectively utilize their leadership skills. Using the scientific principles of knowing put forth by Newton, it was believed that we could not only determine but also measure these traits (Stogdill, 1948 and 1974). The leader was viewed as "a single unitary actor who dispenses, gives direction or guidance, or compels compliance from the followers" (Dentico, 1999, p. 22). The leader was the sole focus of study in this theory, as followers were considered to be only passive, compliant parties in the leadership endeavor. Vestiges of this theory are still apparent in some discussions of leadership today as words such as "traits" and "native trait" (Kirkpatrick & Locke, 1990; Schwartz & Pogge, 2000) surface. They are

reinforced by the referencing of the age old question, 'Are leaders made or born?' (Kouzes & Posner, 1995; Rifkin, 1996; Avolio, 1999.)

Situational Theories

During the post-war industrial renaissance of the 1940's through the 1960's, the emphasis in leadership studies was on behavior. Both what the leader did as well as the leader's effect on others behavior became important (Bryman, 1992). The skill set emphasis was on efficiency, management and control to produce. Discussion of leadership reflected a more behaviorist approach, in which the leaders held sharply different roles and performances of behavior than their followers (Hollander & Offermann, 1990). Often those roles were anchored in power or hierarchy. "Leadership was management, and management was leadership" (Rost, 1991, p.93). The concern was for organizing people and accomplishing something. This organizational feature of leadership gave rise to the concept of bureaucracy, which was viewed as classless and unifying. Weber (1958), the great sociologist of the modern era, saw bureaucracy in this way:

> This fully developed bureaucratic mechanism compares with other organizations exactly as does the machine with the non-mechanical modes of production. Precision, speed, unambiguity, knowledge of the files, continuity, discretion, unity, strict subordination, reduction of friction and of material and personal costs—these are raised to the optimum point in the strictly bureaucratic administration (p. 214).

In this view, people became interchangeable parts as in a machine of efficiency. The industrial era produced leadership theories that provided a

rational and precise approach to work and organization of society. It depended upon obedience and rationality focused on outcomes. Several theoretical approaches that sought to explain leadership in light of varying situations developed.

The contingency theory of leadership proposed by Fiedler (1967) focused on task, but in relationship to three contingent features: positional power of the leader, task structure and leader-members relations. These three conditions influence the effectiveness of the leader. This theory hoped to explain the leadership success of control over followers based on the favorability of the situation.

Another situational theory that emerged was the path-goal theory. Based largely on the leaders ability to communicate goals and rewards for accomplishment, House and Mitchell's (1974) research suggested four leadership communication styles to fit various situations. Directive leadership, which is needed when followers lack experience or skill, includes planning, coordinating and specific guidance. Supportive leadership is useful when followers have the skills but find the task difficult or even dissatisfying. The leader provides encouragement to enhance motivation and commitment. Participative leadership was successful when the situation is ambiguous and soliciting participation in decision making from followers will help clarify and provide direction.

Achievement-oriented leadership requires communication that expresses confidence in the follower's ability in the face of challenging goals and circumstances. This theory attempts to connect follower motivation and satisfaction with leadership communication approaches.

Similarly, Hersey and Blanchard (1988) divided leader behavior into task and relationship in connection with follower readiness or maturity. In their Situational Leadership Theory, they purported that one of four styles, telling, selling, participating or delegating influenced followers favorably based on the nature of the task and the individual's maturity. As the follower's maturity or skill level increases, the leader's task orientation decreases and relational orientation increases.

A final situational leadership approach is the leader-member exchange theory proposed by Graen and Cashman (1975). A more simplistic approach to leadership, this theory suggests that in-group and out-group relationships form between leaders and subordinates. Different expectations and communication patterns are extended to followers based on their interests. Higher quality exchanges characterized in-group relationships and performance, while lower quality exchanges characterized out-group relationships and performance.

Leadership Styles

Another approach to leadership structures itself around communication classification in the form of styles. Goldberg and Larson (1975) expanded upon Lewin, Lipitt and White's (1939) original research, suggesting four styles of leadership. Laissez faire leadership is characterized by leader withdrawal and little guidance or involvement. Low performance was correlated to this style. Authoritarian leadership determines goals, objectives and procedures, leading and directing followers while providing little feedback. While efficient, this style elicited the most hostility. Democratic leaders solicit feedback and input of participants for the establishment of goals, objectives and procedures, encouraging the followers to carry out their plans. Non-directive leadership differs from laissez faire in that the leader is still is involved with the followers through active communication and support, but does not direct the groups goal setting. Both the democratic and non-directive forms of leadership have been most associated with success in democratic processes.

Even as the understanding of leadership shifts from trait theory into situational or transactional theories, the focus was still on the process of eliciting followership through leadership performance (Lord & Mayer, 1989). Power was not addressed in this modern view, neither in its appropriateness nor its limitations (Hollander & Offerman, 1990). As the post-industrial paradigm began, this failure to address power would become problematic. Theories such

as trait, behavioral, transactional, contingency, transformational and style all are individually centered which is the hallmark of leadership during this era as it spills into the next (Hollander & Offerman, 1990; Dentico, 1999).

Transformational Leadership Theories

Burns (1978) introduced the notion that leadership reflects the processes of human development and satisfaction of needs. Transactional leadership (situational and contingent) is based on exchanges of rewards for desired outcomes and is viewed as more passive. Transformational leadership goes beyond an exchange to meet basic needs "by engaging the total person in an attempt to satisfy the higher level needs of esteem and self-actualization" (Hackman & Johnson, 1996, p. 78). Bass (1990) is often cited as having clarified transformational leadership around the features of inspiration, emotional support and intellectual stimulation.

From this theoretical approach several other researchers have set out to describe the practices of the transformational leaders, producing helpful lists of competencies that are identifiable in leaders (Yammarino & Bass, 1990; Kouzes & Posner, 1995). These will be covered in a later section discussing leadership skills and competencies.

Collaborative Leadership

Heifetz (1994) noticed that values seemed to be hidden in theories of leadership in the past. His approach acknowledges the conflicts experienced in many leadership situations and seeks to center those conflicts for resolutions. He qualifies leadership as adaptive work which enlists an assessment of reality and clarification of values to reach common ground in purpose. He states:

> In this view, getting people to clarify what matters most, in what balance, with what trade-offs, becomes a central task. In the case of a local industry that pollutes the river, people want clean water, but they also want jobs…Leadership requires orchestrating these conflicts among and within the interested parties, and not just between the members and formal shareholders of the organization (Heifetz, 1994, p. 22).

Chrislip and Larson (1994) share Heifetz view of the changing context for leadership demands. In their study of community processes to solve difficult social problems, they discovered the impact of collaborative leadership. They define collaboration as:

> Collaboration is more than simply sharing knowledge and information (communication) and more than a relationship that helps each party achieve its own goals (cooperation and coordination). The purpose of collaboration is to create a shared vision and joint strategies to address concerns that go beyond the purview of any particular party (1994, p. 5).

The primary role of the leader in this situation is to "promote and safeguard the process" (p. 138.) The principles of leadership that they discovered characterize collaborative leadership are: 1) Inspire commitment and action; 2) Lead as peer problem solver; 3) Build broad-based involvement; and 4) Sustain hope and participation. These principles are similar to those found in transformative

leadership approaches and can be further understood in a review of the literature on leadership skills and competencies.

Leadership Skills and Competencies

Leadership that is adaptable or situational to the changing forces of today's world (Ross, 1992; Vaill, 1996) requires clarifying definitions and understanding of appropriate leadership skills, competencies or capacities. Cognitive theorists would suggest that both learning about something and learning to do something are imbedded in the notion of skills or competencies. Knowledge is joined with performance which develops skill or capacity. The literature on leadership tends to confound these two interdependent aspects of skills and competencies, developing lists of skills as knowledge at times and performance skills at other times. Knowledge and related skills need to be mutually supporting in formulating a full understanding of leadership. Both will be considered in investigating the general leadership and public health leadership literature.

A distinction between management and leadership needs to be made. Some managerial and leadership literature use the terms manager and leader interchangeably when speaking of skills (Perce, 1998; Schwartz & Pogge, 2000). Managerial skills seen as a subset of leadership skills and capacities may help to clarify this confusion. It is important to distinguish management as "producing

predictability and order" through various skills from leadership as stimulating "change through the motivation and alignment of people with an established direction" (Schwartz & Pogge, 2000, p.466). This was supported in a study of manager competencies requiring leadership abilities. A survey of 166 various manager positions and subordinates within technical field of work projects found that team process or leadership skills were the most lacking (Donnelly & Kezsbom, 1994). The researchers concluded that most managers, when trained through "traditional management and professional training" (p.6) are not prepared to meet the leadership skill demands of today's sophisticated marketplace. Because of this inter-reliance in skills, both notions of leadership and management will be considered in the literature following.

In examination of leadership research and literature, Wilson, O'Hare and Shipper (1990) suggest that leadership and its dependent skills and abilities work within a larger context of organizational roles. These roles are often ignored when leadership characteristics or competencies are identified. This useful approach to leadership acknowledges three processes that influence roles: leaders exert influence; others accept that influence; and change or performance is produced.

Through a questionnaire of 90 managers who were also leaders, Yukl, Wall and Lepsinger's (1990) identified a list of skills or behaviors effective

leader managers utilized. According to their research leaders are involved in the following, largely communicational, activities:

> Informing
> Consulting and Delegating
> Planning and Organizing
> Problem Solving
> Clarifying Roles and Objectives
> Monitoring Operations and Environment
> Motivating
> Recognizing and Rewarding
> Supporting and Mentoring
> Managing Conflict and Team Building
> Networking
>
> (Yukl, Wall, & Lepsinger, 1990, p. 227)

Another leadership measurement study conducted on 186 naval officers by Yammarino and Bass (1990), discovered common transformational leadership and transactional leadership items in effective leadership:

> *Transformational Leadership Items and Examples*
>
> Charisma: "I am ready to trust him/her to overcome any obstacle."
> Individualized Consideration: "Gives personal attention to me when necessary."
> Intellectual Stimulation: "Shows me how to think about problems in new ways."
> Inspirational Leadership: "Provides vision of what lies ahead."
>
> *Transactional Leadership Items and Examples*
>
> Contingent Promises: "Talks about special commendations and promotions for good work."
> Contingent Rewards: "Personally pays me a compliment when I do good work."
> Active Management-by-Exception: "Would reprimand me if my work were below standard."
> Passive Management-by-exception: "Shows he/she is a firm believer in 'if it ain't broke, don't fix it'." (Yammarino & Bass, 1990, p. 159)

These characteristics have been utilized as selection criteria for leaders as they were positively correlated with ratings of officers as effective leaders.

A survey was conducted with 283 leaders in engineering-focused project work to discern common effective leadership characteristics or abilities needed in organizations experiencing fierce competition, fluctuating markets and burgeoning technologies (Donelly & Kezsbom, 1994). They defined competency as "an augmentable quality of leadership that appears to be a personality construct but is capable of modification via skills awareness and development (p.36)," and surfaced eight competencies. Viewed as crucial in cross-functional team work, these competencies included: analytical, collaborative, communication, entrepreneurial, initiative, integrative, interpersonal, and managerial skills.

One approach that reflects the task and relational aspects of leadership theory distills leadership capacities into two dimensions. The "Leadership Grid" provides an axiomatic profile that intersects a leader's concern for people as compared to concern for production (Blake & McCanse, 1991). This broader conceptualization that borrows from group theory on leadership (Goldberg & Larson, 1975) takes into account that all leadership activity is influenced by either a concern for people or concern for the 'bottom line.' In fact, the need for

task skills and relationship skills may be constant forces at work in any leadership situation at any given time.

The work of Kouzes and Posner (1995) has been very influential in defining and measuring leadership. It is important for this study since this leadership assessment tool was used in the theoretical sampling plan. These scholars conducted a comprehensive survey involving over 20,000 people on four continents in order to distill the qualities people "most look for and admire in a leader, someone whose direction they would willingly follow" (p. 20). Twenty characteristics emerged which they then further studied through the use of case studies of identified and admired leaders as well as countless interviews. Through their grounded theoretical approach to the data, they identified four characteristics most cited as essential for leadership effectiveness. People surveyed want leaders to be honest, forward-looking, inspiring and competent. These four characteristics make up what many communication scholars and the authors of the study would refer to as 'source credibility.' Kouzes & Posner (1995) reflect:

> Above all else, we must be able to believe our leaders. We must believe that their word can be trusted, that they'll do what they say, that they're personally excited and enthusiastic about the direction in which we're headed, and that they have the knowledge and skill to lead. We have come to refer to this as the First Law of Leadership: If we don't believe in the messenger, we won't believe the message. This is a principle that every leader must acknowledge (p. 26).

These findings were then coupled with their earlier research on leaders' personal bests discovered through surveys and interviews (Kouses & Posner, 1987), to develop a definition of leadership: "…we define leadership as the art of mobilizing others to want to struggle for shared aspirations" (1995, p. 30). This definition is reflected in the five practices and ten interrelated commitments that describe the leadership challenge:

Kouses and Posner's Five Practices and Ten Commitments of Leadership

1. Challenging the Process:
   1. Search out challenging opportunities to change, grow, innovate, and improve.
   2. Experiment, take risks, and learn from the accompanying mistakes.
2. Inspiring a Shared Vision:
   3. Envision an uplifting and enabling future.
   4. Enlist others in a common vision by appealing to their values, interests, hopes, and dreams.
3. Enabling Others to Act:
   5. Foster collaboration by promoting cooperative goals and building trust.
   6. Strengthen people by giving power away, providing choice, developing competence, assigning critical tasks, and offering visible support.
4. Modeling the Way:
   7. Set the example by behaving in ways that are consistent with shared values.
   8. Achieve small wins that promote consistent progress and build commitment
5. Encouraging the Heart:
   9. Recognize individual contributions to the success of every project
   10. Celebrate team accomplishment regularly.

(Kouzes & Posner, 1995, p. 18)

The work of Kouzes and Posner has expanded leadership development thinking beyond lists of prerequisite skills for leadership and has worked to define transformational leadership through exemplary practices.

Leadership Development

A 1999 survey of 2,104 various U. S. organizational training directors revealed that training budgets in all sectors were on the rise, with leadership training accounting for the second most trained for subject next to new employee orientation ("Industry Report 1999", 1999). In a survey administered to over 5,000 human resource professionals, 58% of the companies disclosed some form of leadership development program (Drew & Wah, 1999). Yet only thirty-five percent of them were satisfied with the investments thus far. All reported a search for greater impact. While one might logically expect to see higher training budgets for leadership development in larger corporations, in 2001 Training magazine along with the American Management Association discovered that whether large or small, the annual per-participant expenditure for leadership development was between $6,000-7,500 (Delahoussaye, 2001, p. 61). Funding for leadership is steady and on the rise in all kinds of organizations.

With the ever increasing focus and funding toward leadership training and development an important question is being asked, "What impact do these programs have?" The W. K. Kellogg Foundation (2002) discovered in its scan of

leadership programs that while nonprofit sector programs more commonly needed impact assessment, usually to justify the impact to funders, for-profit organizations have begun to need this to support organizational change. In both developing and evaluating any leadership program, two questions must be answered initially: "What is the goal of the training or development?" and "How should the training occur?" The first question is outcomes and skills oriented. Researchers at the W. K. Kellogg Foundation conducted a scan of 55 leadership development training programs to ascertain their impacts. They discovered that most development programs have focused more on skills and outcomes than on the process of becoming a leader itself. Because leadership is often understood and defined by goals or outcomes intended, much has been written about what the leader does or should do. Less is known "about the mastery of leadership over time and the process of developing as a leader" (p. 2).

The Center for Creative Leadership defines leadership development as "the expansion of a person's capacity to be effective in leadership roles and processes. Leadership roles and processes are those that enable groups of people to work together in productive and meaningful ways" (McCauley, Moxley, & Velsor, 1998, p. 4). This definition is not limited to specific skills and competencies but rather a larger concept of capacity building. This trend toward capacity building is visible both in the public and private sectors as a response to

the adaptive needs in today's changing environments (Heifetz & Linsky, 2002). Leadership programs today need to impact the enlargement of a leaders capacity to adapt to swiftly changing environments.

The second question of 'how' to train/develop leaders is important to answer before a review of possible strategies and techniques is relevant. Since the individual rather than the organization is the focus of most leadership training programs (Kellogg, 2002), understanding adult learning theory has become more important. Adults as learners pose unique challenges to any development process or program. Renowned education theorist Malcolm Knowles, who is considered by many to be the father of adult education, provides several key principles for training or developing a learning process for adults. Five foundational principles of his theory are considered essential for a vital leadership learning experience (Knowles, 1990; Adams, 2000; Robinson, 1995). They can be summarized as:

1) Adult learning should be an active, not passive endeavor. While lecture is important for information dissemination, adults tend to remember only 10 percent of what they hear. Add visual and the learning jumps to 50 percent. Add discussion and retention increases to 70 percent. Combine demonstration and visual with auditory and learning often increases to 90 percent. Therefore, methods that provide for active participation will increase learning in adults.
2) The adult learner must relate to the training and the training to the learner. Adults bring a breadth of life experience to their learning that provides a richer frame of reference. Training and development of adults will be more effective when this is taken into consideration.

3) Learning is enhanced when it is purposeful and meets a need. Adults will seek to apply what is learned immediately. The value of learning needs to be directly linked to the learner's need or dilemma. Assessment to determine clear purpose and needs is foundational to this.
4) Learning is facilitated when adults share in their own goal setting. Self-directed learning helps to personalize and stimulate interest in any training or development program.
5) Learning is enhanced when it draws on the expertise of the learner and is applied immediately. Optimal learning occurs when the learner in turn teaches what he or she has learned.

Effective training initiatives are incorporating these principles in their strategies, techniques, and methods for leadership development. Many of the methods in both private and public programs reflect this shift in understanding adults as learners. Let us consider various approaches to leadership development through current models.

Factors and Strategies Influencing Leadership Development

Several leadership experts, including James Kouzes (Fulmer and Wagner, 1999), joined with The American Society for Training & Development in a study to identify key factors in strong innovative leadership development programs. They surveyed 35 organizations with the goal of better understanding the issues and challenges organizations face in starting or reengineering leadership development. The study was further narrowed to six organizations with the most innovative or strong leadership development processes: The World Bank, Hewlett Packard, Johnson & Johnson, Arthur Andersen, Shell International and General Electric. Utilizing planning sessions, data analysis of surveys and on-

site interviews. This study produced several findings on best practices in planning leadership development, eight of which are summarized below:

1. The link is crucial: The link between leadership development and the overall strategy of the organization is crucial.
2. HR and business go hand in hand: Senior-level executives with extensive line experience must be involved in the design of the leadership development program.
3. Competencies matter: A model of leadership competencies is developed which is consistent throughout the organization and reflects the values of the organization.
4. It's best to grow your own: Best-practice organizations develop their own leaders rather than recruit them from other companies.
5. Needs action learning: Action, not knowledge, is the goal of best-practice leadership development.
6. Must link to succession planning: The leadership development process is linked to the organization's succession planning.
7. It's symbiotic: Top-level support was key to developing leaders and the success of leaders.
8. Assess, assess, assess: Although the study showed companies used a variety of assessment methods, all assessed results on a regular basis, reflected on the results, made adaptations, and kept listening and learning (Fulmer and Wagner, 1999, pp. 29-34).

The Center for Creative Leadership (McCauley, Moxley, & Velsor, 1998) presents a similar yet simpler leadership development model suggesting three primary strategies:

1. Create a variety of rich developmental experiences that each provide assessment, challenge and support.
2. Enhance people's ability to learn from experience
3. Use an approach that integrates the various developmental experiences and embeds them in the organizational context. (p. 21)

During a discussion of the Turning Point Leadership Development Plan, a non-profit organization focused on public health leadership, experts in collaborative

leadership suggested three levels to consider in developing and nurturing sustainable leadership (Larson, 2001). Level one is focused on the individual and the leadership capacity developed from within. The second level is focused on individuals working within an organizational context. "Organizations typically are the distribution mode for how we create change…large scale change…in communities" (p. 86). The third level broadens to the community. Collaboration becomes critical at this point as community members begin working across boundaries to stimulate change and solve problems. These best practices gleaned from private, mixed and non-profit sectors suggest a trend toward comprehensive and interdependent linking between individuals, learning experiences and organizational goals. Models of leadership development are becoming more comprehensive, linking individuals, learning experiences and organizational goals.

Assessment and Feedback Tools

Self-awareness is often the beginning point of change in a leader's development. The Center for Creative Leadership (McCauley, Moxley & Velsor, 1998) has identified several capacities that must develop over time if leadership development is to occur: Self-awareness, self-confidence, the ability to take a broad and systemic view, the ability to work effectively in social systems, the ability to think creatively and learn from experience. Most of these capacities

involve some form of feedback and personal reflection. Yet few opportunities exist outside of formal means to gain needed perspective. One of the most revered methods of collecting others feedback as a form of personal assessment is 360-degree feedback. This tool has proven useful in leadership identification, assessment and development. Known more as an instrument for annual performance reviews, this tool "provides individuals with insight into how they are perceived by people at all levels of an organization" (Frankel, 1997, p. 27). This full circle feedback process from all of the constituencies relating to a leader or potential leader gives depth and stronger validity in perceptions of skills and abilities. It can be used to create a development program to capitalize on already perceived strengths and correct areas of growth still required. The success of this tool, according to Church and Bracken (1997,) is it's "simple assumption, derived in part from measurement theory, that observations obtained from multiple sources will yield more valid and reliable (and therefore more meaningful and useful) results for the individual" (p. 150). Frankel (1997) also suggests three keys to follow for success in using this tool as being: 1) wide distribution of the instrument to those related to the employees work, 2) anonymity so that honesty is garnered, and 3) composite scoring and feedback by a neutral third party so that the focus is not on individual responses but trends that will prove useful for the employee's development.

An important benefit of the 360-degree feedback instrument is that it can be customized to the competencies, skills and goals of a given agency or leadership position. In a team of hospital administrators in Scandinavia a form was developed to increase the team's honesty in communication and feedback with one another (Frankel, 1997). The instrument was developed around those issues and coupled with a two-day program of training followed by coaching for honest communication. In this way, they were in keeping with Cashman and Reisberg's claim that, "For 360-degree feedback to be valuable, it needs to be seen in a larger context. What are the developmental implications of these perceptions?" (1994, p. 9).

In a division of Mobil Oil the 360-degree feedback process is used as a starting point in their Individual Leadership Development Process (ILDP). Facing a threatening shortage of leadership in the early 1990's, Mobil developed a leadership model that began with a clear definition of what was meant by leadership and a delineation of the competencies and behaviors required to lead within their organization (Stryker, 1999). These definitions and competencies were then used to develop an appropriate 360-degree instrument that helped form an employees ILDP. This tool in conjunction with a leadership plan and action learning is one reason why Stryker believes the company moved in ranking from 12^{th} among 13 major oil companies in 1993 to 1^{st} in 1997.

The Center for Creative Leadership (Guthrie & Kelly-Radford, 1998) has developed another feedback approach that is more intensive and longer in duration called the "feedback-intensive programs" or FIP. Usually taking place in a classroom-based setting away from work, it includes constant assessment, feedback and reflection on the data about self and interactions with others. Utilizing a relationship-based approach, Guthrie and Kelly-Radford claim it to be their most powerful tool that combines the three key elements of assessment, challenge and support.

Psychometric tools have also been useful for personal awareness. The Leadership Practices Inventory developed by Kouzes and Posner (1995) has psychometric properties reporting internal reliability and validity for assessment across gender, ethnicity, and culture. As mentioned earlier in this chapter, it focuses on a conceptual framework that Kouzes and Posner developed through extensive interviews and case studies. Five key leadership practices are measured: 1. Challenging the process 2. Inspiring a shared vision 3. Enabling others to act 4. Modeling the way and 5. Encouraging the heart. Used as a feedback tool and in conjunction with a leadership development plan, the LPI not only enriches one's personal understanding and awareness, but also provides an opportunity to enhance leadership capabilities.

The Myers-Briggs Type Indicator (MBTI) was used in an organizational development initiative in the Internal Revenue Service (IRS) (Mani, 1996). Used as self-information in a voluntary management development program, the IRS encouraged personal use of the data. Guided by an ethic of voluntary participation in this self-assessment tool, the IRS program affirmed the following use of the assessment:

> Rather than suggest that people of a given type cannot possibly be successful managers, the participants learn that people of all types occupy managerial and non-managerial positions. They learn that the data suggest that some behaviors might be more difficult for them than others, and that they could use that information to set goals for their careers and their personal growth. (Mani, 1996, p. 6).

Used as self-awareness then, the MBTI could assist leaders in their self-awareness and leadership development goals. In addition to the MBTI, the IRS also used the Adjective Check List (Mani, 1996) that quantifies observations about a persons traits and needs. Used with the MBTI, the ACL can provide greater awareness of creativity, responsiveness to change and leadership capacities.

The Blanchard's Leader Behavior Analysis (Stromei, 2000) was utilized by The Sandia National Laboratories in a mentoring training program for middle managers. This tool provides assessment of leadership styles in order to understand their suitability to certain functions required. Used as both a pre-test, before training or mentoring, and then as a post-test, this instrument has the

capability of measuring any changes in leadership skills. Such information is then used in any ongoing development plan.

The demands on managers who are shifting from traditional leadership styles to transformational styles are great (Manz, Muto and Sims, 1990). It is not easy to shift from manager to leader, but Manz, Muto and Sims suggest that it begins with gaining awareness through an assessment exercise such as "What is Your Leadership Style?" (1990, p. 13) or through the use of a case study that stimulates some primary insight regarding leadership situations. Used in group discussions, these methods allow for shared learning that can enlarge individuals thinking about leadership.

Whatever the method, self-awareness and informed goal setting seem foundational to many leadership development plans. Organizations are utilizing a combination of approaches in order to provide the greatest reliability and breadth of information from which to develop a personal leadership growth plan.

On-the-job Learning

In spite of the increasing annual investment in leadership training through workshops or classroom based methods, some estimate that 99.9 percent of development occurs outside of the formal training room (McCall, Lombardo & Morrison, 1988). Job assignments provide a rich opportunity for leader

development that can be self-directed and self-monitored or formally articulated and systematically developed by the organization.

The U. S. army boasts of one of the most comprehensive professional development systems in the world (Horvath, et al., 1999). Three simple processes are utilized in development: institutional training, self-development, and operational assignments or learning-on-the-job. Experiential learning provides opportunities for officers to learn tacit knowledge or applications of codified doctrine. There is a constant rotating through experience and formal training and back to operational assignments throughout the career of a developing officer. In their research on the development of tacit knowledge, Horvath et al. discovered a set of knowledge items that military leadership garnered only through operationalizing some kind of doctrinal guidelines. Teaching the items did not produce the same kind of knowledge acquired through doing leadership in the natural setting.

In a study of 191 leaders in six major business corporations three areas of experience provided the most lessons for development: the job assignment itself, the bosses or people who had rightful impact upon their work and difficult or tough times (McCall, Lombardo & Morrison, 1988, p.7). These experiences produced lessons that developed them in handling relationships, implementing

agendas, establishing values, utilizing temperament and becoming personally aware.

On-the-job experiential learning is one of the most natural venues for personal growth. Although riskier than simulated settings, application is real and motivation for improvement is high. In the changing environments of professional nursing, teams provide a place "to work together and grow together" (Jones, 1994, p. 34). The Franciscan Health Systems of Aston, PA sought to develop and prepare leaders at every level of their organization. They formed their model around Peter Senge's (1990) five learning organization disciplines of personal mastery, shared vision, systemic thinking, mental models and team learning. A collaborative effort involving joint meetings, brainstorming, problem solving and action planning was established with peers and cross-functional units to focus on the reduction of admissions time in emergency care. Through shared governance and ownership of the problem and solutions, they were able to implement change together that greatly reduced elopement rates. Leadership was shared and learning occurred simultaneously in the field of service.

Another case example of leadership development on the job takes place at Frankling Hospital in Baltimore (Wood, 1995). The nursing leadership desired to create a more coordinated approach to care by integrating physician and nurse activities, involving the patient more actively, maintaining professionalism of all

roles and keeping workloads stable but quality strong. Physicians and nurses created a case management pilot project through dialogue. Meetings were held bi-weekly to establish "critical pathways, teaching records for each practice and an effective communication system" (p. 57). Once the collaboration was established, continuous training including two-day seminars were held. Local nursing schools, case managers, and interested community professionals interested in the program were included. Both patient and care team professionals reported increased satisfaction from the collaborative practice model developed and learned collaborative leadership skills together.

Although job assignments themselves are often overlooked as critical spaces for leadership development, those agencies that integrate job rotations or build in challenging job assignments as a form of leadership development maintain a ready and able force of leaders to meet ongoing challenges.

Developmental Relationships

The Center for Creative Leadership calls them "developmental relationships" (McCauley & Douglas, 1998, p. 160) because they influence the personal development process both formally and informally. Learning groups, mentors, supportive relationships and social networks all contribute to the development process. Coaching and mentoring provide the more intentional form of these relationships.

Verlander (1999) defines coaching simply as “the facilitation of learning” (p. 65). It is touted as a cost-effective method of leadership development because of its focused results. With the fast pace changes of today’s current work setting, more and more leaders, particularly executives, are enlisting the help of coaches to focus their effectiveness in a demanding work environment. Coaching may take several forms in leadership development plans. Verlander suggests three types of personal coaching situations. The first he calls “Shadow Coaching” (p. 65). This intense form of coaching requires the working alongside of the leader, observing and assessing the leaders skills and leadership needs. It allows for reality based feedback and action planning. This one-to-one time with an expert coach has been used to develop managers into leaders within Dr Pepper/Seven Up, Inc. (Krayer, 1999). In this case the coach helped a manager identify problems contributing to an overall lack of quality in customer service. They then devised an intervention plan that required an emphasis of leadership rather than management skills in a department that had lost vision. After 6 weeks of implementing a new system derived from a comprehensive assessment with input from reports and observations, error rates in customer service was reduced from 20% to 2%. In other cases, coaching occurred with an expert but in a group setting of peers (Donaghue, 1992; Schmidt, 1999).

A second type of coaching is the “Feedback-Based Coaching” (Verlander, 1999, p. 68). The idea is to maximize the use of personal assessments such as the 360-degree feedback instrument and others mentioned through coaches. Coaches can become neutral ‘mirrors’ in the assessment and feedback phase of any leadership assessment and consequent growth plan (Frankel, 1997). The Allstate Corporation, which is one of the largest U.S. insurance companies, began a leadership program to develop 200 officers in 1996 (Stephens, 1999). The 360-degree instrument was utilized and participants identified coaches who helped them develop intervention and development plans. Results of this effort in 1997 suggested that, “The correlation between leadership behavior and superior business results is significant and has led to an increased emphasis and urgency for leadership development” (p. 24-25).

A third type of coaching that Verlander identifies is “Just-In-Time Personal Coaching” (1999, p. 74). Harrison (1999) provides an example of personal coaching that is focused on an executive who having been through all of the ‘right’ assessments, including 360-degree feedback, and training, was not performing well in relationships with his colleagues. Improvement in this area was deemed necessary for any further advancement. In this case the expert coach focused on critical events that had eroded healthy work relationships. These incidents were re-enacted, critiqued and role-played for new behavior

development. In a very compacted amount of time using specific feedback and practice, transformational change was reported amongst the executive's colleagues as well as reports. Harrison argues that, "Whatever methodology is used, selection of the specific behavior needed for change is essential" (1999, p. 140). That way the intervention can be focused and, through hard work, stimulate real leadership change.

Peer coaching is also becoming popular. In a case study of the nurse manager role, internal peers in cross-functional leadership roles partnered with the nurse leader to provide specific coaching in higher function operational demands (Schmidt, 1999). In the earlier sited case of communication skill development in a Scandinavian hospital, peer coaching was a primary method for learning (Frankel, 1997). Team participants were paired with coaching buddies who provided critical feedback and insight to one another in communication skills development. The case conclusion noted that the strength of this method in this program was the already high functioning nature of this team. Had the team not known each other so well already, the ability to honestly coach a peer might not have been so high.

Finally, mentoring has served useful in several settings where individuals at various levels of expertise can be paired to benefit the person with lesser skills and experience. A case study of Sandia's mentoring program affirmed a high

rate of leadership transfer skills for those involved (Stromei, 1999). Not only did pre-test and post-test scores show a 13 percent increase in leadership effectiveness for those involved, but leadership style flexibility also increased 22 percent. While the program began with very little structure, Stromei soon noticed key factors that contributed to the success of the mentoring and created a model. The model she proposed creates a more formal mentoring program for an organization. It includes four activities or centers of focus that mentors and protégés move in and out of together. They include:

1. Individual Diagnosis, Evaluation, and Assessment (IDEA)
2. Training Instruction Practical Tips (TIPS)
3. Center for Organizational Problem Enlightenment (COPE)
4. Friendship, Understanding and Nurturing (FUN) (Stromei, 1999, p. 120)

The program has successfully promoted the concept of continuous quality improvement and has been modeled in other divisions to teach additional skills.

Mentoring has also been successfully used to address broader community issues such as women and long-term care or nursing home care. Nationally, women comprise the largest population of those in long-term care as well as those who are the caregivers of residents in long-term care (Flippen, 1998). Yet issues of consumer choice, health insurance, and wages of caregivers have been poorly addressed. The Coalition for Women in Long Term Care (COWL) implemented a grassroots mentoring program that included the local, state and

national boards of leadership dealing with these issues. Their hope is to stimulate healthcare reform by increasing the conversations between informed, mentored women and legislators. Mentoring in this arena can go far beyond the confines of one organization's boundaries, developing leaders across boundaries through interchange and innovative problem solving in the field.

Government Approaches to Leadership Development

When doing a query with keywords "government" and "training" and "leadership" in several library search engines, very few scholarly articles and books are found. There are journal articles and books on government and leadership, and government and training, but add in the leadership development factor and little is found. Public administration scholars (Terry, 1995) have noticed this and offer several reasons. One is that there is serious public hostility toward bureaucracy and institutional leadership, so scholars tend more often to focus their research on public policy and special interest groups focused on change. Secondly, the equation of efficiency in management to bureaucratic reform brought on by the progressive era limits the reform of real leadership and leadership attitudes. Finally, and historically, the search for an efficient and businesslike government has relied heavily on scientific methods, experts and the "strong executive who exerted control over the enterprise by centralizing the decision-making process" (p. 9). Leadership has been mistakenly understood as

management, limiting the possibilities for reform. Yet reform is what many are calling for to meet the current public demands.

The federal government in particular has not kept pace in training for work environments, let alone leadership training. In the 1980's-90's only 1 percent of U.S. government worker payroll was devoted to investment in human capital as compared to Australia, who devoted 5 percent to education and training of public employees (Popovich, 1998). To make matters worse, some experts in the U.S. expect a retirement of nearly 50 percent of the government workforce in the next few years, leaving gaps in knowledge and leadership, a human resource management nightmare for most organizations (Yee, 2001). In his chapter on high performance human resource systems, public administration scholar Popovich cites five strategies for moving toward high-performance human resource management in U. S. government. His remedies are to: simplify job classifications, streamline and improve recruitment and selection, decentralize and delegate HRM authority, hold managers accountable and reinforce organizational goals and values (p. 146-153). Not one mention is made of training or leadership development as an integral strategy to more effective human resource management. He demonstrates in these strategies the synonymous nature of management and leadership in government, and the

obstacles such thinking presents to building the larger capacities required for meaningful leadership into today's civil workers.

However a report by The Organization for Economic Co-operation and Development (OECD, 2001) offers some hope for change. The OECD has 30 nation-state members, of which the U.S. is one, and promotes three policies: achieving high economic growth while contributing to the overall development of the world economy; contributing sound economic expansion; and expanding world trade in a nondiscriminatory fashion that meets all international obligations (OECD, 2001, p. 2). In analyzing their current success and future responsibilities, member countries identified leadership development as critical to their goals. Encouraging the improvement of comprehensive leadership development strategies within member governments, setting up new institutions for that development and linking existing management training to leadership development are three trends found to span the strategies of the assorted OECD Member countries (p. 8).

Examples of these trends at work are as diverse as the members themselves. New Zealand has adopted a "market-type" (OECD, 2001, p. 20) approach to securing and developing leaders. All government positions are open to anyone who meets the qualifications and a very light coordination of the hiring is done through the central government. There is no rating of civil servants that

would qualify one citizen over another. In contrast France takes less of a market-driven approach to leadership as leaders are identified very early on and nurtured through an elite school that provides the top 20 percent of graduates automatic posts in the five corps of French civil service.

In Sweden all newly appointed managers of government agencies are provided both general and "adapted induction" (OECD, p. 71) seminars. The general seminars allow for a broader understanding of ministry management while the adapted induction provides a more tailored orientation, specific to the exact position. Ongoing development is maintained through performance dialogues that include specific plans for future development, thematic collegial small groups that allow an interchange of learning between other managers, and the rotation of ministry heads after 6 years of service to develop a breadth of understanding and skills throughout government leadership. In 1999, the National Council for Quality and Development was set up in Sweden to increase overall quality of government administration. Several programs to develop leaders in strategic management, leaders who are female managers, and active leader mentorships that are mutually beneficially are implemented through seminars interspersed throughout a year of focused training.

The UK and U.S. are similar in their approaches as competency profiles for future leaders have been identified and developed into training programs. In

the US particularly, The Office of Personnel Management (OPM) has provided the bulk of their civil management and leadership education based on this competency profile. Identifying and selecting potential leaders is built around the framework, while mentoring and continuous training are meant to keep leadership development sustainable through changes in administrations and economic shifts. Central to the framework in the U.S. plan is the notion of adaptive leadership. "The successful government agency of the 21st century must be highly adaptive and its leaders prepared for rapid, continuous change. New problems call for renewed vision" (Management Development Centers, 2002, p. 15). Three issues have created the need for the ability to shift from hierarchical leadership to collaborative: increasing complexity in public policy issues, the need to involve many stakeholders in the creation and implementation of any solutions and the competition for commitment to lead to the end of any reforms (OECD, 2001). The US OPM, which annually trains about 5,000 management level civil workers in one of two sites, has developed five executive core qualifications or ECQ's to meet these demands. They are:

- **Leading Change**, which encourages creative thinking while it integrates national and programme goals and priorities to improve customer service and programme performance.
- **Leading People**, which focuses on maximizing employee potential and fostering high ethical standards.
- **Results Driven**, stressing results through accountability and continuous improvement.

- **Business Acumen**, which focuses on the use of new technology and information resources to improve decision making.
- **Building Coalitions and Communications**, emphasizing the ability to explain, advocate and express ideas in a convincing way, the ability to negotiate with individuals and groups, and the ability to develop an expansive, professional network (OECD, 2001, p. 45).

These ECO's shape the curriculum for training through the OPM. A Leadership Journey is articulated for those identified for formal OPM development programs that involve assessment, instrumented feedback, training seminars and continuous learning opportunities through job site applications.

There are also emerging partnerships between industry, non-profit and the public sector to train leaders in specific government departments. Patterning its certification program after that of the Department of Defense, the Department of Energy (DOE) has recently launched a new career development program focused on workers with GS-14 and 15 ratings (Yee, 2001). Selected individuals receive training from the Center for Creative Leadership and are then rotated through industry, usually a Fortune 500 company, and further DOE assignments for development. The goal is to provide hands-on business training framed in an understanding of current leadership approaches and self-awareness. A hoped for side benefit is the improvement of the government's "tarnished reputation through direct contact with the private sector" (Yee, 2001, p. 30).

Elected officials however present another challenge to leadership development in the government. The U.S. Congress shifts not only with new

presidents but also redistricting and the rise and fall of certain candidates. In 1981 a program to orient new members of congress was established to provide procedural training, leadership training and issues orientation (McCarthy, 1992). Limited in some ways by the partisan nature of politics, this program provides an example of academia, government and the private sector having input into leadership development of our country. The Institute of Politics at the Kennedy School of Government of Harvard, along with political parties and government experts, provide the training. Political issues, parliamentary procedures, committee process and ethics are some of the topics included in this evolving training lasting about two weeks before the new political terms begin.

University-based Approaches to Leadership Development

University based programs tend to offer leadership development for two separate kinds of groups. One focuses on the development of the traditional college student through programming and course offerings. The second offers executive education to the private and public sectors that enhances their work skills and marketability in the larger community. We will look first at programs to develop college student leadership capacities.

In 1998 it was reported that over 800 leadership development programs existed in US higher education for college students (Schwartz, Axtman, & Freeman). But few studies have been conducted to describe what is being

offered or the impact such programs have on student development (Binard & Brungardt, 1997). The W.K. Kellogg Foundation funded a study on 31 university-based leadership development programs involving over 58,000 students, offered at both public and private higher educational institutions between 1990 and 1998 (Zimmerman-Oster, K., & Burkhardt, J., 1999). Utilizing an external retrospective evaluation, the researchers discovered that formal leadership development was successful across several categories. Increased social, civic and political awareness as well as increased commitment to service and volunteerism was high amongst participants. Personal characteristics such as communication skills, ability to set a vision, self-esteem, desire for change and conflict resolution skills all increased significantly. Benefits to the institution and communities providing leadership opportunities also were enhanced. The conclusion of the study claimed that students can be taught leadership skills through multiple combined program methods such as seminars, workshops, mentoring, guest speakers and community service opportunities.

The second form of leadership development attributed to higher educational settings is that of professional and executive leadership education. Both corporate and community-based leadership development is offered at various institutions, largely through business schools throughout the country.

"Developing leaders for communities and community-based organizations through education and training has been one of the traditional roles of colleges and universities" (Williams, 2001, p. 52). Programs with more of a community leadership focus tend to emphasize collaborative leadership abilities. One critique of the delivery of such current training is that it lacks a demonstration of collaboration through institutional cooperation. Williams challenges the competitive nature of many university-based programs today as wasting resources, duplicating services and not utilizing the best of practices that they teach. Interinstitutional programs not only offer examples of collaboration but also are able to take risks more readily to find innovative and timely leadership development programs (Fuller, 1998).

Private Enterprise Approaches to Leadership Development

One of the challenges to traditional educational institutions' offering of executive leadership development programs is the shift from individually based needs to organizationally based needs in the marketplace (Fulmer & Goldsmith, 2001). Institutions of higher education specialize in individual development and cannot as easily align that development to an organization's goals and values. Businesses and community groups need leaders to be trained in such a way as to increase their effectiveness in leading the organization toward particular goals. While educational institutes have reaped the benefit of organizations' past

inability to deliver comprehensive leadership training programs, seeing a constant stream of incoming students in the management fields, universities are finding themselves out of step more recently as organizations question the effectiveness of training that is not aligned to their own goals and values. Business Week conducted a study in 1999 (Reingold, Schneider & Capell) that reported companies questioning the effectiveness of business school leadership development programs. Fifty-three percent identified training consultants as the most effective provider of executive education as compared to thirty-eight percent for business schools. Watkins (2002) notes four trends. First, programmatic approaches are being replaced by integrated processes. The content is delivered in group settings, interspersed with critical developmental training, coaching support and active, hands-on learning assignments. Second, just-in-time (JIT) training for key passages in leadership experience are replacing larger transformationl experiences. "The challenge for business schools is to tailor programs so that they acknowledge these transition points and provide exactly the knowledge base these managers need, when they need it most" (Watkins, 2002, p. 34). Thirdly, hybrid forms of on-line education and face-to-face delivery are more adaptable for the work setting, challenging the more traditional forms of higher education programs. Finally, active learning is embraced more strongly than conceptual teaching. Watkins, who himself is an

associate professor of business administration at Harvard Business School, suggests that, “To keep business school executive education alive and well, a significant shift in approach must occur—a shift from generalized to customized, from programmatic to integrated, and from study to action” (p. 35).

The unintentional conflicts between the educational supplier and customer in executive education are leading to a consortium approach to leadership development also. A consortium program involves an educational provider such as a college or university and a “small group of noncompeting companies to share in the cost and experience of developing its potential leaders” (Lawler, 2000, p. 53). Companies together develop the curriculum to meet their needs. This allows the company to expand the training beyond the understanding of their own boundaries. Indiana University reports, “We start with the audience and then define the curriculum, instead of starting with the curriculum and trying to find the audience” (p. 54). This allows for organizational involvement and application. One benefit of having non-competing companies work together is it safeguards against losing developed talent. In traditional educational programs, companies feared losing their best talent through the networking to which their leaders were exposed with like companies in the program. Furthermore, the varied viewpoints of other members enrich the participants’ learning.

A narrower version of a consortium is a partnership. Parke-Davis Pharmaceutical Research and Development (Jones, Simonetti, & Vielhaber-Hermon, 2000) provides a helpful example. Like many companies their internal training tended to be narrowly focused on skill and technique, changing often with internal staff departures or with changes in consultants utilized. Their external training was found to be useful for the individual but lacked a direct link to the company. As a result Parke-Davis forged a partnership with the University of Michigan Executive Education Center to develop and provide a consistent training program featuring three major approaches: the fundamentals of leadership, leadership in action, and leading the organization (Jones, et al., p. 45-46). A broader vision to develop "an abundance of leaders at all levels of the organization who are continually learning and applying that learning" was more easily achieved with this new approach through partnership (p. 48).

Cross-sector Approaches to Leadership Development

While the content expertise for public and private leadership may differ sharply from area to area, experts believe that the needs and trends for development programs are similar (W.K. Kellogg, 2002). Their own assessment of their contexts for developing leaders are remarkably comparable. The public service sector argues that leadership must be equipped to negotiate a world that is "(1) highly turbulent, subject to sudden and dramatic shifts; (2) highly

interdependent, requiring cooperation across many sectors; and (3) greatly in need of creative and imaginative solutions to the problems facing us" (Denhardt & Denhardt, 2003, p. 140). Business enterprises identify change, diversity and complexity as defining the world in which leaders are to be responsive (London, 2002). Educational settings have also acknowledged the "added uncertainties brought on by rapid changes in technological, political, cultural, social and economic shifts" (Ready, Vicere & White, 1993, p. 2) that impact the delivery of leadership development programs. In all contexts the issues facing leaders of the new economy require "more inclusive and participatory models" (Lamattina, 2000, p. 51).

The Center for Creative Leadership has a rich 30 year history of research and education of public and private, for-profit and non-profit agencies. Their expertise in training leaders in both worlds has resulted in an understanding of three convergent forces in the development of leaders across contexts: Assessment: To unfreeze leaders' understanding of themselves; Challenge: To force people out of their comfort zones; Support: To encourage and reinforce learning (McCauley, Moxley &Velsor, 1998, pp. 9-17).

In conclusion, it is clear there are many innovative approaches and strategies to leadership development that are emerging in response to today's diverse leadership needs. Whether the emphasis is on personal growth,

conceptual understanding, feedback or skill building (Conger, 1992) developing leaders and leadership capacities is not a static activity. The changing environments and concurrent demands for leadership in the public and private realm call for multiple strategies and methods in preparing people to lead. No one curriculum or approach seems to serve all. Rather a blending of several approaches and customizing to the local situation seems most common.

Public Health Leadership

Public health is about the inseparable tie between the individual's health and that of the larger community's, even the nation's. Its overall mission is to fulfill "society's interest in assuring the conditions in which people can be healthy" (Institute of Medicine, 1988). In this era of reorganization and realignment at all levels of health services, those in public health leadership are finding that they must lead as catalysts, organizers, innovators and collaborators to accomplish the goals of public health (O'Boyle, 1999).

The need for collaborative leadership capacities to represent and engage many perspectives has been identified as essential in meeting public health goals (Wilson, 2002). In a recent study of 63 public health departments, it was reported that more than 26% of the efforts to promote health involved outside agencies (Lovelace, 2000). While that number is expected to increase as new

health initiatives are made, little has been done to develop capable leaders for such collaborations, let alone document the impact of these collaborations on health outcomes (Wilson, 2002). Furthermore, a survey of over 240 healthcare companies revealed that although 86 % have formal leadership development programs, only eight percent believe they are effective (Leadership Development Not Effective, 2002). The implications of such leadership development failure could have far reaching public health consequences.

In a focus group survey of public health administrators, Boedigheimer and Gebbie (2001) discovered that public health leaders find it challenging just to define themselves. Spanning several layers of federal, state and local government health agencies as well as non-governmental agencies, their influence is broad. Furthermore there is no consistency in how they came to their positions. Some came through the ranks, first being hired because of a specific skill they possessed. Others came through allied health fields or specialized training in public health. But those interviewed identified three major forces that influence their required competencies: society, government itself and the discipline of public health. Because the group studied was small (22) the generalizability of the competency list these researchers identified to meet the needs of these forces may be insignificant. Yet it introduces the nature of public health leadership development today, that of the identification of competencies.

In many of the studies queried, definitions of public health leaders were given in the form of competency lists. While some of the competencies may suggest certain theoretical approaches, no one leadership theory was put forth. If leadership theories can be divided conceptually into trait approaches, interaction or systems approaches and transformational approaches, the dominant public health leadership model seems to be trait focused. In the '90's particularly, these competency frameworks dominate the literature on health and environment leadership.

In the early '90's the Health Resources and Services Administration hosted a forum to focus on the knowledge base and competencies needed for public health administrators (Bureau of Health Professions, 1991.) Ten areas of competency emerged: policy analysis-strategic planning, communication skills, team leadership, financial management, human resource management, program planning and administration, organizational management-position, cultural competency, basic health sciences and political analysis. These ten competencies appear often in the literature following it, affirming the validity of their work.

In 1992, the Healthcare Forum conducted a national study with nearly 400 participants. Their goal was to identify competencies to bridge leadership gaps for 21st century healthcare organizations. There was no noticeable

difference by respondent type or region, yet the respondents confirmed six transformational leadership competencies and values as:

1. Mastering Change: (the capacity) to help organizations view change as an
   opportunity for new alternatives and calculated risk-taking
2. Systems Thinking: (the capacity) to understand inter-relationships and patterns in solving complex problems
3. Shared Vision: (the capacity) to craft a collective organizational vision of the future
4. Continuous Quality Improvement: (the capacity) to engender a never-satisfied attitude, which supports an on-going process to improve clinical and service outcomes
5. Redefining Healthcare: (the capacity) to focus on healing, changing lifestyles and the holistic interplay of mind, body, spirit
6. Serving Public/Community: (the capacity) to weld social mission to organizational goals, objectives and actions. (p. 54-56)

Several serious gaps were also noted as obstacles for meeting future needs with current practices. Understanding systems thinking, continuous quality improvement and mastering the capacity to manage change were missing links.

Liang, Renard, Robinson and Richards (1993) conducted another survey of thirty-eight health leadership officers. They utilized 78 known and identified knowledge, skills, and abilities required by new public workers in their survey to investigate a priority of competencies required. Five areas emerged as most important: 1) public image or skills related to working with the community; 2) policy development and program planning; 3) interpersonal skills; 4) agency management; and 5) legal issues. Two-pronged adjustments to current training

of public health officials were suggested. Both schools of medicine and current public health staff development programs were seen as critical for developing these competencies in future leaders.

524 public health nursing leaders were asked in yet a another national survey, to classify broad competencies in their field (Misener, Alexander, Blaha, Clarke, Cover, Felton, Fuller, Herman and Rodes, 1997). In a challenging environment of public health service these competencies stood out: 1) political competencies which included politics, policy making and implementation and communication; 2) business acumen which included business, marketing and fiscal marketing; 3) program leadership which included evaluation and application of epidemiologic and research principles to health promotion programs, planning and implementation; and 4) management capacities which include problem solving, staffing issues and interdisciplinary team functioning (pp. 52-58.)

Sorenson, Bialek and Steele (2000) also developed a public health competencies framework. Universal competencies in public health were identified in six areas: Analytical Skills; Communication Skills, Policy Development/Program Planning Skills, Cultural Skills, Basic Public Health Sciences Skills, and Financial Planning and Management Skills. The

particularities of each sphere of competence were also articulated, denoting the depth of expectations of the leader.

Finally in an attempt to distill the many frameworks into some manageable and teachable form, the Leadership Competency Framework was developed (Wright, Rowitz, Merkle, Reid, Robingson, Herzog, Weber, Carmichael, and Baker, 2000). This framework was systematically formulated by collaborative entities within the National Public Health Leadership Development Network (NLN). Through reviews of current literature and several existing health leadership competency frameworks, the consortium sought to develop an inclusive framework that would provide direction for public health leadership curriculum design and subsequent evaluative processes. Ultimately this framework was intended to provide standards for professional development and measurement of performance of leadership and consequent services for public health. They articulated four leadership practice categories including corresponding competencies as:

- Transformation—Public health needs and priorities require leaders to engage in systems thinking, including analytical and critical thinking processes, visioning of potential futures, strategic and tactical assessment, and communication and change dynamics.
- Legislation and politics—The field of public health requires leaders to have the competence to facilitate, negotiate, and collaborate in an increasingly competitive and contentious political environment.

- Transorganization—The complexity of major public health problems extends beyond the scope of any single stakeholder group, community unit, profession or discipline, organization, or government unit, thus requiring leaders with the skills to be effective beyond their organizational boundaries.
- Team and group dynamics—Effective communication and practice are accomplished by leaders through building team work group capacity and capability. (Wright, et al., 2000, p. 1204)

Within each of the four categories listed, there are wide-ranging lists of particular skills and capacities that describe each competency explicitly.

In an attempt to broadly and specifically describe the work of diverse public health leadership today, competency frameworks have emerged. Both management and nursing frameworks have also been determined and added through focus group evaluations (Porter, Johnson, Upshaw, Orton, Deal, and Umble, 2002; Gebbie & Hwang, 2000). Larson, Sweeney, Christian and Olson (2002) summarized these multiple and overlapping frameworks of skills into seven areas: building vision, managing change, collaboration competencies, communication competencies, team/group leadership skills, management competencies and political/legal competencies. The question of whether public health education and training programs are developing leaders with these requisite skills needs research and evaluation. To date such leadership development research in public health is skeletal at best.

Ironically the Pew Health Professions Commission (1995) reported that there is a decreased emphasis on practice and management skill development in

current graduate education programs for health specialization. In addition, there is a shortage of skill based training programs available to meet the increasing demand. In response to this shift away from practice, the Management Academy for Public Health was established as a pilot program in specialized management training (Porter et al., 2002). With 281 applicants for the first year of this team-based program, demand was high. Ninety percent of the 98 first year participants graduated from this one year program and initial evaluations suggested that their goals were being met. Alumni reported increases in several key practices and were able to articulate the ways they have changed in their work settings. Developed as a team based program with three to six managers from the same department and participating together, this program offers a unique experience for learning. Further impact studies are planned.

In an unpublished evaluation of the Northeast Public Health Leadership Institute (NEPHLI, 2002), participants reported an increase of skill level in all 15 competency areas surveyed. Furthermore, a relationship between the improvements in skill to frequency of use was positively correlated. The problems with this study are the use of self-evaluation and timing. Alumni evaluated their own leadership competency changes at the end of the program. No pre-assessment was conducted at the outset to compare pair-wise to post-assessment, and triangulation of observers or subordinates was not utilized.

A more recent and similar study was conducted as a retrospective evaluation of the eight years of training offered by the Centers for Disease Control and Prevention with the University of California Public Health Leadership Institute (Woltring, Constantine & Schwarte, 2003). They found a positive influence of the program on "participants' leadership effectiveness at the personal, organizational and community levels as well as on the field of public health" (p. 103). Recall bias and reliance on self-report measures may have limited the reliability of the study, but the fact that public health leaders see the training as increasing their effectiveness is positive. More rigorous evaluation and research is needed on the impact of public health leadership training.

Conclusion

The purpose of this chapter was to consider the relevant leadership and leadership development literature that frames this study. An historical overview of leadership was presented showing the shifts of leadership understanding from power based and unidimensional views of leadership to multidimensional views. With these shifts come more complex demands in meeting the needs for leadership development today. The definitions and current debate around defining leadership pointed out the ethical importance embedded in leadership

studies during these turbulent times. Major leadership theories presented suggest a need for clarity in exposing theoretical frameworks upon which leadership development is built. A summary of the many leadership skills and competencies suggests the endless expectations that are sometimes foisted upon leaders today and may point to some of the inadequacies inherent in training processes that are reduced to skill building alone. Major leadership development models and factors influencing leadership development were presented. What is unclear still is to what extent these factors and models describe the actual development of a leader and their effectiveness. Finally, an overview of public health leadership development competencies and current training was presented. It is clear that few studies have been undertaken to describe the impact of these leadership development endeavors in public health. It was the purpose of this study to gain additional information and perspective on what factors contribute to their development. The next chapter will address methods and procedures of studying the factors that influence leadership practice changes among public health and environment workers.

CHAPTER III

METHODOLOGY

The need for collaborative leadership capacities to represent and engage many perspectives has been identified as essential in meeting public health goals

(Wilson, 2002). In a recent study of 63 public health departments, it was reported that more than 26% of the efforts to promote health involved outside agencies (Lovelace, 2000). While that number is expected to increase as new health initiatives are made, little has been done to develop capable leaders for such collaborations, let alone document the impact of these collaborations on health outcomes (Wilson, 2002). This study takes a step toward documenting the impact of a leadership training program upon the development of public health and environment leaders.

Methodology

The purpose of this study was to describe how leadership practices have changed over time for public health and environment leaders and describe factors that might account for those changes, including the training program itself, RIHEL. This descriptive investigation utilized both quantitative and qualitative research methodologies, what some research scholars call a mixed methodology (Creswell, 1994; Greene, Caracelli, & Graham, 1989). The quantitative method of the study utilized the Leadership Practices Inventory-Self ® (LPI-Self) form (see Appendix F) as a pre-test to post-test type inventory measuring five leadership practices: Challenge the Process, Inspire a Shared Vision, Enable Others to Act, Model the Way and Encourage the Heart (Kouzes & Posner, 1995). This data provided a theoretical sample for the follow-up qualitative

study. In addition, a survey that identified demographic information and evaluative ratings of the leadership training's impact on leadership practices by the participants was administered. The qualitative segment of the study was concerned with identifying self-reported incidence of leadership practices and perceived factors that contributed to changes in their leadership by the participants.

Quantitative research focuses primarily on testing a theory in an ordered and measurable process using statistical procedures and analysis in a pre-arranged and fixed design. The results are painted in numbers (Creswell, 1994; Denzin and Lincoln, 2000). However, qualitative research focuses primarily on understanding particular human dilemmas or phenomena through naturalistic inquiry, building concepts and interrelationships into theory. The results are painted in words (Strauss and Corbin, 1998). Creswell (1998) offers this helpful definition:

> Qualitative research is an inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting (p. 15).

Yet qualitative research is not simply set in opposition to quantitative research, rather it represents another understanding of reality and an exploration of that reality through diverse methods. Qualitative methods were developed in

response to research questions unanswerable by quantifying data alone. The ontological assumptions represent a dissimilar view of the discovery of truth. Reality in the qualitative approach is considered to be multiple and subjective, in the 'eyes of the beholder' as participant in the study. For the positivist, reality is objectifiable and distant from the researcher, singular in nature (Creswell, 1994).

The two-step approach of this study fits the developmental or two-phase qualities noted by Greene, Caracelli, and Graham (1989) and Creswell (1994) in discussing mixed methodologies of social science research. The first phase consisted of administering the LPI to set the stage for sampling. The second and more dominant phase involved a qualitative method utilizing a grounded theory approach in analyzing data generated from the surveys and interviews. This mixed method allows for diverse data collection and analysis, providing a rich set of data from which to generate conceptual categories and properties that form a theory about leadership development of RIHEL alumni. A detailed description of the study procedures follows.

Design Format

This study followed a descriptive design that intended to measure changes in leadership practices, and explore factors that contributed to those

changes through quantitative and qualitative methods. Since this study focused on alumni of a particular training intervention for leadership development utilizing the LPI-Self instrument at the onset of training, the LPI-Self was again administered as a follow-up post-test measurement for this study. In addition to the LPI-Self instrument, the LPI-Observer instrument was used at the beginning of the RIHEL leadership program. It must be noted here that the original intent of this study design was to also utilize the LPI-Observer instrument as a pre- to post-test. However the Institutional Review Board of the University of Denver denied use of this because confidentiality could not be insured if fewer than five LPI-Observer forms were returned for each alumni. In order to not limit the study to only those who were able to gather five or more observers of their leadership, the study was limited to LPI-Self scores for the sampling. As a result, this study focuses on self reporting measures only.

Demographic and qualitative data focused on factors contributing to the participants' leadership development was collected along with the LPI-Self forms through a survey. This was designed to thicken the descriptive information of the participants and provide rich data for the formulation of the interview schedule. The survey also provided comparison data for the emerging factors contributing to changes in their leadership practices. Follow-up interviews were

conducted to reach adequacy and saturation (Creswell, 1998) of the qualitative survey data.

In the interest of developing a theoretical set of attributes or features of leadership development amongst fellows completing the RIHEL advanced training program, this study followed a descriptive and formulative approach using semi-structured and open-ended survey and interview questions. The interpretive approach utilizes questions that focus on the social reality found in the situation as described by the participants (Gubrium & Holstein, 2000). This undergirds my objective to build understanding through describing 'how' participants account for the changes they have experienced in leadership as noted in their LPI-Self pre-to-post test scores and in their own reported experiences. Rubin and Rubin (1995) suggest that open-ended questions and interviews provide the guidance for theoretical sampling, allowing for adjustments or modifications based on the data gathered. An initial interview was conducted to test out the information generated from the interview schedule. It appeared that no adjustments needed to be made, but four more interviews were conducted to validate the consistency in understanding the questions. All twenty interviews followed the same open-ended format. Taped phone interviews were conducted in all cases due to the geographic dispersement of the interviewees through out the region and nation and to accommodate the fellows busy schedules. All

interviews were audio-taped, transcribed and formulated into MS Word documents and transported into HyperResearch2.6 software for more consistency in qualitative analysis.

The strength in this design lies in the premise that studying a known group of emerging public health leaders will more likely produce consistent attributes of leadership development in public health than randomly studying other leaders. Another approach might have been to take the common threads of leadership development and formulate an inventory based on common constructs. Such an approach however does not allow for the categories to emerge from the field (Miles and Huberman, 1994) and does not allow for unusual features that leadership or public health authors may not have considered. Also, the interviewees may be predisposed or limited in seeing the presented and assumed attributes as germane simply in the asking. This grounded theory approach allows the participants to describe the attributes in a less constraining or pre-determined manner. The interview questions were focused on the features the participants identify as most contributing to their leadership development. Triangulation, a peer examiner and the committee chairman all contributed to internal validity. The triangulation was provided by the varied methods of data collection, LPI's, survey and interviews. A peer

examiner reviewed the codes for verisimilitude along with the committee chair. Codes, attributes or properties of categories and models were confirmed.

Sampling Plan

Although in qualitative research the design evolves more as the study occurs, to Glaser (1992) the logic and design of a grounded theory study is shaped by two formal questions: "What is the chief concern or problem of the people in the substantive area, and what accounts for most of the variation in processing the problem. And, secondly, what category or what property of what category does this incident indicate" (p. 4). No pre-conceived statement to identify the problem is proposed in this approach. Rather the problem itself is to emerge along with the questions during the research process. Dissimilar and substantive groups then must be used in order to generate data that will build emergent theory.

One distinction of grounded theory is that of theoretical or purposive sampling. Theoretical sampling "is the process of data collection for generating theory whereby the analyst jointly collects, codes, and analyzes his data and decides what data to collect next and where to find them in order to develop his theory as it emerges" (Glaser and Strauss, 1967, p. 45). Its purpose is to expand the opportunities for comparison, thereby densifying categories and exposing the range of variability they contain (Strauss and Corbin, 1998). The goal also is to

determine and access the best sources for information. It is a cumulative process that is ongoing and building.

Purposive sampling is a common feature of naturalistic inquiry (Lincoln & Guba, 1985). It increases the chances that multiple realities as well as the uniqueness of particular practices are captured in the study. In order to explore the features of leadership development among a certain population, you must go to that population. In order to study leadership development in public health and environment leaders the purposive sample of RIHEL alumni were chosen. In this study population there have been approximately 125 graduates of the year-long RIHEL program spanning over four years of study from 1999 to 2002. One of the reasons why these four years of alumni were chosen for this study is that the LPI instrument changed between years 2002 and 2003 making it invalid for comparisons. However the same edition was used from years 1999-2002 and could be re-administered with special copyright permission of the authors Kouzes and Posner (see Appendix A) and compared on pre- and post-test analysis. These alumni, who are referred to as fellows and/or alumni of the program, are working in a variety of health and environmental contexts with varying levels of leadership opportunity. Conceptually they are similar as alumni and health or environment professions but substantively they are dissimilar in work contexts, focus, age and other demographic variables. This meets the

requirements of Glaser and Straus (1967) who suggest that dissimilar substantive groups must be sampled for the generation of formal theory.

This purposive sampling was extended through to the results garnered from the pre- to post-test scores of the LPI-Self. The goal was to survey all of the fellows who have finished the program from 1999-2002 in order to provide rich data to the field of leadership development and public health. Limited interviews were conducted with a goal of confirming and deepening the information garnered through the open-ended survey questions. Twenty interviews were conducted out of the 67 participants who returned all of the materials, particularly the LPI-Self forms and the RIHEL Alumni Leadership Survey. The LPI-Self pre- and post- scores along with the qualitative survey and follow-up interviews provided a rich set of complementary data.

Measurement

Participants were asked to complete two instruments: the LPI-Self instrument (see Appendix F) and the RIHEL Alumni Leadership Survey (see Appendix G). The participant's LPIs were scored and compared to initial LPI assessments to determine changes in leadership practices. It was the purpose of this study to determine whether leadership practices had changed or not for RIHEL leaders. The LPI pre- and post- test comparisons helped to meet this goal of documenting a group of emerging leaders for further study of factors

influencing those changes. The surveys provided a triangulation of data source (Miles and Huberman, 1998) to confirm and illumine the changes. Surveys and interviews were also used to probe the journey of the participant more deeply. The objective of the interviews was to accumulate qualifying data that described the features of leadership development for participants. Particular attention was paid to the concepts taught and demonstrated through RIHEL.

Quantitative Measures

The quantitative measures of this study consisted of the Leadership Practices Inventory-Self form and the RIHEL Alumni Leadership Survey. The LPI-Self form consists of thirty behaviorally based statements that measure five leadership practices constructed from ten behaviors noted in the research construct (Posner & Kouzes, 1993. In the original research and construction of the LPI these practices were identified through both qualitative and quantitative analysis from more than 1, 100 manager case studies (Kouzes and Posner, 1988). Strong reliability and validity were reported in the initial review of the psychotmetric properties of the LPI. The LPI has been tested further for reliability and validity with successive samples of 1,567, 2,100, and 2,876 managers, executives and their subordinates (Posner & Kouzes, 1993). The LPI was reported to have internal reliabilities on the self form that ranged from .69 to .85. Test and retest reliability with another sample of MBA students yielded

averages of .93. Tests for bias in social desirability were not statistically significant. The tests for validity on the LPI-Other using regression analysis yielded a highly significant equation ($F=318.88$, $p<.001$) suggesting that over 55% of the variance around subordinate's assessment of leaders effectiveness could be explained through the leadership practices (Kouzes & Posner, 1993).

In the current RIHEL study, the LPI-Self (Kouzes & Posner, 1993) was used to measure changes in leadership practices since completing RIHEL. Participants graded their own practice of those behaviors with responses cast on a ten-point Likert scale ranging from 1=Almost Never to 10=Almost Always. Although the LPI-Other was not used in the post-test assessment of the RIHEL participants, it was used as a 360-degree feedback tool at the outset of the RIHEL program and formed the reality upon which many of the leaders set goals for their development, as will be noted in later data analysis.

Demographic and evaluative data were collected from the alumni participants through the RIHEL Alumni Leadership Survey. This survey contained fifteen fields or questions of quantitative data such as age, ethnicity, degrees of study, and years in public health service. While the majority of this data was demographic in nature, six questions of the Likert-type focused on the participant's perception of the influence of RIHEL on leadership practices. This

allowed the participant to interpret their own world and evaluate the personal relevancy of RIHEL training to it (Gubrium & Holstein, 2000).

Qualitative Measures

The RIHEL Alumni Leadership Survey included eleven opportunities for qualitative open-ended answers and further comments to clarify and deepen the quantitative information. According to Marshall and Rossman (1999), "… qualitative research is pragmatic, interpretive, and grounded in the lived experiences of people" (p. 2). The questions in this survey focused on the participants' lived experience. Two questions prompted the participant to tell a story about opportunities they have had to engage in leadership since completing RIHEL and to describe what they did. Another question asks the participants how their experience in RIHEL influenced their action in the noted leadership incident. Five questions were asked about the extent to which RIHEL positively influenced their abilities along the LPI five practices. Finally, three questions were asked to identify key factors the participants perceived in contributing to their leadership development. This approach is consistent with grounded theory inquiry and the notion of symbolic interaction as it prompts the participants As such, qualitative research focuses on the density of human relations and communication as observed in the everyday world, allowing the participants to define meanings.

Open-ended interview questions were developed with qualitative data features in mind. Creswell (1998) notes the semi-structured interview format allows for the detailed picture or story to emerge from the interviewee's perspective. The LPI-Self change scores were reported to the participant so they could respond with their first-hand understanding of what factors influenced their scores. The interview questions focused on the perspective or self-reporting of the participant's on their own leadership development. Finally, the data was analyzed as artifacts for consideration in answering the questions of the study.

Two aspects of the above measurement design need validation. The first is the set of questions used in the survey and interviews, which is content validity. The questions at face value must appear to be ascertaining the characteristics or attributes that contribute to a person's leadership development. Three professional leadership trainers reviewed the questions for content validity. The second question pertains to the validity of the categories or codes as accurate descriptors of the comments made about leadership development. This internal validity was addressed by triangulation of the data sources and a peer examiner. Artifact contents of all three data sources (LPI, survey and interviews) were cross-checked with each other HyperResearch2.6 was used to organize, compare and contrast, and display the evolving data in a consistent, reliable manner. The triangulation of the quantitative data and the qualitative data also strengthens the

internal validity of this study as noted by Creswell (1994). Codes were reviewed by a peer examiner and the chair of this dissertation. The convergence of information from surveys, interviews and the LPI instrument provides a richer opportunity for internal validity than one source alone. The procedures listed in the following sections are intended to lay open the possibilities for replication and for scrutiny of inherent bias affecting the study.

Procedures

Data Collection

To gain access to the alumni fellows of RIHEL several meetings were held with the director and staff of RIHEL. Due to the changes in the LPI-Self instrument over the past several years, only four years were identified as offering an alumni sampling group for consistent LPI re-test possibilities. Names, addresses and e-mail were solicited from the RIHEL office for the years 1999-2002. One hundred and twenty-five alumni were identified in the files for those four years. A packet (See Appendix B-G) including a cover letter from the director, one from the researcher, a RIHEL Alumni Agreement to Participate and Informed Consent form, a copy of the LPI-Self form, and a RIHEL Alumni Leadership Survey was mailed to each of the alumni along with a return-to-researcher-addressed stamped envelop inviting the alumni fellows to participate. A follow-up e-mail was sent to encourage participation.

Initially 35 alumni responded and two envelopes were returned undeliverable. Several phone calls were made to locate the two alumni whose addresses changed. Both appeared to have changed jobs and addresses several times and were no longer reachable. A postcard (see Appendix I) was then mailed to the remaining non-responding alumni to encourage the alumni to participate and return the completed LPI-Self form, RIHEL Alumni Leadership Survey, and signed Agreement to Participate and Informed Consent form. Five more participants joined the research and five e-mailed that they had either lost or not received their packet. A second packet was then mailed to all of those who did not respond giving them another opportunity to participate. This second round of packets stimulated more returns and 71 participants agreed to be a part of the study. Unfortunately four of these participants had incomplete files. Two were found to have no record of pre-LPI scores in the RIHEL files making pre- to post-LPI testing impossible. Two others returned their LPI's but not the survey. After repeated failed attempts to solicit the surveys from the other two participants, all four respondents were removed from the study for lacking complete information for statistical analysis.

All quantitative data from the surveys was coded and entered into SPSS for data analysis. Several variables of compressed data were created in order to compare data for smaller groups more easily. This included the creation of a

total LPI change score and 5 Practices Change scores for each respondent and collapsed Highest Degrees Completed and Field of Study variables. Once LPI-self scores were computed and compared to pre-scores, sampling groups for interviews were constructed. This stage proved to be more problematic in soliciting involvement. Although participants agreed in their signed consent forms to be interviewed, few seemed to have the time in their busy lives. A convenience sample of twenty was reached after fifty-five participants had been contacted via the phone or e-mail and few responded. Those who were willing were interviewed regardless of their LPI comparative scores. All participants were sent the interview questions ahead of time via e-mail so that they had time to give thoughtful responses. Twenty interviews were conducted ranging from thirty to fifty minutes in length. A saturation of categories was reached by the fifteenth interview, but the remaining five were conducted to ensure the saturation. Each interviewee was reminded of the purpose of the study and asked whether they still agreed to be audio taped for the interview. All interviews were conducted by the researcher alone and notes were taken on a worksheet with the posed questions (see Appendix H), including memos of my impressions or sense of the conversation. Transcriptions were then made of each of the interviews. Researcher reflection and data analysis of the transcriptions and the worksheets began soon after each interview was finished.

Analysis and Treatment of the Data

In the first phase of this research, I created a purposive sample through quantitative analysis. T-tests were performed with pre- and post-LPIs in order to note any changes in practices and formulate change groups for future interviewing. Change scores were computed for each individual participant and recorded. Change scores were totaled in order to compare with other alumni and construct groups for comparison interviewing. Four groups were identified by quartiles as No to Negative Change, Low Change, Medium Change and High Change based on the LPI Total Change Scores. In addition descriptive statistics and inferential statistics were performed on the quantitative data to examine any factors that might relate to changes in the LPI scores. Correlation and inferential studies were run on data collected from the surveys in order to determine factors contributing to leadership development that might not surface in the LPI comparisons or qualitative questions. Magnitude, variance and directional significance was noted among the associations of variables. This was done to provide a combination of thick quantitative and qualitative descriptions from which to examine changes in leadership practices and factors influencing those changes.

The second phase involved analyzing the survey and interview data. Data collection and analysis occur simultaneously in grounded theory research

(Creswell, 1994). The first step in analysis is to transcribe the tapes into written data. To enhance this process, HyperResearch2.6 was used after each interview was transcribed into Microsoft Word 2000. These transcripts were then transferred through Rich Text Format into the HyperResearch2.6 software program. The next step was to perform constant comparative analysis on the single utterances or complete thought units gathered in the data (Glaser and Strauss, 1967). This involved describing and identifying emerging themes through constant comparison. The analysis continued by developing categories, sorting data by categories, formulating a visual presentation of the data, and "actually writing the qualitative text" as noted by Creswell (1994). The first of these, collecting data, has already been discussed as the process of interviewing, taping and transcribing those tapes into an electronic management system.

The second aspect of developing categories involved coding, or the process of "reducing information to themes or categories" (Creswell, 1994, p. 154). Tesch (1990) suggests eight steps to consider in this often flexible but engaging process that this study will follow:

1. Get a sense of the whole. Read through all of the transcriptions carefully. Perhaps jot down some ideas as they come to mind.
2. Pick one document (one interview)—the most interesting, the shortest, the one on the top of the pile. Go through it, asking yourself, What is this about? Do not think about the substance of the information, but rather its underlying meaning. Write thoughts in the margin.

3. When you have completed this task for several informants, make a list of all topics. Cluster together similar topics. Form these topics into columns that might be arrayed as major topics, unique topics, and leftovers.
4. Now take this list and go back to your data. Abbreviate the topics as codes and write the codes next to the appropriate segments of the text. Try out this preliminary organizing scheme to see whether new categories and codes emerge.
5. Find the most descriptive working for your topics and turn them into categories. Look for reducing your total list of categories by grouping topics that relate to each other. Perhaps draw lines between your categories to show interrelationships.
6. Make a final decision about the abbreviation for each category and alphabetize these codes.
7. Assemble the data material belonging to each category in one place and perform a preliminary analysis.
8. If necessary, recode your existing data. (pp. 142-145)

While abbreviations were not necessary, I did use a case-wise analysis of the data that sought to group common answers to the same questions from different people to gain breadth as Glaser and Strauss (1967) originally encouraged. As themes emerged from cross-case participant answers they were compared and contrasted to create distinct codes. This open coding process was conducted in a line-by-line process through the survey and interview transcripts.

Next the data was explored for influencing conditions, or causes, or actions, or contexts and conditions, or outcomes that related to factors encouraging leadership development (Creswell, 1998, p. 57). These axial codes provided the network that built what became selective codes that tell the leadership development story line of RIHEL alumni. In addition to the different

categories or dimensions of leadership development that were formed out of the "reduction and interpretation" (Marshall & Rossman, 1989, p.114) of the textual data, separate lists that provided useful examples of the emergent themes or contrary items or helpful quotes were tagged in order to represent the data in a narrative format.

Confidentiality and Anonymity

The participants in this study were assured anonymity and confidentiality. Because the comparison of pre-LPI to post-LPI scores could reflect negatively on a participant, each participant was given an ID number and all names were purged from the data once the interviews were completed. Any information that might remotely identify a participant were omitted and given general titles or categories of ideas in order to protect confidentiality. Brackets [ ] are used in the reporting of these incidents where changes were made by the researcher in order to obscure specific identifying factors but make the comments understandable.

Summary

This study sought to understand the features and characteristics that are common in leader development for fellows who participated in RIHEL. This section outlined the design and strategies used to collect both quantitative measures and qualitative assessment of leaders. A mixed-design with two phases was used in the study. Through paired t-tests and inferential quantitative data

analysis, changes in leadership practices were examined. Qualitative analysis using grounded theory methodology was applied to data collected from 67 open-ended surveys and twenty interviews. A triangulation of these sources of data helped to formulate a theory about factors influencing leadership development amongst public health and environmental leaders. The next chapter will report those findings.

CHAPTER IV

RESULTS

The purpose of this study was to describe how leadership practices have changed over time for public health and environment leaders and describe factors that might account for these changes. Specifically, this study was designed to compare the before and after leadership practices profiled by participants who have completed the one year Regional Institute for Health and Environmental Leadership (RIHEL) in the Rocky Mountain region during the four years of

1999-2002. The research questions were three fold: (Q1) What leadership practices have changed for public health and environmental leaders since their completion of the Regional Institute for Health and Environmental Leadership (RIHEL). (Q2) What factors account for any changes? In other words, what factors do leaders identify as encouraging their leadership development? (Q3) To what extent has RIHEL contributed to the leader's development?

To answer these questions, a mixed-method study was initiated with alumni fellows of RIHEL. Study participants were asked to complete the LPI-Self form along with a 23 item questionnaire of mixed open-ended, partially open-ended and closed-ended questions (Gliner and Morgan, 2000) measuring characteristics, attitudes and behaviors (Babbie, 1990). Twenty follow-up interviews were also conducted to reach saturation and adequacy (Creswell, 1998) in understanding factors that contribute to leadership development. The quantitative items were designed to gather demographic information and evaluative information that might provide factors which correlate with leadership practices. The qualitative measures, both in the questionnaire and interviews, allowed participants to give open-ended answers to explain, expand upon and surface issues that might not otherwise be measured in a quantitative tool.

The results of this study are presented in this chapter in five sections, three of which correspond to the research questions. The first section includes

the demographics that describe personal characteristics of the study participants and sample. The second section reports the quantitative and qualitative changes noted in fellows leadership practices since completing RIHEL. One might term this the "program impact" since RIHEL. The third section reports any inferential statistics and qualitative reporting that shed light on the factors that influence RIHEL alumni leadership practices and development. The fourth section reports an assessment of the impact RIHEL seemed to have on the fellows' overall leadership development. Finally, a theoretical framework for the factors that encouraged leadership development in RIHEL alumni will be proposed.

Demographic Information

The population for this study was alumni fellows of the RIHEL one year training program from years 1999-2002. There were 125 participants over those four years. All 125 alumni were invited to participate in the study. Two alumni had changed addresses and jobs multiple times so that they could no longer be located. Out of the remaining 123 alumni contacted, 71 consented to participate (57.7%) by returning a completed LPI-Self form, and a signed Agreement to Participate and Informed Consent form. However, four of the 71 had to be dismissed. Two had not returned the RIHEL Alumni Leadership Survey and two had no record of pre-LPI scores to conduct the pre- to post-LPI t-tests. Of the 67 participants, seventeen out of thirty (56.6% return) were from the class of 1999,

forming the initial 25.4% of the participants (See Appendix I). Thirteen out of thirty (43.3%) of the class of 2000 responded, adding 19.4% more to the study participants. Sixteen out of twenty-eight from the class of 2001 (57.1%) agreed to participate, adding another 23.9%. Finally, twenty-one out of thirty-six from the class of 2002 (58.3%) responded, comprising the final 31% of the participants in this study.

The survey contained several personal and work-related questions to gather demographic profiles on the subjects. This data is important in describing the diversity in the participants as well as providing possible factors to explore for statistical interrelatedness with leadership practices (see Appendix J). Out of the 67 participants 41 (61.2%) were female and 26 (38.8%) were male. There were three (4.5 %) who identified themselves as Asian, 2 as Black (3.0%), 3 as Hispanic (4.5%) and 59 as White (88.1%). Participants ranged in age from 27 to 65 years with a mean age of 46.07 years. One participant did not give their age.

The highest degrees completed by the group ranged through twelve categories from high school with one participant to post-doctoral work by another (See Appendix I). These degrees were compressed into three categories to create large enough groups for statistical analysis: 1=high school, BA, BS (N=18, 26.9%); 2=MA, MS, MPH, MSN, MSW (N=36, 53.8 %); 3= MD, PhD,

JD, post-doc (N=13, 13.4%). Field of studies or majors for those degrees ranged through ten subject areas (See Appendix I. Again these were compressed for future statistical analysis into two groups of health specific and non-health specific degrees: 1=Medicine, Nursing, Health related (N=31, 46.3%); 2=Nat. Sciences, Soc. Sciences, Bus/Admin/Mgmt, Law, Engineering, Education (N=36, 53.7%).

The survey asked participants what their current title or position was and whether it had changed since completing RIHEL, how long they had been in the current position and to describe their work duties briefly. From this information each participant was assigned a position category, job type and agency code. Close to seventy-five percent of the participants were in a director or manager position. The participants' job positions fell into five major roles: Director (N=34, 50.7%), Non-Director Management (N=17, 25.4%), Team Member (N=2, 3%), Professional (N=10, 14.9%), and Professor/Educator (N=4, 6.0%). There were four categories that encompassed the participant's job focus or area: Health (N=38, 56.7%), Environment (N=20, 29.9%), Both (N=6, 9%), and Other (N=3, 4.5%). Finally, an agency category in which the participant works was created, resulting in the grouping of participants into these five areas: Government, N=43, 64.2%; Corporate/Business, N=14, 20.9%; Non-profit, N=6, 9.0%; Educ. Institution, N=3, 4.5%; and Other, N=1, 1.5%.

Work or job related data explored the participant's length of service in their position and field. Nearly half of the participants (N=33, 49.3 %) were in the same job they were in during their RIHEL training. The mean time in the position was 5.89 with a range of .20 to 26 years. The questionnaire also asked how long each participant had been working in the area of public health or environment. The mean years in service were 17.26 with a range of 0 to 40 years. One participant, who reported zero as their years, works in a medical practice and did not see themselves in the traditional public health or environment role of other RIHEL alumni.

Changes in Leadership Practices

This study gathered both quantitative and qualitative data to help answer the research question: (Q1) What leadership practices have changed for public health and environmental leaders since their completion of the Regional Institute for Health and Environmental Leadership (RIHEL). Both types of data will be reported below.

Quantitative Measures

Results from the quantitative data analysis reveal that there is a significant change in all five practices of leadership by RIHEL participants from the pre- and post-LPI scores (see Table 1). In addition, there is a strong correlation between the participants' self-report of the extent to which RIHEL

influenced each practice and their score on that practice. Kouzes and Posner (2002) discovered that challenging the process, inspiring a shared vision, enabling others to act, modeling the way and encouraging the heart make up the five core practices of exemplary leadership. The RIHEL program supported this notion in both the administration of the LPI instrument and in the teaching around this instrument. The impact of this emphasis can be seen in the results below. The results of each of the five practices will be separately discussed below.

It must first be noted that the LPI measures five practices of exemplary leadership through Likert-type ratings of 30 leadership statements. The higher the score, the stronger that practice is visible. The highest anyone could score in any practice is 60, meaning the person would have to give themselves a 10, meaning "almost always," on all 6 questions measuring that practice.

Table 1: Paired t-tests for Pre-RIHEL and Post-RIHEL LPI Scores

LPI Practice	Pre-LPI Mean	Post-LPI Mean	t	df	Sig.
CP	43.40	47.76	5.526	66	.000
ISV	39.91	46.16	6.158	66	.001
EOA	47.85	51.76	5.451	66	.000
MW	45.49	49.89	5.169	66	.010
EH	41.37	47.34	6.001	66	.000

Challenge the Process. The practice of "Challenge the Process" is one of change (Kouzes and Posner, 2002). Leaders who practice this question the status quo, seek opportunities for change, and tend to be innovative. There is an inherent taking of risk with this practice. The paired samples t-test results for this practice established a pre- to post-test positive change of significance (t=5.526, p=.000). The Pre-LPI mean was M=43.40 and the Post-LPI mean was M=47.76. The mean change score for this practice was 4.37. In summary, RIHEL fellows improved in the practice of challenging the process since completing their training.

Inspire A Shared Vision. The practice of "Inspire A Shared Vision" is future oriented (Kouzes and Posner, 2002). In a fast-paced and changing environment, this practice is thought of as paving the way into the future with a vision and commitment to possibilities. It is two-pronged in that it involves others. This practice measures the enlistment processes of the leader with followers toward shared hopes and goals. The paired samples t-test results for this practice established a pre- to post test positive change of significance (t=6.158, p=.001). The Pre-LPI mean was M=39.91 and the Post-LPI mean was M=46.16 The mean change score for this practice was one of the highest of all practices at 6.25. RIHEL fellows did show considerable improvement in inspiring a shared vision since completion of the program.

Enable Others to Act. Collaboration is fostered by the practice of "Enable Others to Act" (Kouzes and Posner, 2002). Similar to inspiring a shared vision, enabling others to act promotes shared goals and power to reach the goals. RIHEL fellows also showed change in this practice. Paired samples t-test established a pre- to post- test positive change of significance (t=5.451, p=.000). The Pre-LPI mean was 47.85 and the Post-LPI mean was M=51.76. The mean change score for this practice was 3.91. Fellows increased in their self scores of enabling others to act since completing RIHEL.

Model the Way. Often seen as a value alignment with behavior, "Model the Way" seeks to set an example in word and deed (Kouzes and Posner, 2002). Modeling the way requires a self awareness and intention to match behaviors with values. Like the other three practices, it also affirms shared values and adherence to them. The paired samples t-test results for this practice established a pre- to post- test positive change of significance (t=5.169, p=.010). The Pre-LPI mean was M=45.49 and the Post-LPI mean was M=49.89. The mean change score for this practice was 4.40. Again, RIHEL fellows showed marked improvement in this practice since completing the program.

Encourage the Heart. Recognizing the contribution of others is central to the "Encourage the Heart" practice (Kouzes and Posner, 2002). It requires that goals be clear enough to know when they have been met and celebrating them

when they have. It fosters a sense of community that in turn encourages excellence by its individuals. RIHEL fellows experienced change in this practice as well. Paired samples t-test results for this practice established a pre- to post test positive change of significance (t=6.001, p=.000). The Pre-LPI mean was M=41.37 and the Post-LPI mean was M=47.34. The mean change score for this practice was 5.97. RIHEL participants increased consistently in their use of encouraging the heart as a leadership practice.

In addition to recording pre- and post-LPI scores for each individual on each practice, a Total Change Score was computed by adding an individual's 5 LPI pre- to post- practice change scores together (see Appendix K). The mean Total Change Score was 24.77 with a minimum change of -38 and maximum change of 106. Quartiles were chosen from these scores to group participants into High Change (+39 to +106), Medium Change (+20 to +38), Low Change (+7 to +19) and No Change to Negative Change (-38 to +6) groups. These groups showed uniform variability in their means. In fact the distribution was relatively flat. While ten participants may have scored a negative Total Change Score it was found that four of them had positive change or no change on at least one practice and two more fellows had at least one practice stay the same from pre- to post-LPIs. Overall 80% (N=54) of the fellows had at least one or more practices increase by the mean change score. 62% (N=44) of the fellows saw at

least two LPI practices increase by the mean amount or more for that practice. When looking for at least three practices changing by the mean change score nearly half, or 46% (N=31), were discovered. Since RIHEL encouraged fellows to focus on improving one or two of the practices, this change is consistent with the training goals of RIHEL.

It is clear that RIHEL fellows report themselves as practicing higher levels of exemplary leadership along the lines of the LPI. Their self-report of practices increased with consistency and significance across the participants, demonstrating significant improvement over time.

Qualitative Measures

In addition to the LPI measurements of change in practices, interviews utilizing an open-ended question about changes in their leadership were conducted with 20 fellows who varied in their change score. These interviews confirmed qualitatively that their leadership practices had increased in the major areas of the LPI as well as other areas. Each of the fellows interviewed was able to identify a time since RIHEL where they were practicing leadership differently and were aware of it. Through the process of constant comparison analysis leading to open coding, and selective coding resulting in categories, four themes emerged from their reports of changes in leadership behaviors: 1) First of all, RIHEL fellows reported specific utilization of the 5 exemplary practices of the

LPI as well as collaborative processes taught during RIHEL. 2) Leaders reported being more self-aware and reflective in their approach to leading. 3) Leaders described being more intentional and conscious about the practices they utilized and why. 4) Leaders reported more confidence in their practices, largely as a result of their learning from RIHEL or utilizing the skills.

It must be noted that even those participants who had lower or negative total LPI change scores could articulate specific practices that had changed for them. In fact there were no noticeable differences in the ways that those having high Total LPI Change Scores and those with lower scores reported their changes. They were remarkably similar, reported with the same degree of excitement and discovery. In the quotes that follow, the LPI category is reported first, followed by the parens of Total LPI Change Score and the ID number of the participant. Brackets [ ] are also used to denote changes in the text made by the researcher in order to preserve the confidentiality of the respondent or provide greater readability.

Increased Collaborative and LPI-based Practices. Many of the fellows in reporting a time when they realized they were practicing leadership differently gave examples consistent with the language and core practices of the LPI. Here are just a few examples of instances and growth noted by the fellows for each of the five exemplary practices:

CP—(+34, #34): I am learning to confront difficult situations more, challenging the process.
CP—(+57, #2): I have been confronting a difficult situation with a staff person and it is often in a public situation. I am challenging him to see things differently, to grow. That's new.
ISV—(+26, #45): I think it is the whole inspiring piece. Getting people to have some ownership in what they do, to make it their own vision, their own activities. That is new for me.
MW—(+106, #51): I am allowing staff input now. Instead of just telling them what to do and how, now I set goals with staff and model for them; I let them be a part of the process. It's improved buy-in.
EOA—(+50, #61): I use to be hierarchical. Now I use teams more and empower people to act.
EOA—(-14, #3): I listen more and allow others' expertise to be present and useful.
EH—(+32, #9): I think that [you need to] share the credit with the employees. My employees really appreciate that. They are proud of what they have done. Share the glories.
Collaboration—(+34, #28): I've been approaching the project with a collaborative mindset, to really work together and through issues. I demonstrate my passion and commitment for the shared goal and encourage the process more.
Collaboration—(-2, #23): I have stepped out of line management and am now seeing ways to influence as a stakeholder without utilizing positional power. I'm able to point out other's perspectives more so that all sides are considered before a decision is made.

Increased Reflective Behaviors. A number of leaders mentioned that they have increased their listening and perspective taking abilities since RIHEL. This more open perspective has enabled them to hear other points of view, increase overall understanding and in many cases 'stay at the table' through contentious times. This in turn allowed them to develop plans that include multiple viewpoints and stronger commitments to common goals as required for successful collaborations (Chrislip & Larson, 1994).

> (+11, #18): But I think being able to step back and recognize, lay it out and hear the pros and cons and hear the implications for taking this course versus another course. That has changed.
> (+34, #34): I think for me, being able to confront the situation was very difficult, bringing up the opposing points of view openly really threw me off and so now I feel like I can sit down and listen to diverse opinions and not be frightened by, or scared by that.
> +50, #61: I listen more. I use to talk and tell, now I listen to hear.
> (-8, #20): I think probably one of the things that has really helped me was again this idea of listening and by going through the RIHEL process, which teaches you to be more introspective.
> (+32, #41): We were finally at a staff meeting, when I went, 'you know, it is really working.' People were contributing. People don't all agree, but everyone feels safe to say what they are thinking or feeling, express their opinion, to contribute. Be heard. And, I was just really beginning to see it's worked.

Increased Intentional Behaviors. Fellows also report more intentional behaviors since RIHEL. In an effort to solicit many stakeholders in collaborations they reported intentionality:

> +34, #28: That is an example by which in the past, the program would have likely just done the minimum, in terms of issuing notices in newspapers, where people would never find in the legal section, and essentially get no comment on that. Versus much more aggressively going out and seeking people's input.

They also focused their workplace behaviors to both increase practices they knew they were weak on and yet would help a group accomplish a worthwhile cause that requires a shared vision:

> (-8, #20): Yeah, well one of the challenges was creating this vision and keeping that vision in front of the group of people, and checking to see that we were all on the same page. That was one of the areas that I got feedback on my LPI that that was an area I can really improve. So I have

> focused on that vision piece, use a lot of the practice, the five exemplary practices from Kouzes and Posner.

They were more intentional about seeking feedback and working through differences. They were more committed to the long-term relationships in the face of those differences as ways to ultimately solve problems together:

> +62, #48: Oh just ask people; to help them understand what it is that they don't understand; and continue to talk to them; and to articulate in public meetings in a very facilitated way, why I think they stopped it and that the process was moving too fast. I'm not blaming them, I'm making it continue to be possible for them to engage in the process.
> Researcher: What would you have done in the past then?
> #48: Stopped talking to them and put the blame square on their shoulders. It doesn't help (laugh). I'm very intentional now.

Fellows reported intentionally creating positive work climates themselves, where others can be heard and help craft solutions to problems that directly affect their jobs and work. They report intentionally thinking in collaborative ways:

> (+44, #44): So I guess I've been leading the change with more sensitivity to the feelings. I've always been pretty sensitive to the complexity of the issues, but not as sensitive to the complexity of the feelings. I'm more intentional about that now….kind of the increasing the heart part of it.
> (-2, #23): Oh, the – sometimes it is as simple as not having an "us and them" psychology. And, so, I have been more of the advocate for the collaborative mode. More an advocate also of some of the tenets of Kouzes and Posner. Encouraging the heart.

Increased Confidence. Fellows reported an increased sense of self confidence and a belief that they could improve and overcome obstacles that in the past discouraged them. This increase also showed up in the key factors

attributable for leadership development which will be considered later. They sought new opportunities:

> +91, #14: I never would have thought to even consider the possibility for applying to get the grant before RIHEL. I saw the opportunity and I decided to try. It gave me confidence.

They believed in themselves in ways they had not before:

> (+34, #34): I think it's, I felt my self-confidence has improved. I believe in myself more. And that's really helped a lot to be able to proceed on with confidence.

They noticed that they were able to self-correct when needed based on awareness and analysis of situations that they normally had not always understood:

> (-8, #20): …I'm more able to take a look at these things and analyze them and really use the information in different ways, you know, that I can do it better the next time. I think the whole thing has created an awareness of what's happening and stopping to really examine it and then implement some better techniques. That I can do it better next time.

They felt empowered to act and take initiative to challenge the process, or establish a new program that tied into their passions:

> (+60, #12): You know those little small questions, things that I could basically find out for myself but had been depending on (person) for. I started feeling comfortable doing those things myself. So basically taking an initiative to bring in the outside resources to our (organization) without having someone look over you or what have you, to always need their approval. I guess basically having confidence in taking more initiative.

The qualitative responses confirm the quantitative data that RIHEL fellows increased in a number of practices related to both the LPI and effective collaborative leadership processes. RIHEL fellows reported a change in their

view of the leadership situation, their understanding of what to do and practices that were more appropriate than in their past responses. Largely expressed in language reflecting the 5 practices of the LPI, these practices, along with collaborative practices, describe leaders who are more reflective, intentional and confident in their leadership approaches. The next section will explore the factors that account for or influenced these changes.

Factors Influencing Changes in RIHEL Fellow Leadership Practices

As noted in the section above, leadership practices did change positively and significantly for RIHEL leaders. Not only were their increases in practices evidenced in their final LPI scores for each practice, but their personal stories reflected these changes as well. It is the purpose of this section to explore the factors that might explain or account for these changes. This study gathered both quantitative and qualitative data to help answer the research question: (Q2) What factors account for any changes in leadership practices? In other words, what factors do leaders identify as encouraging their leadership development? Both types of data will be reported below.

Quantitative Measures of Factors Influencing Leadership

The quantitative analysis was designed to discover any relationships between descriptive or evaluative factors reported in the questionnaire and LPI test scores, including Total Change Scores. Results from the Pearson correlation

analysis discovered that year of RIHEL, age, educational background and job functions were not significantly related to the LPI scores. There were however a few positive relationships between the personal descriptors of fellows and LPI scores. Gender had a relationship to the final Encourage the Heart scores of women and Years in Public Health had a negative relationship to Total Change Scores. There was also a strong relationship between the extent fellows perceived RIHEL influencing their current leadership practices and their final Post-LPI scores for those practices. The descriptive information on each of the factors tested is reported below in two sections: non-influencers and influencers.

Non-influencers. Pearson's correlations were computed on all descriptive factors such as age, years in current job, years in public health and the perceived RIHEL influences on each of the practices measured. Further studies were undertaken on each to determine the strength and direction of the relationship if any. When comparing age to Total Change Scores and each of the 5 Post-LPI scores, no significant relationship was found. Age did not seem to play as a factor in change scores or final LPI scores. Post Hoc tests were used to determine if any differences existed between years of RIHEL graduation and Total Change Scores or Post-LPI scores. None were present. All four years of alumni scored similarly on both their final LPI scores and their Total Change Scores. Because educational training is thought to indicate stronger abilities,

Pearson chi-squares were used to detect any relationship of Total Change Scores and individual Post-LPI scores based on degrees. Because there were thirteen degree types noted by fellows making the sample sizes too small for analysis, degrees were collapsed into two types: health related and non-health related degrees. The same was done with the level of education. Three levels were created: 1) high school/ bachelors, 2) masters, and 3) doctoral. No relationships were detected. ANOVAs and Pearson chi-squares were used to analyze the presence and strength of possible relationships of the categorical variables of ethnicity, current position or titles, job categories and agency categories to Total Change Scores and Post-LPI scores. No comparable differences were detected. Ethnicity, current positions (such as director, team member or educator), job categories (such as health, environment or both), and agency categories (government, business, non-profit, education) do not predict changes in LPI scores. Finally, t-tests were used for pair wise LPI comparison of Job Change. Change in job since RIHEL is not associated with Total Change Scores nor any specific Post-LPI scores.

Influencers. There were three measures that did relate to LPI scores. The first is gender. Independent sample t-tests were used to measure relationships between gender and Total Change Scores and gender and the 5 Post-LPI scores. The only significant relationship surfaced for women in the Encourage the Heart

Post-LPI score. Women scored higher final Post-LPI on Encourage the Heart scores than men. (Female M= 49.34, Male M= 44.19, t=7.057, df=66, p=.01).

Secondly, Years in Public Health negatively correlated to Total Change Scores and two of the five specific practice change scores. Analysis detected a negative correlation of r= -.268 (p=.028) for years in public health. While age did not correlate as a related factor in any of the LPI scores, it did correlate strongly with Years of Public Health service (r= .723, p=.000). Since Age and Years in Public Health so strongly correlated a partial Pearson's product-moment was used to control for any interaction age may still have had. The correlation of Years in Public Health and Total Change Scores increased negatively to r=-.320 (p=.009). The three LPI change scores that most contributed to this correlation were change scores for Inspire a Shared Vision (r= -.267, p=.032), Model the Way (r= -.314, p=.011), and Enable Others to Act (r= -.324, p=.008). This may indicate that the fewer years reported in public health service, the more likely a fellow was to increase in Total Change Scores. The converse can also be said, that the more years one has in public health service the smaller the change scores in Inspiring a Shared Vision, Modeling the Way, and Enabling Others to Act. There were however no correlations between Post-LPI scores and Years in Public Health service. It appears that the level of the final LPI score was not limited in

any way by the number of years; instead it was the amount of change experienced that seems to vary with Years in Public Health service.

Thirdly, Pearson's correlations were computed comparing the fellow's answers to the five questions regarding their perceived influence of RIHEL on each of the practices and the LPI change scores. No significant correlation was found between the Total Change Scores and each of the answers to the influence RIHEL had on each practice. However, there was a correlation with Post-LPI scores and the extent to which fellows reported RIHEL positively influencing their current ability to effectively lead using each specific practice. For Challenge the Process and RIHEL's influence it positively correlated (r=.240, p=.05). The positive correlation for Inspire a Shared Vision and RIHEL's influence was r= .317, p=.009. In Enable Others to Act compared with RIHEL's influence, the positive correlation was the strongest (r= .459, p=.00). Post-LPI Model the Way scores and RIHEL influence on Model the Way correlate positively (r=.339, p=.005). Finally, Encourage the Heart Post-LPI scores and RIHEL's Influence correlate positively (r=.399, p=.001). These relationships suggest that the higher the rating of the positive influence of RIHEL on the fellow's current ability to effectively lead using that particular practice, the higher the fellow scores on the Post-LPI for that practice.

These tests suggest that age, ethnicity, job functions and educational factors do not have a significant impact on Total Change Scores, specific leadership practice Change Scores and Post-LPI scores. However these tests do suggest that three factors account in some way for the changes in leadership practices: 1) gender, 2) Years in Public Health service and 3) RIHEL influence. Females score higher than males on Post-LPI Encourage the Heart scores. Years in Public health had an inverse relationship to Total Change Scores but no significant relationship or influence when compared to Post-LPI scores. Years in Public Health seem only to be a factor in the Total Change Scores but not the individual sub-scores for pre- and post-LPI's. Finally, the perceived impact of the RIHEL experience on the fellow's current ability to use that practice in leadership and their resulting Post-LPI scores also suggest predictive factors.

Qualitative Measures of Factors Influencing Leadership

Several open-ended questions used in the questionnaire and interview were designed to prompt the fellows' reflection on key factors that influence their leadership practices and changes in those practices. Three of the questions provided the most pointed answers and will be considered first.

- Survey Question #2: Please briefly discuss the key factors that have most contributed to your leadership development in the past 5 years?
- Interview Question #4: From your perspective what key factors do you think have most influenced your leadership development today?

- Interview Question #5: Your LPI shows that you have increased/decreased/experienced no change in your capacity to_____. What accounts for that increase/decrease/no change?
  In an effort to discern what factors might attribute to higher Post-LPI

scores and Total Change Scores, comments from the survey were divided by groups with varying change scores. Through constant comparative analysis of the High Change, Medium Change, Low Change and No Change to Negative Change groups, only slight differences were detectable in the key factors identified as contributing to leadership practice changes. To provide a stronger possible contrast leading to more salient factors attributable to change, the High Change group was compared to the No to Negative Change group. It became clear that those fellows in the High Change group more readily cited RIHEL as being a key factor for their change in leadership practices either directly or indirectly. Seventy-eight percent or 14 out of 18 respondents mentioned RIHEL in some way. Those who noted RIHEL as an influence directly used the acronym "RIHEL." Those who indirectly referred to RIHEL talked about the specific practices taught with such statements as:

> (+75, #7): Learning how to encourage the heart was key.
> (+74, #24): Learning about modeling the way, enabling others, and creating a sense of team was key.

More direct comments sounded like this:

> (+54, #29): Exposure to leadership skills and focus based on RIHEL training

(+50, #38): Lessons learned from RIHEL; the Leadership Challenge and collaboration concepts; peer mentors

Those in the No to Negative Change group were 30% less likely to mention RIHEL as a key factor (6 out of 15). Although respondents did note some of the same factors, such as the leadership practices and opportunities to lead that were also found in the High Change group, there was something qualitatively different albeit subtle in their answers. When they mentioned RIHEL it tended to be less connected to the practices taught:

(-14, #3): Opportunities to lead; RIHEL network
(-21, #17): Comparing work experiences to theoretical ideas, such as from RIHEL

This lack of connection to actual behaviors or leadership specific concepts was also present in the non-RIHEL factors noted:

(-13, #43): Negative opportunities that force response
(-31, #37): More opportunities to serve on committees

On further analysis of these same factors in the Low Change and Medium Change group, the differences were mixed. There was however a decreasing number of direct and indirect citing of RIHEL as a key factor for their leadership as the groups decreased in change scores. The Medium Change group reported RIHEL as a key factor 72% of the time (13 out of 18 responses). The Low Change group reported RIHEL 47% of the time as being a key factor. Again,

some of the subtle differences were noticeable in the less focused statements of the lower change score participants:

> (+7, #27): Continuing education (RIHEL)
> (+17, 49): On-going learning (i.e. RIHEL); refresher courses and meeting new people.

It must be noted however that some of the same factors outside of RIHEL were mentioned in all four change groups. Mentors, supportive supervisors, a positive work climate and specific leadership practices were common in all four groups. It was the intensity and depth that seemed to differ from one group to another, with the No to Negative Change group being less behavior or leadership practice focused than the High Change group. Common factors noted throughout the groups will now be considered in an effort to describe the key elements of leadership development for all RIHEL alumni.

When the interviews were conducted four of the interviewees out of the twenty were from the Negative to Low Change group. When asked specifically what accounted for their lack of change or negative change on practices, there was no consistent thread between all four. Three of them were not sure why some of their practices would have gone down, especially since they were able very readily to give examples of using those practices recently. Two of them mentioned leadership problems above them that had created difficult and negative climates at work which they thought may have made them feel less

positive about life. One of those has since left that position because of the negative climate. Another spoke of a change in responsibilities where they no longer were in any formal supervisory role in order to set him free to use his content expertise more pointedly. He wondered if that made him feel less connected to some of the practices such as inspiring a shared vision. The fourth believed she was just more honest about herself in this second LPI and felt confident that she was utilizing each practice in her daily leadership. Each of the four interviewees had very clear factors they could identify as encouraging their leadership development and each had a clear sense that they were working on their own growth in a focused way.

When fellows were asked specifically in the questionnaire and interviews about key factors that both account for their changes in leadership practices and have encouraged their leadership development their comments provided over 250 distinct statements or ideas. These were open coded into "conceptual labels" (Strauss & Corbin, 1990, p. 61) and entered into HyperResearch2.62.6 to facilitate more systematic analysis. These open codes were then compared for themes. In vivo themes emerged naturally from the data such as "the Larson effect" a term of endearment expressed by a fellow toward one of the RIHEL faculty who helped her define collaboration and understand the principles for effective collaboration. These open codes were then examined for causal and

contextual conditions or common phenomenon that would tie the codes together into what Strauss and Corbin called "axial codes" (1990, p. 96). These axial codes formed a framework of nine key factors most identified by fellows as significantly contributing to their leadership development and increase in exemplary leadership practices. Those factors are 1) RIHEL Experience and Other Training, 2) Leadership Framework, 3) Self-Awareness, 4) Opportunities, 5) Experience and Practice, 6) Passion and Commitment, 7) Supportive Relationships, 8) Positive Climate and 9) Confidence. Each will be described below.

RIHEL Experience and Other Training. As expressed earlier, the RIHEL training itself was most commonly reported as a key factor for growth by the fellows. The training had several aspects that spilled over into the other nine factors in content. But it is important to note that the RIHEL experience itself is seen as a key factor. Many fellows attributed it as the most important training they have received:

> (+39, #31) My RIHEL experience definitely tops the list.
> (+80, #11) RIHEL as a whole had a tremendous influence; the hands-on experiences, what absolutely needs to be done to get the job done well—I hearken back to this on a weekly basis.
> (+26, #45) Certainly RIHEL; it was the best professional experience of training I have had.

Fellows did note other training that also was seen as factors encouraging growth in their leadership practices. Many mentioned reading further in the

leadership field and requested that RIHEL publish an updated list of important leadership books to keep their learning fueled. Several had gone on to graduate programs where they reported RIHEL's training was built upon and solidified further in their minds and ways of acting. Some had gone to a few workshops either offered by RIHEL to alumni or through their own work settings that kept the ideas in the front of their minds. But overwhelmingly the fellows reported RIHEL as being the key factor in their increased leadership practices and effectiveness.

More attention will be given to this RIHEL Experience factor later when the third research question is addressed. But as noted in the last comment, there was something about RIHEL that brought it all together for the fellows. This unifying or focusing nature of the training seemed to provide a framework for leadership:

> (+44, #44) RIHEL was the thing that brought it all together for me; you're becoming a leader, but you don't know how to put it all together. RIHEL did that for me.

Leadership Framework. Fellows talked about RIHEL giving them a "roadmap" or "plan" or "platform" for approaching leadership. In one of the interviews, a fellow told a story about listening to another leader answer a question posed by someone about his definition of leadership. His articulate answer stunned her and she realized if asked the same question she would not

have been able to answer as well. Since RIHEL she reported being asked the same question posed by student interns and she now feels confident and proud of her answer. She saw this as key to her overall sense of direction and practice of leadership. She also noted that it led to a greater confidence in the way she worked. In talking about the definitions or frameworks fellows have developed for leadership, there was both a theoretical aspect and a practical application:

> (+7, #27) The RIHEL principles were important.
> +50, #61) RIHEL helped me understand the concepts of leadership….But , it was not just the reading; it was the application…So, one of the biggest factors was taking the information learned and applying it.
> (+20, #16) RIHEL gave me an expansive base for leadership
> (+34, #28) RIHEL gave me an understanding of leadership theory and practice

Ironically the framework also encouraged or enabled the fellows to think differently and many times in new ways. It did not limit their behaviors and thinking by some stiff framework, but rather focused, expanded and empowered it. The fellows talked about the principles shedding light on ways to behave that they hadn't considered before:

> (+44, #44) For me RIHEL was the combination of understanding what you're trying to do, why you're trying to do it, and how best to accomplish it and putting it all together. So that then you have all these tools and understanding that you can take forward, forever.
> (+17, #49) It gave me the ability to think broadly and outside of the norm, outside of the box I was in.
> (+34, #34) Probably defining my own philosophy of leadership. The keys of leadership we discussed during our training (pause) it's like it sets out a roadmap for me to follow, and before I kind of was floundering, wondering, "okay, now what do I do? How do I handle this situation?"

> And now I feel like it's given me a set of plans to proceed with it, principles to approach it.
> (+74, #24) Modeling the way has helped me be an example to others; Enabling others to act. Letting go of what I thought I had to be, my responsibilities, to (pause) creating a sense of team.

Fellows often referred to the five practices of the LPI and the collaboration principles taught in RIHEL as central to this framework. Many of the fellows gave specific examples of how important learning a particular practice was to their own development as well as to work goals and the organization. In addition, there were epiphany experiences with the principles as they suggested new areas to consider important for effective leadership, such as encouraging the heart. Several fellows remarked that they had never thought of encouraging the heart as a leadership behavior. It was seen more as a relational dynamic that nice people did. Seeing it as a way of leading helped some fellows make the shift from a traditional management style of working to a leadership style. For many, the principles encouraged a shift which is recognizable from pre-RIHEL to post-RIHEL:

> (+44, 1) Hearing the metaphor of the pie helped me understand the difference between negotiation and collaboration. Realizing that negotiation was slicing up the same pie and some win and some lose. But the idea that collaboration was really trying to figure out how we could come up with more pies for everyone has drastically changed the way I think.
> (-38, #8) I learned about enabling others to act. I didn't delegate or trust people to do a good job prior to RIHEL.

> (+54, #29) Exposure to leadership skills encouraged me to continue to focus on leadership and try to use the skill/techniques, to think more about leadership since I participated in RIHEL.
> (+44, #44) In regards to inspiring the shared vision, if I had to look at that one, I would say that because of RIHEL this probably would not have changed had I not gone to it. I am way more conscious in health meetings of inspiring a shared vision as a result of RIHEL.
> (+50, #61) Prior to RIHEL I didn't realize how much difference it makes in the work place (encouraging the heart)… finding something, something each day if you can…let them know how much I appreciate what they have done and how their contribution adds to the value of this organization.

These statements and many others like it describe a critical factor of the presence of a leadership framework in both defining and guiding the fellow's approach to leadership. The framework or principles that fellows refer to are based in the RIHEL training itself, with principles from the Leadership Challenge (Kouzes and Posner, 1998) and Collaborative Leadership (Chrislip and Larson, 1994) at the center. This framework seems to encourage a confidence in the fellows to take on existing and new challenges whether they are in opportunities already present in the work setting or new roles that provide fresh occasions for growth.

Self-Awareness. Many RIHEL alumni identified self-awareness as key to their growth. They noted that without some understanding of weaknesses and strengths, there could be little improvement. Self-awareness came in many forms for the fellows. The most commonly discussed was through the 360 degree feedback tool, the LPI. RIHEL's use of the LPI produced profound awareness that led to fellow's reframing their leadership thinking and practice. The

framework of the five practices provided bench marks. The leader's self evaluation when compared and contrasted to their observers' gave the fellows reliable feedback that several likened to a mirror. Some had never experienced this kind of comprehensive feedback leading to personal awareness and assessment before.

> (+91, #14) I was surprised when I started the Institute at how low I ranked myself compared to the national averages. I ranked myself very low on all 5 scales. And I think that is how I thought of myself. I really didn't think I was very good at those things and I didn't like that I thought of myself that way.
> (+18, #4) It allowed me to really look at myself, learn about myself and then develop my leadership skills.

Fellows reported that the feedback led to changes. It gave them insight that they then applied to their practices. This cycle of feedback, awareness, practice, feedback, awareness and practice led to two things: confidence and risk-taking. The more the fellows felt confident the more they took risks to practice their new found skills. The more they practiced the behaviors the more confident they became in their leadership. They were mutually confirming.

> (+62, #48) I am seeing my place more now. I'm aware. As a result, I have gotten more brave…the risk-taking has helped me understand the depth of perspective that is represented.
> (+5, #53) [The LPI gave me] both perspective and confidence
> (+91, #14) I just needed to start recognizing some of the things I do well and also start doing them. I think it was both practicing the 5 things and also looking at myself more positively as others did. It gave me confidence. I really had to take a good look at myself and that was very helpful.

Some continue to solicit feedback from people around them:

> (-8, #20) Well I think again, this notion of becoming a reflective leader, teaching people to actually stop and examine their practices and get feedback, you know really solicit feedback on how people view you. I think that this is one of the things that has been really important to me. (+34, #28) I think that the feedback I have received from folks... But, basically, giving people an opportunity and a safe way to provide feedback is important. I do that on my job.

Self-awareness was also talked about in terms of personal reflection time. Leaders noted that when they take time to reflect upon their situation and practices, that they improve. They gain perspective. They think more clearly and with focus on the practice of exemplary leadership. They are able to improve. When they don't have this awareness, focus is lost and practices can go down:

> (-31, #37) I realized how important all of these methods [LPI feedback] are during RIHEL and that I probably wasn't concentrating on those particular two enough.

Some talked about personal reflection becoming a ritual of their daily lives of leadership and others talked about specific instances throughout their career when they have been consciously reflective. There were a few who mentioned that thoughtful yearly appraisals by their supervisors also contributed to healthy self-awareness and usually encouragement toward greater practices. (One noted that a pay raise also helped.) In relation to this issue of taking time for assessment, lack of time was noted by some as an obstacle for leadership

development. Not that they didn't have enough time to get work done, but that they didn't have enough time to adequately reflect and get perspective. That is why some called RIHEL a "luxury" opportunity and often expressed thankfulness for being able to participate. Clearly, fellows reported self-reflection and awareness as crucial to the development of effective leadership.

Opportunities. One of the most noticeable and perhaps corroborated (Miles and Huberman, 1994) factors mentioned as important in the fellows life of leadership development was opportunity. This factor was entwined with other factors such as the RIHEL experience itself. The training was seen as an opportunity to learn and grow. Relationships were discussed as opportunities to learn and grow. Positions were seen as opportunities to grow. Opportunity was also discussed in more oblique ways, such as the opportunity to see something differently or from a different vantage point. But as might be expected, fellows talked often about opportunities as key factors for development that came through positions, new leadership roles as they assumed board or committee roles, and promotions:

> (+30, 33) Being promoted to a leadership position and being unexpectedly promoted to run a statewide program. By far these are the greatest things that have developed my leadership.
> (+16, #65) Opportunities to grow into new positions (I've been promoted twice since RIHEL).
> (+8, #20) Chance to lead at a national level—lead a 2 state effort.

The opportunities were often seen as having some kind of learning quality about them. There was a sense from the fellows that opportunities as key factors for growth were not just positional but developmental as learning opportunities. They saw these new opportunities as occasions to keep thinking about leadership and continue the learning process:

> (+55, 32) Seeking out learning opportunities and acting on opportunities to practice my skills.
> (+37, #59) Serving in the role as president of (a national organization) forces you to pay attention to leadership and learn.

Sometimes the fellows would use the word opportunity in a very specific instance of practicing a particular skill and the opportunity to hone that skill. They saw opportunities not just as an occasion to *be* a leader but to *practice* the exemplary skills of leadership and improve upon those practices. Opportunities brought with them an occasion to call out the practices:

> (+15, 22) Situations which required development of leadership skills and the necessity to challenge difficult processes and institutional environments
> (+50, #61)Work opportunities at (agency) have allowed me the practice of what I learned.

Still at other times opportunities as key factors for leadership improvement carried an emotional element either as in a challenge to overcome something difficult, facing challenges or as in a new door to walk through:

> (-2, #23) It is interesting, we are most tested when there are challenges that force us to move from what may have become a fairly comfortable

> situation into a new one…Challenges that are related to change in organization and the necessity for change.
> (+34, #28) I have been able to look at challenges not as something to be nervous about, but as an opportunity to say, 'You know, if I really want to move ahead, and move beyond where I am at some point, which I do, and my management knows that, then I really have to seek out those opportunities, and to take them head on and to not be intimidated by them.
> (+11, #18): I think that having a lot of different opportunities. Just being very fortunate to have a lot of wonderful doors opened to me that I wasn't sure I was necessarily ready for.

There was a bit of a dialectical tension in how the opportunities presented themselves to the fellows. At times they were thrust upon the fellows unexpectedly and at other times they were chosen or sought out by the fellows. There was an active versus passive nature about the opportunities. Both situations were seen as occasions or factors to spur their growth:

> (-14, #3) Having opportunities and accepting them to lead
> (+91, #14) I never would have thought to even consider the possibility for applying to get the grant before RIHEL. I saw the opportunity and I decided to try.
> (+46, #47) Demands placed upon me to meet the needs of my current position.

Opportunities play a prominent role in the fellow's articulation of key factors influencing their leadership practice development. They came in the form of leadership positions and roles, through daily encounters and insights for application, and as demanding or sought after by the fellows. They were seen as key factors in gaining both experience and practice that further developed their framework and requisite skills for leadership.

Experience and Practice. Tandem to leadership opportunities is experience and practice of exemplary leadership behaviors. Without opportunities, experience cannot be gained and skills cannot be practiced or developed. But experience and practice differs from opportunity in that it is cumulative and occurs within the opportunity, not without it. During the interviews, many of the fellows explained their increase of particular LPI scores by way of stories that showed they practiced that particular skill. Stories were told that demonstrated how they went about inspiring a shared vision and keeping people on the same page. Stories were told about collaborations they entered into that gave them new experiences and practice of skills in the collaborative process. Specific techniques were related in regards to certain practices such as encouraging the hearts of co-workers, direct reports and supervisors. Fellows were actively aware of their own growing experiences of applying the framework of leadership they had adopted.

> (+106, #51) I think that one, learning those factors and two, practicing them. I think that it is one thing to learn, memorize, those five (practices), but, they, you really have to sit down and practice and see how it is effective. If you would have done that test (LPI) two years ago, I probably wouldn't have scored as much. So, you probably would need two or three years to practice those skills and get adequate feedback.
> (-8, #20) In starting to share a vision, I think the reason I think that went up is because that was one of the areas set as a challenge for my self. I really focused on it, over the last couple of years. I have more experience through practicing it.
> (+44, #1) Maturity, age and experience. It is the accumulated experience with disparate groups that really develop us.

(+17, 50) Getting experience—gaining wisdom through experience. RIHEL fellows made connection after connection between their training, opportunities to lead and the experience of putting their training into practice. It led to increased practices and experiences that from their perspective lead to further personal growth. They attributed their changes in LPI scores and their general success in leadership development in part to these factors.

Passion and Commitment. One of the personal dimensions discussed in the interviews and questionnaire that accounted for changes in the leadership practices and was noted as a key factor in allowing for their development was passion. Fellows talked about caring for people and issues in such a way that it drove them to try new practices or try harder in practicing them to accomplish issue related goals. Their passions were not to become great leaders, but to practice great leadership in order to solve problems and facilitate the public's health. Whether the passion was for healthier families, safer children or safer drinking water, having an emotional commitment to a goal spurred their leadership practices on. When asked how she accounted for her large increases in LPI scores one interviewer proclaimed, "I got a vision!" (+62, #48). The vision seemed to make the methodical application of new skills she had learned meaningful and worthwhile to practice. She was willing to try anything new to

overcome the obstacles she had previously encountered. She had hope. Others experienced the same:

> (+34, #28) Another one is just again being passionate, really passionate about the goal of the agency and why you are here, in terms of the work that you do. So, I think that one of the things that has really influenced my leadership is striving to meet the environmental mandate of our programs here…

The passion was coupled with commitments. It was goal driven and sometimes attached to very specific mandates. The passion for issues and commitments allowed them to take risks and utilize some of the practices such as challenging the process. The passion sustained their energy to step in and provide leadership:

> (+44, #44) I think the other things that influenced my leadership is just sort of the commitments to the causes that we're involved in and the realization that, there's sort of a leadership gap. You know if you don't step forward, nobody will and it won't get done well.

Their passion and commitment extended to other public health workers as well. Several fellows talked about taking the initiative to teach and lead discussions with peers in their work place on effective leadership practices. Leadership effectiveness was not something to contain as a personal commodity for a competitive edge over other co-workers. Rather their passions for the issues and people prompted them to view their learning as tools that when used widely could enable them all to achieve greater public health initiatives. They took the frameworks they had personally adopted and those of the authors they had read

and brought them into workplace trainings and dialogues with their peers as continuous learning opportunities.

> (-8, #20) I think what really encourages me is that, the areas that I am involved in I have a passion for, the work that I am doing in public health…I just want to do everything that I can to help give them the background and the training that will really help them become effective.

Some talked about commitments and passion needing to be in a balance. Because of the emotional attachments that some issues stimulated, they saw a need to find ways to be in balance. Keeping passion and commitment balanced they believed led to greater practices of leadership, a greater ability to inspire a shared vision rather than impose one; an ability to encourage the hearts rather than become discouraged by legislative decisions. This balance also was important to them as they thought of modeling the way. They were aware that integrity and modeling are really one and the same. As one fellow commented,

> (+32, #9) "It's a balance of my passions and integrity with those passions. It's being open to new ideas too. Internal motivations are so important and honesty and integrity."

Passion for public health and environment issues and the people whose lives were impacted by those issues is a key factor in encouraging leadership development. It made fellows open to new ideas and new ways of leading. Fellows reported a desire to learn so that problems could be more creatively solved and the public could live healthier lives.

Supportive Relationships. A contextual factor that was present throughout answers to many of the questions was the role of supportive relationships in the life of the fellow. This key factor was talked about in some way by over 75% of the fellows, either in the questionnaire or the interview, in questions about key factors leading to increased practices and in other non-factor specific questions. Supportive relationships were recognized as present by most of the fellows. There were various roles represented in these supportive relationships. Sometimes they were formal positions and other times not:

> (+32, #9) One encouragement to become a strong leader, I think is support from my boss. Support to become a strong leader.
> (+32, #42) Rubbing elbows with dynamic leaders in many different sectors of the health and environment and being able to chat with them formally and informally has been invaluable.
> (-14, #3) Rarely has it been a supervisor. Usually it is a group of peers in community health. They have been very important in my past successes.

Mostly the supportive relationships were examples or role models to the fellows. Fellows report a non-formalized watching or observing of other leaders. They are using their frameworks or understanding of leadership and testing it out by simply observing other leaders in action. The examples did not always have to be good ones either. The fellows seemed to have a grid by which they could judge which examples they wanted to emulate and which they wanted to stay clear of:

> (+34, #28) I think that one of the key things, in terms of how my personal chemistry works, is having specific people in the organization

> that can serve as role models for emulating what it is that I consider to be good leadership, in terms of the attributes laid out and some of the things we learned in our year-long training.
> (+44, #44) I would say the other things that most influenced me about leadership, the very second thing on my list is, my observation of other leaders. That works for the good and the bad and sometimes you observe ways you don't want to be. Sometimes you observe what you absolutely want to be like.

Some reported formalized mentors in their lives who were very intentional with them in helping them develop in their blind spots:

> (+44, #44) I actually had the fortune to have a mentor, who has really helped me understand things from a wide variety of views and try to understand, how you can work with almost every kind of personality, which has been very useful.

Other times the supportive relationships were less formalized but consistent over time:

> (+34, #34) I have coffee on a regular basis with the other director of the [office], and have shared a lot through the [experience]. And I think having that weekly support with her, we just kind of (laugh), there's a lot of, I don't know, it sometimes gets lonesome at the top and you need someone else just to pound your fist with, to help give you perspective and ideas.

For those for whom mentors have been an important part of their leadership development in the past, they accounted for their current decrease in leadership practices as partly related to the lack of a mentor. This fellow had just gone through a very difficult job change and through the interview was beginning to notice that the feature missing in the past year was a mentor or role model:

> (-14, #3) I guess what influences my development the most is, I guess having a leader to model after. Someone who can model for me. I guess I need a mentor. When I don't have one, my development tends to slow down, and when I do have one I usually want to learn more and I take on more and I initiate more projects and so forth.

There was also an element of RIHEL itself that became the context for role models and mentors. Some reported that the learning together provided supportive relationships that encouraged their leadership development: (-2, #23) "Shared learnings – incredibly important."

Words such as "the luxury of others' insights" or "the year-long dialogue and learning together" suggest that the context for RIHEL was significant in and of itself for the limited time of support it provided. Also several made mention of specific activities where feedback was given by their cohorts or faculty that affirmed them as leaders and gave them confidence for further exemplary behaviors. Several suggested that they were watching the way the faculty taught the principles and interacted with the fellows or each other. They were impressed with their own modeling of the principles. Those occasions became supportive to their growth. One mentioned that the faculty's consistency with the framework itself "did not go unnoticed by us." They had become role models and examples to the fellows.

In addition, ongoing contact with their cohort year or other RIHEL fellows in their organization has provided ongoing support: (+57, #2) "I think

the mentorship I have had, I think keeping in touch with some of the other RIHEL people here at this job."

Those who have taken the opportunity for alumni events have found them useful to continue the supportive network to encourage their practices.

It was clear from the data that supportive relationships that were both formal and informal became role models or mentors and are vital in the development of fellows' leadership capacities.

Positive Climate. Closely related to supportive relationships is a positive climate. Supportive relationships did seem to contribute to a positive climate when those relationships were in the work setting. But a slightly different aspect was noted as a factor that encouraged greater leadership practices that related to the atmosphere or environment in which the fellow performed. The positive climate was not so much related to examples or mentoring, but an overall enjoyment and respect for one another in the project or work setting. It included a recognition of co-workers own gifting and personal development:

> (+19, #40) My immediate co-workers—we've been together almost 16 years and have a great appreciation for each other.
> (+106, #51) Emphasizing an enjoyable work environment—not just "profit"
> (+5, #36) Key factor: An outstanding staff.

The positive climate allowed for challenges to be met in a safe environment. It allowed challenging of the process to occur and produce new ways of thinking

and acting. Oftentimes the leaders themselves encouraged others in their workplace to challenge the process with them and set the stage for it, as in the following:

> (+34, #28) So, I think that I am lucky to have a team of people here that do step up and say, "I may not know a lot about how things work around here, but it seems to me that there is a more efficient way that we can be working with (agency)…" So, I think that in terms of influence, beyond role models, I think that the team that I particularly work with week after week has had some influence on me as well.

A positive climate did not necessarily mean that there were not problems present. In fact one fellow told a story of a very trying time when budgets had been cut, re-instated and then cut again. The respectful and positive climate was identified as the reason the leader could continue to practice their leadership at higher levels of effectiveness. The positive climate allowed leaders to work through difficult relationships. This was expressed in a certain kind of grace that was extended one to another and resulted in improved relationships: (+80, #48) "Probably just an inherent internal wish to be successful. If you can forgive, I can forgive, thinking like that."

This positive climate condition only appeared six times in the 67 direct answers that fellows gave to the question about key factors contributing to their increased leadership practices. It was more obvious in questions and discussions about obstacles. In other words it was more often noticed when it was not present in a fellow's work setting and was often attributed by the fellow for their

lower LPI scores or discouraging their practices when asked directly in interviews:

> (-14, #3) And then, when I took the second, I was working for the city of (name), and a lot of my professional and personal development went down. The opportunities weren't there as much, the work environment was more negative and less encouraging, less stimulation.
> (-2, #23) The politics of personality in any group can become obstacles. Figuring out what people's needs are and… also figuring out what needs to be done and matching those up. Figuring out the differing issues of the team members and then their influence on the goal; tuning into people and finding ways to utilize their gifts. This all can be quite challenging.

There were others who cited times when they felt that the climate was so negative, that they felt stifled or disregarded, squelching their attempts at exemplary leadership:

> (+57, #2) I think that the biggest obstacle was probably in this current job. There was a lot of politicalness in people before I got here, and that was directed to (current boss.) It can be very negative; they can't say anything good about anything. It's greatly improved now.
> (+44, #44) When people become so tied to protocol and you cannot ask anyone for anything...it's just stifling. I felt like I'd get shot if I opened my mouth.

One of the benefits mentioned by some fellows of sending multiple staff to RIHEL was a growing positive climate for all to develop in their leadership practices. Shared learning and concepts seemed to foster a positive climate for growth.

Confidence. As has been mentioned in many of the excerpts cited by fellows above, many of the contributing factors that encouraged leadership

development also involved confidence or resulted in an increase of confidence. Confidence was most often talked about in relation to one of the other key factors mentioned. For example the leadership framework which fellows constructed from their learning gave them confidence to articulate their philosophy of leadership and act out of that philosophy:

> (+34, #34) …the thing that I've noticed in myself is that it's increased my confidence level and my, uh, I was afraid to step out before and now I feel I can step out with more confidence. Again it's given me a roadmap to set up a leadership philosophy.

Receiving feedback and taking time to self-assess resulted in a stronger awareness of both strengths and weaknesses. This in turn gave confidence to accept challenges:

> (+34, #28) I have a stronger sense of belief in my abilities to lead, in all of these five areas. I think that just the degree of confidence and ability to step up to a challenge is higher than it was when I first took that questionnaire.

The confidence factor seemed to both reside in the actual factor as well as contribute to the factor's importance:

> (+11, #18) And while I find it difficult to sit down and list out one, two, three, four, five of all of the different ways that it changed me, I can find that it just built my confidence and helped me to really look at the world through slightly different eyes.

Because it was so pervasive it is included here as an encapsulating factor. It will be dealt with further in the section answering the third research question.

Obstacles. Although the purpose of this study was to find factors that encourage and enhance leadership practices, a question was posed during the interviews that identified obstacles or the opposite of encouragement of the fellows. The obstacles provided a triangulation for several of the encouraging factors.

Politics was a commonly noted problem. The word politics was used to identify the formal legislative process of our government as well as sticky relationships in departments, offices or between agencies. At times it involved structures and people. Sometimes politics was noted as something that worked against their particular passion or commitment to an issue:

> (+32, #41) And I think that we, it is difficult when we have a leader who makes decisions on what's politically suppose to be decided, and not on what's best for public health. That is probably the biggest challenge.

It also slowed down the effectiveness of groups and could detract from a positive climate:

> (-2, #23) Politics of personality in any group can become obstacles. Figuring out what people's needs are and…then also figuring out what needs to be done and matching those up. Figuring out the differing issues of the team members and then their influence on the goal; tuning into people and finding ways to utilize their gifts. It takes time, people can get discouraged.

Work loads and getting bogged down in the minutia rather than keeping a clear sense of direction and vision was an impeding factor:

> (+34, #34) I think getting the big picture still instead of getting bogged down. The day to day type things, I need to keep looking at the big picture instead of getting bogged down on the daily minutia.
> (+80, #11) I'd have to say work load. Sometimes it is a very big obstacle as it takes a bit of energy and if there is a nit-picking lawyer it can drag you down.

This obstacle also relates to the earlier issue discussed regarding time and personal reflection or self-awareness. When there is a lack of it, personal reflection is stilted and fellows report "getting stuck." There were several obstacles related to self-esteem and needing the encouragement of others to maintain the passion and vision. This confirmed the need for supportive relationships and positive climates.

Probably the most poignant comments came from a fellow who had just recently left a job she viewed as discouraging her leadership development on several fronts:

> (-14, #3) You know, it really helps to work for an organization that values quality and leadership. It really does. I have worked for an organization that does and one that does not, in the past few years, and it makes a big difference in me. My biggest obstacle so far has been not having a strong leader in my life, in general. To align with and to learn from. In my last job [LPI was taken during this job tenure] the leadership was pretty scary, and people in power tended to use their position to do power for instance. Not in a good way, but to demonstrate power. These qualities are really hard to work for. They kind of have their own culture, and it is not about leadership and vision, I can tell you that. I had the hardest time with my development there because of the lack of leadership and the lack of you know, someone to model, someone to learn from. I didn't find it there.

These anecdotal obstacles support the key factors noted earlier for encouraging

leadership practices and development.

In summary, there were nine key factors that RIHEL alumni commonly thought most contributed to their increased leadership practices. Those factors are 1) the RIHEL Experience and Other Training, 2) a Leadership Framework, 3) Self-Awareness, 4) Opportunities, 5) Experience and Practice, 6) Passion and Commitment, 7) Supportive Relationships, 8) Positive Climate and 9) Confidence. Obstacles reported by the alumni confirmed these factors even further. The next section will explore the RIHEL Experience factor further as the third research question is addressed.

Contribution of RIHEL

This study sought to answer three questions. (Q1) What leadership practices have changed for public health and environmental leaders since their completion of the Regional Institute for Health and Environmental Leadership (RIHEL). (Q2) What factors account for any changes? In other words, what factors do leaders identify as encouraging their leadership development? And (Q3) to what extent has RIHEL contributed to the leader's development? To answer these questions, a mixed-method study was initiated with alumni fellows of RIHEL. The results for question one have already demonstrated that the fellows' leadership practices did significantly increase since completion of

RIHEL. In answering the second question, a number of factors accounted for these changes in leadership practices, including the RIHEL experience itself. This factor will now be explored further in answering this third and important research question.

In an effort to describe (Creswell, 1994) and not just validate the extent to which RIHEL contributed to the leader's development, a questionnaire was used to cross-sectionally collect data (Charles and Mertler, 2002) from four years of RIHEL alumni from 1999-2002. Two open-ended questions were posed in the questionnaire to stimulate descriptions of current leadership opportunities in which RIHEL fellows found themselves engaged and also what they did in those opportunities to lead. A follow-up question was then asked as to whether RIHEL influenced their response in the leadership opportunity and how. Out of the 67 respondents, 64 responded "Yes," (95.5%) that RIHEL did influence their behaviors in the leadership opportunity. One fellow did not answer the question and two fellows responded with the statement, "I don't know." Of those who responded positively, the leadership opportunities were compared and coded in an open and then selective process (Strauss & Corbin, 1990) as with the other qualitative data presented. The results of this analysis fall into two sections: Opportunities for Leadership and Behaviors of Leadership.

Opportunities for Leadership

The opportunities for leadership spanned a number of contexts and positions. Twenty-four of the leaders discussed opportunities they had in their daily work setting or on-going committees. Occasions for leadership rose out of their daily work and service activities as they applied their leadership understanding to those situations.

Eleven fellows reported leadership opportunities they had on boards or task forces. The boards ranged from local service boards, to non-profit agencies to state response teams and national associations for health. The focus of those boards included but was not limited to: a women's health facility, a wellness board, a local service sorority, a regional task force on ozone issues, a regional bioterrorism response team, a governor's health board, a national air quality group and a national emergency response committee. Some were new to board service and others had just become officers.

Eleven reported working on collaborations where multiple parties had to be convened to address a shared problem or develop a new project or coordinate responses. The collaborations included but were not limited to: a collaboration of state public health offices with business and industry; a collaborative creation of a pilot school health nurse program; collaborative oversight to radioactive material jurisdiction; a research collaboration focused on causes of haze; and a collaborative effort to address serious environmental contamination.

Fourteen reported leadership opportunities that led to something new either in their own lives or the focus of the opportunity. Service projects were created. Innovative electronic systems were implemented in a work setting. Several opportunities led to securing new funding for needed programs or pilot projects. County wide fire plans and new tribal government regulatory programs were created. Fellows led offices in restructuring, hospitals in merging and moving, and development of divisional leadership training programs.

Eight of the leaders discussed leading through very difficulty organizational times or through changes their organization planned and was implementing. Fellows led group discussions and approaches to contentious health issues. One led a response team for a non-declared federal environmental contamination emergency. Several led through serious budget cuts and staff reductions. One discussed leading in spite of new legislation that limited their impact. Another fellow led through a program dismantling, while one led an unlikely merger of two departments. Five talked about pilot projects they helped initiate. These projects involved school health programs, nurse licensure, pilot projects to address needs in offices, and the development of a drug rehabilitation pilot program.

Leadership Behaviors and Skills

While sometimes these leadership contexts overlapped, their diversity of focus provided a rich theoretical sampling (Strauss and Corbin, 1998) from which to analyze the impact of RIHEL upon leadership practices. As already noted, 95% of the fellows claimed that their experience in RIHEL had affected the way that they responded in the above reported leadership opportunities. The kinds of behaviors or skills that they reported using in the leadership opportunity largely fell into the domain of communication behaviors. These communication actions strongly supported or implemented the five leadership practices and collaboration principles taught in RIHEL.

Fellows often reported their leading or facilitation of meetings as a part of their leadership opportunity. They led discussions where visions were built together and maintained. They defined problems together and dreamt about possible solutions and then created plans. They facilitated meetings where problems were addressed, plans were developed and guidelines were articulated, often in writing. They talked often about listening in new ways at meetings as well as facilitating in such a way that everyone else could be heard. Several reported actively considering others perspective in ways they had not previous to RIHEL. Fellows reported bringing clarity by asking questions that challenged the process. Common phrases that many of the fellows used in describing their leading included, “I helped them see,” “I gave them perspective,” and “I brought

clarity." This led to an openness to consider new ideas and encourage creative thinking. It helped them articulate new approaches to old problems. They talked about building relationships and working on team dynamics. Relationships were also built by affirming people's work and gifts in public and private settings. Some very specifically talked about writing notes of encouragement or consciously giving credit publicly in ways they had not previously done. Advice was given and coaching became a form of modeling the way.

The language of collaboration and the five practices was strong throughout their report of behaviors. Each of the five practices was identified when it related to their leadership opportunity. The language of stakeholders was clearly embedded in their discussion of collaboration and they sometimes articulated the kinds of diverse stakeholders that were engaged. Behaviors they used to incorporate varied expertise in the leadership opportunity were articulated. Some of what they did might be considered management roles as they reported, "seeing the plan through to the end," or "keeping the goal clear and in focus" or "delegating tasks to accomplish our vision." It was apparent that they had a clear idea of what they did to lead.

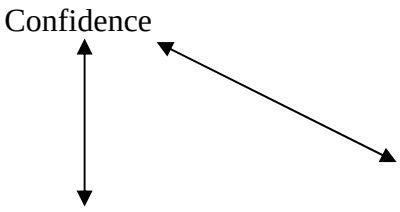
The leaders were then asked to explain how RIHEL impacted their identified behaviors utilized in the leadership incidents. Their responses confirmed what they had in part stated when asked for key factors influencing

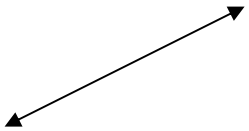
their leadership practices. This triangulation produced a very similar set of factors or domains to the nine reported key factors influencing their leadership practices.

RIHEL Influence

RIHEL was most commonly attributed with giving the fellows confidence. Further analysis showed that confidence was the result of three factors: 1) Self-awareness, 2) a Leadership Framework and 3) Skill Development. A model depicting the symbiotic nature of these three four elements is depicted below (See Figure 1):

Figure 1: RIHEL Influence Model





Self-Awareness:	⟷	Leadership Framework:	⟷	Skills:
*Self as Leader		*Conceptual		*5 Practices
*Daily Applications		*Behavioral		*Collaboration
				*Communication

Self-Awareness. Their confidence was multifaceted. First, their confidence was increased by a new or renewed self awareness that they were indeed leaders and that daily opportunities existed for them to act as leaders.

> (-38, #8) It helped in convincing me that I am a leader and that leadership opportunities arise daily.
> (+9, #39) I now assume responsibility for exercising leadership in more situations.
> (+106, #51) It helped me feel comfortable accepting my new role.

Some talked about how they had once narrowly equated leadership with position or formal power and that RIHEL had expanded that view. It helped them identify leadership capacities in themselves and others. This translated into seizing daily opportunities to lead with skills that were now integrated into a new view of themselves, a view some said was now "incorporated into my personality."

Leadership Framework. The ingrained nature of their new leadership view was secondly linked to the conceptual and behavioral framework or the Leadership Frame of Reference noted earlier. Fellows talked about developing a new language of leadership that gave them a definition or philosophy of

leadership allowing them to lead more successfully in the opportunity noted. It encouraged them to think outside of their normative leadership definitions, considering other frameworks and styles:

> (+32, #42) My experience in RIHEL gave me a new frame of reference to consider what type of leader I am.
> (+15, #22) RIHEL experience provided tools and understanding of leadership as an art/science which needs to be carefully considered, embraced, and fostered as part of an overall approach.
> (+34, #34) Like I said, it's given me my own roadmap to my own leadership philosophy.

As the leaders talked about a philosophy or framework they had about leadership it was strongly associated with practices or behaviors. The behaviors not only included those of the LPI but the principles of collaboration and skills related to both. Some reported keeping these practices in the front of their minds or in personal places of reference as a daily guide:

> (+34, #34) I have the 5 principles of leadership in my Palm Pilot that I view on a daily basis to keep me on track.

Skill Development. Finally, the fellow's confidence seemed strongly supported by a growing set of skills underscoring the frame of reference and enlightened by personal awareness. These skills most commonly were linked to the RIHEL training around the five practices of the LPI and collaboration. They included problem solving skills and team building or relationship skills. The skills that encouraged and enabled the five practices, collaboration and stronger team and relationship functioning were largely communication skills that they

understood from their framework would allow them to be successful. They included facilitation of discussions, listening, perspective taking, negotiation and persuasion, and public speaking or media skills. Fellows seemed to link these together interdependently. They were integral to the larger practices:

> (+23, #30) I tried to listen better and to incorporate everyone's concerns; created the "vision" and gained support. I got that from my LPI experience.
> (+27, #5) [RIHEL helped increase my] communication skills with other units and departments to garner support and sell project vision.
> (+16, #55) RIHEL helped me focus on developing a vision for process and efforts; since then I have spent considerable time and effort figuring out how to work with others to either implement a shared vision or tweak it to meet other's needs.
> (+22, #64) RIHEL taught me communication skills in groups. Teambuilding. Developing a shared vision.

Encouraged 5 LPI Practices. As was mentioned earlier, when asked about the influence RIHEL had on each of their current LPI practices, RIHEL had a positive influence on each. Using a Likert-type scale with 1= No Influence and 5= Very High Influence, RIHEL was rated overall as having a Moderate=3 to High Influence=4 on each of the fellow's current five practices. The mean score for Challenge the Process was M=3.6. In their descriptions of how RIHEL influenced this practice of challenging the process, confidence was once again a central theme. Confidence to challenge the process came through awareness from RIHEL that this was an important leadership practice. Fellows spoke of having a language and skill now to more appropriately and effectively challenge

the process. Inspire a Shared Vision garnered a mean score of M=3.8 on RIHEL's influence on this practice. Fellows reported clarity as the central theme of this practice. The increased clarity impacted both the fellow's understanding and those with whom they were leading and seemed to increase both parties confidence. Enable Others to Act scored a mean of M=3.8. Many stories were told in their descriptions of the results of utilizing this practice in their leadership. It enabled difficult transitions, increased respect, led to new programs and increased the shared work load. In Modeling the Way, fellows scored RIHEL's influence on their current practice at M=3.7. Alumni were aware of the many opportunities for this practice and the amount of hard work it takes to act consistently. Finally, Encourage the Heart was influenced by RIHEL at a mean score of M=3.7. RIHEL was credited with helping fellows understand its importance in leadership. Fellows were honest in their self evaluation of this practice and attributed this self-knowledge and skill development largely to RIHEL's emphasis and the success they experience when using it in leadership opportunities.

Importance of RIHEL. When asked of what importance RIHEL has been as a factor in their leadership development in the past five years, most alumni described it as very important. They reiterated the importance of gaining clear leadership definitions to guide their approach and specific actions in leadership

opportunities. This reinforced the notion of a Leadership Frame of Reference. Fellows also reported the importance of clear, effective leadership practices which were applicable to their real lives. They appreciated the focus on skill development and what they often called "tools" or "tools and practices" that were transferable to their particular settings. Many of the communication skills noted in the aforementioned section were reconfirmed. In addition, the training provided a supportive environment for self-reflection, leading to self awareness and important new understanding. The networking both during RIHEL and as a result of RIHEL was also noted as important for personal growth. Other RIHEL fellows were role models as well as the faculty. These factors all contributed to an overall articulation that RIHEL was important in increasing their confidence to lead and increasing their competencies to lead.

Supplemental Findings

There were a few findings that did not fall easily into any of the categories mentioned either by content or by weight in frequency. Yet because they may shed further light on factors increasing leadership practices they are included here. Rather than break them into distinct categories they are combined into one that might be generally labeled "Timing." Although not directly asked about in any questions, issues of timing, age and life transitions surfaced from time to time in the questionnaires and interviews. Fellows did not talk about

these in the same ways, but they did nuance them sporadically. Since years in public health did have a reverse correlation to final LPI scores, particular attention was paid to any mention of time and experience as a factor.

Some fellows talked about their age in light of beginning to think of leaving a legacy. There were a few who felt that as they surpassed the age of 50, they ought to be mentoring or coaching younger colleagues. Some talked about the need to raise up new public health leaders and wanted to devote time to that as they wound down their careers. They noted an increase in mentoring or coaching younger or less experienced health and environment workers. Others talked about being old enough now to "speak their mind." They reported less concern for the risk speaking one's mind could bring. They spoke about having earned the right in some way to speak out and challenge processes even if it did mean they were "thrown into retirement" earlier than anticipated.

But it wasn't just the older or more experienced workers that nuanced the issue of time. Those younger did as well. They were aware of opportunities and how they were forming them through decisions. Others were aware of older leaders and their examples both admirable and not. Some had a sense of what decisions and actions today could bring upon both themselves and others tomorrow. Finally, there was a notion about timing of RIHEL in their lives. There was a consistent sense of "before" RIHEL and "after" RIHEL in their

language. It became a marker in their career development, noting the way they used to think and act, and now do it differently. For some it brought new life as a result of a new way of thinking about themselves and of the situation in which they found themselves leading. For one more experienced alumni, RIHEL fit an earlier career development plan. This alumnus thought younger, less experienced public health workers would more greatly benefit from the program than they.

Summary

In summary, leadership practices as measured in the LPI and through qualitative reporting were found to increase in RIHEL alumni from years 1999-2002. Little demographic and descriptive data appeared to have any significant relationship with changed behaviors. Qualitative analysis of survey and interview data revealed a more reflective and intentional leadership approach by the alumni. They frequently reported an increased sense of confidence. Nine influence factors were commonly identified by alumni as encouraging their increased leadership practices: 1) the RIHEL experience and other training, 2) a leadership framework, 3) self-awareness, 4) opportunities, 5) experience and practice, 6) passion and commitment, 7) supportive relationships, 8) a positive climate and 9) confidence. RIHEL was very beneficial to the fellows' development. The RIHEL Influence Model describes four major elements of

influence resulting from the training: increased confidence, increased self-awareness, a leadership framework and an increase of exemplary leadership skills including communication. Each of these findings will be discussed and related to prior research and theories in the next and final chapter.

CHAPTER V

DISCUSSION

Three questions formed the foundation of this study. First, what leadership practices have changed for public health and environmental leaders since their completion of the Regional Institute for Health and Environmental Leadership (RIHEL)? Second, what factors account for any changes in their leadership practices? In other words, what factors do leaders identify as encouraging their leadership development? Third, to what extent has RIHEL contributed to the leader's development? Chapter IV presented the results of this study. This final chapter reviews the major findings and relates them to previous research including the literature presented in Chapter II. Problems and limitations are identified along with implications for future research.

Summary of the Findings

The 67 participants in this study were alumni fellows of the year long leadership training offered by RIHEL during 1999-2002. The fellow's age,

educational background, and job experiences were varied throughout the fields of public health and environment. Sixty percent of the participants were women and the majority of them were white. Their pre- to post-LPI scores showed a significant positive increase, suggesting greater use of all five practices measured since their completion of RIHEL. They also reported leadership opportunities and leadership behaviors that demonstrated increases in collaborative and LPI-based leadership practices.

While age did not seem to have a relationship with increased practices, years of experience in public health and environment work did. A negative correlation was only detectable with the Total Change Scores and three of the five individual practice change scores when controlled for age: Inspire a Shared Vision, Model the Way, and Enable Others to Act. There were however no correlations between Post-LPI scores and Years in Public Health service. It appears that the level of the final LPI score was not limited by the number of years of experience; instead it was the amount of total change across all five practices experienced that seems to vary with Years in Public Health service. Women scored higher on the Post-LPI Encourage the Heart practice than men. Finally, there was a positive relationship between the alumni's perception of RIHEL's influence on their practices and their actual Post-LPI scores. The

higher the fellows rated RIHEL's influence on each practice the more frequently they reported using that practice in the Post-LPI.

In addition to the quantitative support for changed practices, the qualitative narratives and descriptions of leadership opportunities since RIHEL suggest increases in LPI-based practices and collaboration. RIHEL fellows reported the use of the five exemplary practices often. They described intentionally entering into and leading collaborative processes. The leaders described being more self aware and reflective in their approach to leading. This awareness led them to more intentionality in leading with more effective skills. The leaders also reported increased confidence in their leadership capacities since RIHEL. Use of the practices seemed to develop confidence and confidence in turn encouraged the use of the practices.

There were nine common factors that fellows reported influencing their increase in leadership practices and leadership development. The RIHEL training program itself was consistently reported by participants as a critical factor. Many of the other factors noted were related to this training opportunity. The other eight factors included: Leadership Framework, Self-Awareness, Opportunities, Experience and Practice, Passion and Commitment, Supportive Relationships, Positive Climate and Confidence. Obstacles to leadership development were also discovered and confirmed some of the nine influencing

factors just mentioned. They included: politics (both organizational and interpersonal), heavy work loads, lack of self-reflection time (including time to keep the big picture in mind), and negative climates or relationships.

Finally, RIHEL was seen as having an important role in encouraging the fellow's leadership development. When fellows identified an important leadership opportunity they have had since completing RIHEL, almost all (95%) credited the training as having an influence on the way they led in that situation. The opportunities spanned numerous contexts for leadership including boards, collaborations and pilot projects. Their behaviors cited in these opportunities confirmed the increased use of LPI practices, collaboration behaviors and various communication skills. When fellows described how RIHEL influenced them, confidence was at the center. Confidence was built during RIHEL and as a result of using what they learned in RIHEL. Confidence seemed to be built by three factors: 1) Self-Awareness; 2) a Leadership Framework; and 3) Skill Development. A model for RIHEL Influence was presented in Figure 1 to describe these factors and supporting sub-factors. Self-awareness came through a new view of themselves as a leader and an understanding of day to day applications of that view. The view of one self as a leader was girded by a personal framework or definition of leadership that included conceptual and behavioral features. The skill development of this model connotes the ongoing

use of the 5 LPI practices, collaboration principles and communication. The findings for all three research questions will be discussed and compared with the literature.

Changes in Leadership Practices

The first major finding of this study is that RIHEL alumni fellows reported positive changes in a number of leadership practices, particularly the five practices measured through the LPI and behaviors noted as important in leading successful collaborations based on Chrislip and Larson (1994). As an introduction to this section the developmental learning process identified by Kegan (1994) seems important. Foundational to Kegan's view of learning is the shift of knowledge from subject to object. He purports that awareness leading to learning and possibilities for change occurs when the learner is able to disembed or objectively identify the principle thereby allowing examination and evaluation of the worthiness of the given principle. Once this differentiation process begins to happen then integration (leadership practices in this study) can occur. In the case of the Five Exemplary Leadership Practices, many alumni went through a differentiation phase, seeing that the practice is a needed feature of effective leadership, before it became a part of them. The results suggest that this complex process of disembedding and then reintegrating concepts into a broader set of knowledge and practices did occur for the alumni fellows. How this occurred

seems to be explained by the factors that they identified as encouraging their development.

Few studies have been published using a pre- and post-LPI design. Two studies that did use this design found increases in practices after subjects completed leadership training programs (Tourangeau, Et al, 2003; Brungardt, 1997). Brugardt's (1997) research contained a nonequivalent control group allowing for comparison to a non-trained group of participants. The intervention group of trained leaders did increase in all five LPI practices in comparison to the control group suggesting that some kind of intervention occurred to differentiate the groups. Both of these studies concluded that the leadership training was the most common factor to account for the changes in practices. It appears as though the same is true for RIHEL alumni.

Kouzes and Posner (2002) describe challenging the process as one involving the search for opportunities with coinciding experimentation and risk-taking in those opportunities. The fellows increased in this measure as well as reported narratives with numerous opportunities to utilize these practices in an intentional way. In other words, the fellows were conscious in seizing opportunities and practicing the skills they learned through RIHEL to challenge the process in order to improve or create. Change is at the center of leadership according to many leadership researchers (Uhl-Bien, 2003; Kotter, 2001). Uhl-

Bein purported that “change and influence” (p. 132) are common denominators in the definitions of leadership discussed in the research. RIHEL leaders demonstrated an increased capacity for being change agents and influencers through the practice of challenging the process.

Influence is largely interpersonal, and inspiring a shared vision is an important part of it, setting effective leaders apart from others (Kouzes and Posner, 2002). RIHEL leaders talked about not only creating a vision but doing it with others as a way to solve difficult problems or make life better. They reported through their increased LPI scores and stories of leading collaborations an increased awareness of the importance of this practice for success. They also had an improved and stronger understanding of how to go about it through shared vision building as opposed to leader-centric behaviors. This supports the collaborative process skills also taught in RIHEL and grounded in Chrislip and Larson’s (1994) collaboration research. The language of inspiring a vision and leading collaborations was often intertwined, suggesting a strong interpersonal nature to these practice increases. As Uhl-Bein points out, “leadership is a complex interaction between leaders and social and organizational environments” (2003, p.130). Vision building draws upon this complex interaction and for many leadership writers is a critical function of effective

leadership (Nanus, 1992). RIHEL trained leaders demonstrate stronger interpersonal competencies enabling more effective collaborative leadership.

Enabling others to act is closely linked to collaboration in Kouzes and Posner's research (2002). It involves many of the trust building and team development skills that were highlighted in the RIHEL training. Fellows gave accounts of sharing credit and power, and fostering teamwork that utilized other's competencies in a way that was different than their former hierarchical approaches to leading. RIHEL leaders reported an increased ability to enable others to perform and act cooperatively toward a shared goal. This collaborative skill set is what many believe to be the missing piece to solve large systemic problems plaguing the public's health (Wright, et al., 2000; Healthcare Forum, 1992). RIHEL leaders appear to be more equipped as a result of their learning to engage others and enable them to act in such a way as to solve large scale problems.

Fellows report competence in modeling the way, leading with consistency and by example. Their post-LPI scores and leadership opportunities demonstrated an increased practice of setting an example that builds and aligns shared values. It allows the possibility for values to be observed and questioned. Fellows reported a stronger sense of integrity with their renewed understanding of leadership that seeks others' input and questions. They talked of being role-

models of their newly developed or revised view of leadership and in mentoring other less experienced leaders. At times this invited others' criticism as well as affirmation. Kouzes and Posner (2002) claim that this practice is one tied to values and the keeping of those values. Integrity is of growing concern in the leadership literature today (Mangham, 2004). There is a conscious awareness of the possibility for good or evil in leaders historically and today. Ciulla (1998) in her argument against the need for more or better leadership definitions suggests that instead we should focus on this issue of integrity, goodness and fairness in leadership. Developing ethical leaders is a complex endeavor involving moral capacity building (Johnson, 2001). It is aided by teaching practices that are aligned with personal and organizational values. Strengthening the connections between leader's inward value commitments to outward behaviors is important in this process. It does not ensure ethical behavior, but it builds the capacity for such. RIHEL leaders demonstrated a growing capacity for this alignment.

As a leadership practice, encouraging the heart recognizes the contribution of others and RIHEL fellows reported a strong increase in this practice (Kouzes & Posner, 2002). Many alumni reported that as a leadership feature this practice was new to them. They had not thought of it prior to RIHEL as an actual leadership behavior. It may be one of the easiest practices to change since it is not particularly dependent for success upon the coordination of others

behaviors with the leaders as is inspiring a shared vision or enabling others to act. Fellows were able to describe very specific ways in which they had done this in their leadership opportunities and they had a clear sense of how it impacted the climate of the work setting. Developing a strong work climate for teams and individuals through encouraging the heart changed with significance for the fellows.

In addition to the practices mentioned, there was a reflective feature to changes in leadership behaviors and intentionality in their practice. Fellows reported a stronger awareness of effective leadership practices, an awareness of their own increased use of the practices and a determination to practice them more often. They also reported an increase of confidence in themselves and in their leadership behaviors. Kirkpatrick has suggested four progressive levels of importance in evaluating any training program: reaction, learning, behavior and results (1998, p. 19). The intentionality and confidence expressed by the fellows implies a behavior level of impact. Two of the conditions required for behavioral change in Kirkpatrick's model are that "the person must have a desire to change" and "must know what to do and how to do it" (p. 21). Prior to this level, learning must occur which involves attitudes, knowledge and skills. Fellows reported increased awareness of changes in attitudes about leadership, expanded knowledge through exposure to leadership concepts and collaborative practices,

and an increase in skill development required to be successful. RIHEL fellows demonstrated a strong behavior level impact of training, according to Kirkpatrick's model.

Factors Influencing Changes in Leadership Practices

The second question posed in this study had to do with factors that influenced changes in leadership practices. Through both quantitative and qualitative approaches a number of factors were discovered as influencing the changes of RIHEL alumni leadership practices and leadership development. It is important to first discuss those factors which did not seem to directly influence leadership development and compare these to current research.

Discussion of Quantitative Findings

Non-influencing Factors. There were several factors that were explored in the quantitative data for possible relationships to changed practices. The year of RIHEL completion, the highest level of degree completed, and field of study, all showed no significant relationship to the post-LPI scores. The changes in practices were found throughout the fellows regardless of the year they graduated from RIHEL and regardless of their level of education or focus of education. One might conclude then that the material presented in each of the years of RIHEL did not differ in such a way as to influence the fellows differently based on that year. It can also be assumed that no particular level of education or field

of study has a differentiating impact upon leadership practices either. Ethnicity, as categorized by "white" and "non-white," and age also posed no noticeable relationship to the final LPI scores or Total Change scores. This would support the adult learning literature that reports adults are not deterred or aided by age in learning, but more by experience as a filter (Illeris, 2002; Knowles, 1990). Adults test out new knowledge by comparing and contrasting it to previous knowledge and experience. In addition job position, type of organization, and job focus or category did not have a relationship to changes in practices. Fellows were just as likely to change in practices whether they were in government or non-government settings; whether they were directors in their work settings or not; and whether their job focused on public health or the environment. Changes were not respectful of position and titles. Finally, a change in job since RIHEL also did not relate to final LPI scores. Although some reported a change in job allowed them to experience a more supportive work climate, it was not consistently related as a factor increasing practices across those who reported a change in position. Most of the demographic factors gathered in this study had no relationship to the final LPI scores or Total Change Scores for RIHEL alumni fellows. This supports earlier findings of Posner and Kouzes (1993) who reported that personal, functional and technical expertise had no bearing on the process of leading as measured by the LPI.

Gender. There were three factors from the quantitative measures that did suggest some kind of a relationship with the LPI scores. The first one is gender. The post-LPI scores for women in Encourage the Heart were higher than for men. This is consistent with Posner and Kouzes (1993) research that found women tended to score higher in Encourage the Heart. They also reported that women tended to score higher in Model the Way, which was not born out in this study. In their work, Posner and Kouzes were not able to provide any conclusive explanation for these gender differences. What is interesting in the RIHEL population is that the scores for men and women in the pre-LPI scores were not significantly distinguishable, however in the final scores the gender influence did surface. There was also no difference in Total Change Scores and the specific Encourage the Heart Change Score, suggesting that women and men changed with no particular differences in any of the practices. It was simply the final encouraging the heart practice levels of women that tended to be higher than men on the LPI, meaning they report using this practice more often than their male counterpart alumni. In reporting their own practices through the questionnaire and interviews there were no noticeable differences in the ways men and women reported utilizing this practice. It may be that women believe they are expected to practice this behavior at a higher level due to gender roles and therefore practice it more in keeping with their roles and report themselves higher. Or it

may also be that men see themselves as less accomplished at this due to some social factor as well. The data does not provide a conclusive explanation.

Years in Public Health Service. Secondly, a relationship between years in public health service and the Total Change Scores was discovered. When controlling for age, there was a negative correlation between the number of years RIHEL fellows reported serving in the field of public health or environment and the total amount of change they experienced in the LPI scores combined. This means that the fellows who spent more time in public health service were less likely to change overall from their pre- to post-LPI's. The converse might also be said, that the less experienced one was in the field of public health the more likely one would increase in the Total Change Scores. It must be stated however, that it did not mean that fellows were not practicing at the same levels in the individual practices in the final testing. Years of experience did not seem to significantly influence their starting point or their ending point, just their cumulative gains across all five practices. It very well could be that the more experienced fellows started with slightly higher LPI individual practice scores and ended with slightly lower post scores but that it was not statistically significant until these individual change scores were added together.

There may be a number of ways to explain this relationship. It could be that the expectancy of less experienced leaders is high, since they are on the

beginning side of their career development. This may have created a stronger desire for behavioral change setting them up for a greater likelihood for success or change as Kirkpatrick (1998) noted. There may also be a factor of self-efficacy operating with less experienced fellows. Confidence in one's ability to perform or achieve is at the center of self-efficacy (Seifert, 2004; Bandura, 1993) and may have been stronger in the less experienced fellows who believe there is much ahead in their careers and expect to learn and grow. The opposite may then be true of those more experienced. In the qualitative data a few fellows who had many years of experience made reference to their change in perspective and role as they near retirement. Their need to change and grow may not be as strong as the desire to help others to change and grow. The application of the five practices may not have been as important to them at this point in their careers as the coaching, collaboration and communication skills necessary to finish well and leave a legacy in others. One fellow expressed this very thought and remarked that the training seemed more applicable to someone earlier in their career.

A final explanation could be that there is a defense against the learning of the five practices in those with more experience. Some adult learning theorists suggest that accumulated understanding can become solidified through experience and is compared and contrasted to new knowledge with skepticism

(Illeris, 2002; Knowles, 1990). As a result, the accumulated understandings become fixed and dependable and therefore hard to change, particularly if they do not see the importance of that change (Siefert, 2004).

Perceived Influence of RIHEL. One of the strongest correlations of the quantitative data was between the LPI scores and fellow's rating of RIHEL's influence upon their use of the practices. In other words, if the fellow perceived that RIHEL had a strong influence upon their inspiring a shared vision, they were more likely to report a higher use of that practice. This was true across all five practices. Again, there may be a factor of self-efficacy operating here. It also makes sense that the program that taught them to use these practices would be credited with influencing their use of these practices. This finding supports the research of Woltring, Constantine and Schwarte (2003) in their evaluation of the Public Health Leadership Institute (PHLI). In their study of 438 alumni, a strong link was also drawn between the alumni's positive assessment of the influence of the training and their leadership practices. The PHLI training was credited as the common factor of influence in developing the public health leaders in all eight years of the program. As in the PHLI study, RIHEL had a positive impact on alumni leadership development through increased practices of exemplary leadership behaviors. This supports the usefulness of focused professional training.

Discussion of Qualitative Findings

In an effort to determine if different factors accounted for different change scores in the fellow's practices, a comparison of the qualitative comments between the No to Negative Change and the High Change groups were made. As was just mentioned, RIHEL training was most often cited as an important factor among those who scored highest. They either mentioned it directly using the acronym "RIHEL" or they indirectly credited it through their identification of practices learned through the training. This was less likely among the No to Negative Change groups. Their answers were slightly less pointed and less descriptive of any practices. While these differences were subtle, it does suggest that those who connected the training with very specific practices also reported themselves using those practices more often. This supports the claims leadership trainers make that the real-life link between training and organizational practice is crucial for leaders to grow and organizations to change (Fulmer & Wagner, 1999). When fellows were asked specifically what accounted for their negative or low change scores, there was less agreement. A shift in leadership focus, honesty in self scoring, poor supervision resulting in a negative climate, and a change in responsibilities were sporadically self-reported as reasons for the decrease. No strong conclusions can be made about what consistent factors account for the decrease in practice scores within this small group.

There were nine common factors identified by alumni fellows as having positively influenced their leadership practices. Each will be discussed below.

RIHEL Experience and Other Training. The first of those mentioned was the RIHEL experience itself. In the limited research available on leadership development, the one thing that is embedded in most of them is the assumption of a leadership training program, whether formal or informal. In its research of effective leadership development, the W. K. Kellogg Foundation (2002) looked at multiple training programs across many sectors to understand leadership development. Training was at the center of this scan. In The Center for Creative Leadership's handbook on leadership development (McCauley, Moxley, & Velsor, 1998) leadership training is assumed and best practices described. When Kouzes joined up with Fulmer and Wagner (1999) to find key factors in strong leadership development, some kind of training program was linked to each successful program surveyed. Training is an important factor to increase leadership practices. For RIHEL alumni, the training is a common thread that helps explain the increase in leadership practices and development. To several, the year long training was the "best professional experience" they had. It was RIHEL that taught them the five practices of the LPI, giving them needed 360 degree feedback to encourage further change and practice. Fellows credited RIHEL with giving them confidence, self-awareness, a frame of reference about

leadership and skills to practice leadership more effectively and successfully. It also encouraged further learning. Alumni fellows also talked about continuing their learning through reading, workshops and further educational degrees. This supports the findings of the national Public Health Leadership Institute (PHLI) evaluation where over forty percent of the study participants reported increased professional reading and further training (Woltring, Constantine, & Schwarte, 2003). RIHEL alumni reported that their institute experience encouraged their desire and capacity to learn more. RIHEL was one of the strongest factors attributed with their leadership changes. Each of these factors put forth by the alumni reflects key elements already suggested by leadership scholars who theorize about leadership development.

The Leadership Development Model put forth by McCauley, et. al (1998), suggests that a variety of developmental experiences coupled with an ability to learn leads to increased leadership development. RIHEL would be considered one of these "developmental experiences." The developmental experience is characterized by "assessment," "challenge," and "support" (p. 6). Each of these was included in the RIHEL experience and noted by the fellow's description of factors. They will be applied to the factors below.

Leadership Framework. As a result of the RIHEL training, fellows reported having a leadership definition or framework now that helped them lead.

It was referred to as a roadmap or plan or philosophy that guided their thinking about leadership both conceptually and behaviorally. This framework was largely behaviorally based and included collaboration along with Kouzes and Posner's Five Exemplary Leadership Practices (2002). In other studies of leadership training programs, a competency model was also found to be central to the leadership development process (Bennis, 1998). Behaviorally based frameworks provide benchmarks and assessment focus by which the leader can become self-aware. Fellows spoke of their personalized definitions and frameworks as having simplicity yet adaptability, key features required for leadership application in a complex and changing environment. In the dialogue between leadership scholars such as Rost (1993) and Ciulla (1998) over the need for leadership definitions and theories, the RIHEL findings support the need for some kind of working definition. Leaders found that their personal definitions guided their thinking and behaving. The definitions gave them clarity and confidence. Schriesheim (2003) in his essay, "Why Leadership Research is Generally Irrelevant for Leadership Development" noted the need for such simplicity. Most managers and leaders today need mental models that allow them to think quickly and act effectively when encountering constantly changing challenges. RIHEL seemed to assist fellows in developing this kind of mental model.

This roadmap is similar to the "challenge" feature of the Leadership Development Model (McCauley, et al, 1998). The challenge in this model can represent new information or a different perspective as well as an opportunity to practice it (p. 9). The language of the LPI and collaboration taught in RIHEL seemed to challenge fellows with a new view of leadership and empower them in new ways to lead. It gave them a mental model for assessing their leadership as well as exposure to new ways to behave. They reported a new attitude and perspective about difficult situations and again more confidence that they could act differently to lead more successfully. Their changed attitudes or perspective coupled with new leadership knowledge and applicable skills was strongly attached to a personal leadership framework. This in part supports McCauley, et al.'s (1998) model of assessment, challenge and support as critical elements of a developmental experience.

This factor also supports level two learning as noted by Kirkpatrick (1998) where not only attitudes change to support the learning, but the knowledge and skill required is increased. Kirkpatrick notes that, "One or more of these changes must take place if change in behavior is to occur" (1998, p. 20). RIHEL alumni reported these changes as having occurred and demonstrated the use of these behaviors in their opportunities to lead.

Self-Awareness. Many leadership development frameworks talk about the need for self-awareness. Hall's (2004) assessment of what makes a leader successful identifies this as a metacompetency. He refers to it as a personal capability "that help leaders 'learn how to learn'" (p. 153). This was true for RIHEL alumni. The 360 degree feedback through the LPI was a central feature to this growth factor and supports the findings of other researchers as an important experience for development (Chappelow, 1998; Guthrie & Kelly-Radford, 1998). Without it the fellows were unaware of their strengths and weaknesses relating directly to their own leadership. It brought the theoretical framework into their work-a-day world. As one of the three key elements of the Leadership Development Model, McCauley et al. (1998) notes that this capacity includes an understanding of why the leader behaves the way they do, and what the implications are and how to go about changing it. RIHEL leaders reported the same. Feedback gave them perspective on their behavior and the training gave them ways to change and act more successfully. Self-awareness constituted what London called insight leading to the "foundation for development" (2002, p. 27) and is not surprising to see as a key factor in the alumni's development. Klein and Ziegert (2004) theorize that based on self-regulation theory, leaders that are aware of the "discrepancies between their performance and their goals or standards for performance (p. 304)" are most motivated to change. RIHEL

alumni self-awareness brought on by the feedback and coaching supports the importance of self-regulation theory.

Opportunities. Opportunities come in many forms and the fellows identified them as significant to their leadership growth. The opportunities provided them new experiences to test out their growing leadership practices. Collaborations, promotions, new leadership roles on committees and boards all gave rise to learning opportunities for self-aware development. Other researchers note opportunity as being a feature of leadership development as well. Mumford and Manley (2003) note that opportunities present themselves in one of two ways: being selected as a leader or selecting leadership situations. Both have influencing properties for leadership development. This was true with RIHEL alumni as they noted both ceasing opportunities and being thrust unexpectedly into them. Both were still cited as affording situations to practice and grow in leading. This idea of opportunity is also rooted in the challenge factor of the developmental experiences presented in the Leadership Development Model by McCauley et al. (1998). This study confirms this feature of their view of the development process. Opportunities played a significant role in the development of leaders in this study.

Experiences and Practice. Learning occurs when a particular knowledge set is applied and becomes ingrained over time for ready retrieval in multiple

situations (Halpern, 2004). Opportunities, as mentioned above, allow for experiences and practicing of skills. RIHEL leaders identified this as a key feature of their leadership development. The practice began during the training through experience based sessions and assignments. It continued between training sessions as work applications were made. It continued after the institute as fellows sought to lead more consistently with new practices. This factor may account the most for the increases in the five practices correlating to the alumni's view of the training impact upon those practices. If "practice and retrieval" (Halpern, 2004) is the "single most important variable in promoting long-term retention and transfer" (p. 142) of new knowledge, then it makes sense that RIHEL leaders who had these concepts constantly in their frame of reference would report RIHEL as having a high influence on their using the practices. To put it simply, those who are thinking about the practices (retrieving) more often will tend to use them more often and attribute their use to the knowledge source of RIHEL and the corresponding materials used in the training.

The Center for Creative Leadership supports this experience and practice factor as important for leadership development in their Elements of a Developmental Experience model (McCauley et al, 1998) cited earlier. Challenge as an element of growth in this model includes the "opportunity for experimentation and practice" (p. 9). Klein and Ziegert (2004) in their

presentation of a conceptual model of leadership development suggest work challenges as important in contributing to positive change over time. They argue that coupled with workplace feedback and instruction, leader change is likely. In Fulmer and Goldsmith's decade long research on best practices of leadership development in organizations, they discovered that "nothing teaches like experience" (2001, p. 19). Companies who allow learning from the jobs themselves increased leader's capacities for success. On-the-job assignments and opportunities for practice have often been noted in the literature (McCall et al., 1988; Horvath, et al., 1999) as rich opportunities for leadership development. RIHEL alumni confirmed the importance of experience and practice as a factor in their own development.

Passion and Commitment. The motivation to learn and change is a complex process, depending on multiple factors including those outside of the control of the learner, such as the work environment (Halpern, 2004). But passion and commitment can buoy learning even in the midst of difficult situations. RIHEL fellows reported this personal dimension as a factor encouraging their change. It was often expressed within the context of caring for the human condition and believing they and others could make a difference in improving it. They shared personal stories of imagining their own family members in some of the plights of those they serve and it moved them with

compassion and a commitment to act. Kouzes and Posner's (2002) model encourages the internal work of finding one's voice in order to model the way. RIHEL alumni spoke about the reflective internal work they do to find their own passions and align them with their work and actions. Their passions motivated them to take risks, challenge processes, and find new solutions to plaguing problems. It also encouraged them to share their own learning as a way to develop others so that jointly they might grow. This was a unique factor in all of those mentioned in that it was less connected to anything RIHEL did or other factors. It is also one factor that is not clearly articulated in common models of the leadership development process (London, 2002; Fulmer & Wagner, 1999; McCauley, 1998).

Supportive Relationships. Relationships that provide encouragement, honesty and support to the alumni play an important role in their development. Over 75% mentioned some kind of formal or informal relationship which they saw as encouraging their development. Many of these relationships were informal role models, while others were formalized mentors. Relationships formed with cohorts and faculty during the RIHEL training itself was highly valued. Some of these continued beyond the year long program through informal networks and cohorts in state and county departments. Much of the leadership development literature addresses what some have called, "developmental

relationships" (McCauley & Douglas, 1998). Coaching, learning groups, mentors, supportive relationships (in and out of the work place), and social networks are all identified as contributing to a leader's development (Mumford & Manley, 2003; McCauley & Douglas, 1998; Verlander, 1999). In McCauley et al.'s (1998) Leadership Development Model, support forms the third element after assessment and challenge. RIHEL alumni confirm this model that suggests support is an important part of developmental experiences for leaders. An obstacle identified by some fellows triangulates with this notion of support. A few attributed their decrease in effectiveness with not having a mentor in their lives or with the presence of a discouraging supervisor. This obstacle cited was the reverse of support. Supportive relationships were clearly confirmed as an important aspect of leadership development.

Positive Climate. Another feature of support in the Center for Creative Leadership's model for development is what RIHEL alumni confirmed as an overall positive climate for change (McCauley, et al., 1998). Alumni fellows stated that an enjoyable work climate allowed them to take risks and be themselves. It included recognition of the expertise of others. It also included a spirit of grace when people make mistakes. Moreover this factor surfaced when fellows were disclosing obstacles to their development. Relationships at work are seen as "generators of social capital" (Uhl-Bein, 2003, p. 129) and worthy of

further research when it comes to developing leaders. The question of how to improve them in such a way as to facilitate more productive work environments is unclear, but the need is not. Klein and Ziegert (2004) theorize that "the more positive an organization's climate for leader development and its climate for learning, the more likely organizational leaders are to show positive changes in their leadership skills and knowledge over time" (p. 375). This seems to be true from the RIHEL alumni accounts. The obstacles noted by alumni also support this. Alumni fellows in their identifying obstacles noted the politics of relationships and organizations as a hindrance. It detracts from the positive climate, slows down the work processes and discourages the fellow's growth. This obstacle supports the presence of the positive climate factor. RIHEL leaders confirmed the developmental nature of a positive climate in their growth.

Confidence. The last factor reported here is almost a result of the other factors, yet the alumni talked about it so often that it is included as a separate factor here. Kanter, in her recently published research on the winning and losing streaks of individuals and organizations, says of confidence, "Confidence is the sweet spot between arrogance and despair" (2004, p. 8). In her research it is the focusing factor of success and failure. Arrogance blurs the self-awareness and under-confidence blurs the opportunities. For the RIHEL alumni confidence had a symbiotic relationship with effective leadership and development. The more

effectively they led, the more confidence they gained. The more confidence they gained, the more creative and power sharing oriented they became in many facets of their work and relationships, becoming more effective leaders. More will be said about confidence in the discussion of the third research question.

Contribution of RIHEL

The third and final question of this research asked, to what extent did the training program of RIHEL contribute to the leader's development? The results showed that 95.5% of the alumni perceived RIHEL to have influenced a recent leadership opportunity they described. They were able to identify specifically how RIHEL influenced them in this situation and overall. The findings confirmed the nine factors already noted in the previous section and suggested that RIHEL had a significant positive influence on the development of the leaders studied. Opportunities cited by the leaders in which they have been able to identify acting in new and more effective ways, included service on boards and committees, work with non-profit agencies and state response teams, and involvement in national health associations. They reported influencing through collaborations, teams, personal relationships, and the media. They led through difficulties, including budget cuts, mergers, opposition to programs and restructuring. Many of these opportunities and leadership accomplishments were similar to those discovered in the nationally based PHLI impact study (Woltring,

Constantine & Schwarte, 2003). Thoughtful and strategic training of public health and environment leaders had a positive impact in both studies for personal and organizational accomplishments resulting in leadership effectiveness and community level improvements.

Another area of impact is the increase of effective communication skills. RIHEL alumni leaders reported a myriad of communication behaviors that helped them lead in the identified leadership opportunity they chose to disclose. These skills were often coupled with collaborative processes and the Five Exemplary Leadership Practices, but they also went beyond these. Those skills included listening, clarifying, perspective-taking, facilitating, vision building, affirming, team building, decision making, negotiations, justifications, selling, advising, consulting, consensus building, writing and public speaking. These findings support the communication literature that clusters leadership communication skills into linking, envisioning and regulating behaviors (Dance & Larson, 1976; Hackman & Johnson, 2001). Communication is not just a medium; it is substantive to leadership (Cohen, 2004). Leadership itself seemed to gain it's meaning through communication as symbolic interaction (Blumer, 1969), yet it required communication as a skill to be effective. RIHEL leaders were aware of increased effectiveness in utilizing myriad communication skills.

In the final sections of Chapter IV, an influence model (Figure 1) is proposed to illustrate the interaction of several dominant features of the RIHEL experience for fellows. Confidence is an interrelating component of this model, with Self-Awareness, a Leadership Framework and Skills interacting with Confidence and in turn, each other. Self-awareness in this model is composed of the leader having a sense of self and daily ways to practice leadership. A Leadership Framework assists in the daily application by giving the leader a way to think conceptually and act behaviorally with consistency. Skills are naturally connected into both of these features as the 5 Practices, Collaboration Skills and Communication Skills allow for effective daily applications. This model is meant to explain in story form the experience of RIHEL as related by the 67 participants. It may however prove useful in connecting leadership development theory to practice. While models such as the Leadership Development Model (McCauley, et al., 1998) are helpful in thinking about a broader process, it does not necessarily describe what occurs in real-life settings over time and resulting from a training program. The RIHEL influence model attempts to do that.

A final and important topic of discussion is the relationship of leadership development to the leadership competency frameworks suggested by several authors for public health leaders. Wright et al. (2000) suggested four categories of needed competencies: transformation, legislation and politics,

transorganization and team and group dynamics. Some form of each of these competencies was present in the alumni reported practices. Alumni reported increased skills in strategic visioning, communication and change management related to the transformation competency. They reported skills of facilitation, negotiation and collaboration that are integral to the legislation and politics competency. Collaborative skills contribute to the third category, that of being able to work across organizational boundaries. Finally the team and group dynamics competency was present in the RIHEL reported practices. There were seven leader capacities reported by Larson et al. (2002) for the Turning Point Initiative which also are supported in this study. Skills of building vision, managing change, collaboration competencies, communication competencies, team/group leadership skills, management competencies and political/legal competencies all surfaced in varying degrees as increased practices by RIHEL alumni supporting the Turning Point Initiative's findings. Finally, RIHEL's own program goals of enhancing collaborative leadership skills, team building skills, collaborative problem-solving skills and communication appear to have been achieved in several forms (Regional Institute, 2002).

Problems or Limitations

This study provides important insight into the factors that encourage leadership development in public health and environment leaders who completed

training through RIHEL. There are several potential limitations of the study that must be addressed. Because this study used a purposive sampling procedure, care must be taken in generalizing results. Although 67 participants was an adequate sample size for quantitative tests to be effective, it is limited to a self-selected group representing a common experience within a specific range of years 1999-2002. Further research would be needed to test out the application of the findings in a variety of public health leadership settings and training programs. Expanding the theoretical sampling pool might lead to greater generalizability of the findings and testing of the RIHEL Influence Model proposed. Further research may provide greater understanding for training needs among public health and environment leaders, giving direction or focus to such endeavors.

The study might also be limited by the self-report nature of the data collected. In the original plan for this study a comparison of pre- and post-LPI Observer tests were planned. This was limited by the Institutional Review Board who was concerned about confidentiality issues related to reporting possibly small returns of the Observer forms. Since Posner and Kouzes (1993) found only a "somewhat lower" reliability when comparing LPI-Self to LPI-Observer scales, the sole use of LPI-Self forms were still deemed reliable for the purposes of the study. The years of RIHEL alumni were also limited to the four years where the

same LPI edition was used, to avoid any difficulties in reliably comparing pre- to post- scores across differently scored editions. Other years of participation may yield different findings.

The surveys and follow-up interviews were also self-reports with a retrospective analysis. A bias due to lack of objectivity could be present in their answers. Because of this, care was taken to include questions that stimulate current descriptions of leadership opportunities and concurrent behaviors rather than only general retrospective evaluation questions. This produced a richer set of data upon which the constant comparison of data approach could be applied to find common factors of influence. It can also be said that the best way to find out what factors are helpful or not helpful to someone is to ask them. The RIHEL alumni were probably in the best position to identify what factors contributed most to their own growth over time. That said, the use of observations from supervisors, peers and direct reports providing assessments of leadership practices before and after RIHEL training would have greatly enhanced the study.

In studies looking for changes over time in subjects' behaviors, it would be useful to compare results to a control group. This way the "intervention" could be more clearly examined in its impact. Because there was no available

group in public health and environment with Pre-LPI scores during the same time frame for comparisons, no control group was used.

Finally a limitation may exist in the area of dimensions or categories describing the factors. Interpretations of units of utterance that are dimensionalized (Miles and Hubberman, 1994) may not be viewed the same way by another researcher. Whether the exact wording of a category speaks the same way to everyone is problematic. Salient comments of the alumni fellows were therefore included in the presentation of the findings to allow the reader first-hand interpretation of the data and code formulation. Further studies would benefit from several coders working together to deepen the verisimilitude.

Future Research

This study provides several staging grounds for the future exploration of the leadership development process for the public health and environment leader. With the increase of programs and institutes for public health focused leadership training, a broader application of this study could include participants in other programs. A comparison between participant alumni of different regional and national sites of training would provide useful information for more generalizability. A broadening of the participant interview to several others sites would provide comparison data for the impact of training vs. the other eight influence factors cited in this study. In addition, of the few models currently

used to describe leadership development (McCauley, Moxley, & Van Velsor, 1998), they are not considered to be strongly founded in scientific research (Day & O'Connor, 2003). With the number of public health institutes for leadership training and a clear set of competencies identified for public health leaders (Wright, et al., 2000), a testing of the current models usefulness could benefit those in and out the field of public health. The development of a theory about how public health leaders develop over time, and throughout the systems training them, would allow for more systematic evaluation and future programming.

An important recommendation for further research would be to examine the impact these changed practices have upon the organizations in which fellows work and ultimately the public's health. Outcomes based evaluation is difficult given the complex nature of work and problem solving endeavors within our world. As mentioned earlier, the use of observations from multiple sources would strengthen our understanding of the impact of leadership practices in real-life settings. While this study documented areas that leaders are currently addressing as a result of their development, the impact of that leadership in public health was not examined directly. An outcomes based inquiry across multiple populations of trained leaders would provide more than anecdotal assessment of the training impact. Ultimately, training of public health leaders ought to impact the public's health. A study linking these two elements is

extremely important for the success of public health and environment focused services.

In the area of communication, there is much to be explored by way of leadership studies. Definitions and frameworks that provide clarity in how to interact as a leader were central to these findings. Further research in the field would help to clarify whether the communication based definitions such as those encouraged by Kouzes and Posner are more helpful for leaders than a more theoretically or psychologically based definition. In addition to the many communication behaviors reported as part of what they did in their increased practicing of effective leadership, 360 degree feedback was central. Getting and giving feedback seems crucial for leader development. Further studies on the influence of a variety of feedback approaches would be useful.

As mentioned earlier, passion and commitment are not discussed significantly in leadership development literature. Yet it was important in the lives of this study's participants. Exploring the roots of these factors seems important. Investigating the ways that passion and commitment take root and how they are nurtured could provide insight to encourage the persistence that is needed to work out complex social problems plaguing our public health.

It was not the purpose of this study to evaluate the way in which RIHEL conducted its training. However there were sporadic comments made by the

fellows that suggested aspects of the training which were more helpful than others by way of methodology or strategies. Davis and Davis (1998) noted in their broad-based research that learner focused assessment is vital to organizations and that reframing training assessment with the learner in mind is crucial to keep pace with the demands for skilled workers. This study suggests that learning did occur and that the training itself was a factor in that learning. Future studies might more deeply look at the training itself as a window into what was most effective and what was less. Conclusive comments about the interaction of years in public health and change scores could not be made from this study. However a further look at career development, timing of training and effective strategies for particular competencies could be very useful. A closer look at training strategies and approaches to the public health learner, including the content areas taught, is important for improving the program and finding ways to increase the alumni's application of learning into the results level identified by Kirkpatrick (1998). It would also give insight into the process of learning that occurs within the context of moderating influences such as the learner's own life stage, self-efficacy, and the leadership context and climate in public health.

Since there are so few empirically based theories explaining the process of leadership development (Day & O'Connor, 2003), a broadening of this study

to other leadership domains would be useful to the overall discipline of leadership studies. Using the nine factors discovered in this study and a generalized form of the RIHEL Influence Model, a testing of their occurrence and importance in other public health and general leadership training programs would help to establish a grounded theory of leadership development. A sound theory of leadership development across multiple spheres of leadership influence would contribute to the advancement of the science and art of leading.

Conclusion

The findings of this research project provide evidence for changed leadership practices for alumni since completing RIHEL. Alumni fellows experienced a consistent increase in LPI-based leadership practices, collaborative leadership practices and communication skills taught in RIHEL. In addition, nine factors were identified by the participants as important in encouraging these changes and developing them overall as leaders. RIHEL particularly was central in these factors. Having a leadership framework with which to define and understand leadership conceptually and practically was also found important. An understanding of self as leader, including their own leadership strengths and weaknesses, coupled with an understanding of the daily applications of leadership practices suggested that stronger self-awareness encouraged their growth. Opportunities, experience and practice formed the fourth and fifth

factors. RIHEL leaders learned and developed as they sought opportunities and gained experience in the practices. Passion and commitment centered the leaders allowing them to lead in difficult times, develop new approaches to old problems or create positive work environments. Supportive relationships were pervasive throughout the alumni fellows' experience. A positive climate spurred them on to further growth in their work setting. Finally, confidence was crucial in their development.

RIHEL as a training intervention can be credited significantly with the changes in leadership practices of alumni from years 1999-2002. It gave them self awareness, a leadership framework, and skills to improve in multiple leadership opportunities. Increased confidence was central to their development. Confidence was both an encouraging factor and a resulting factor to the increased exemplary practices. Leadership training had a positive impact overall in the RIHEL alumni leaders' development.

This study provides insight for those integrally involved with RIHEL as well as those outside of RIHEL. The factors describing leadership development among alumni are useful for evaluation of the program and further testing in the broader field of public health leadership development and leadership development in general. In an age when competent leadership pools are shrinking and the context for leadership is in constant flux, characterized by

complexity, a clearer idea of how leaders develop is needed to meet the demands. This study provides perspective on that development process. Much like Wendel Berry's Window Poems cited in Chapter I, this study offers several windows onto the landscape of the leadership development process for public health and environment leaders.

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APPENDIX A

Permission to copy LPI

APPENDIX B

RIHEL Cover Letter

January 2, 2004

Dear Alumni of the Advanced Leadership Training Program,

Enclosed is information about research that will, I believe, benefit the field of leadership training and the Regional Leadership Institute.

Ms Linda Olson is a doctoral student in human communication at the University of Denver working under Dr. Carl Larson. Her research is on the effects, if any, of leadership training. One of the areas that she is addressing is about factors related to change, if any, in self perceived leadership practices, i.e., in the "self" LPI parameters. Jim Kouzes and Barry Posner (authors of *The Leadership Challenge*) have given us permission to use the LPI without cost for this research.

Please complete the enclosed three forms: the researcher's copy of the Agreement to Participate form, the RIHEL Leadership Survey form and the LPI "self" form. Return it in the stamped self-addressed envelope. This information will provide important data and sampling information for Linda's further analysis and precious feedback to the Institute.

After six years of teaching health and environment professionals, the time is right for the Institute to conduct impact analysis. We cannot do it without you.

Thanks so much for all you do!

With all good wishes,

Kathy Irene Kennedy, DrPH
Director, Regional Institute for Health and Environmental Leadership, University of Denver
Associate Clinical Professor of Preventive Medicine, University of Colorado Health Sciences Center
enclosures

APPENDIX C

Researcher Cover Letter

January 2, 2004

Dear RIHEL Fellow alumni,

It is with the great support and encouragement of Dr. Kathy Kennedy and Dr. Carl Larson that I extend an invitation for your participation in a study of leadership development amongst health and environmental leaders. As alumni of the Regional Institute for Health and Environmental Leadership you have a unique opportunity to assess the important processes of leadership development in your field through your own reflection. This study will focus on those processes as you see them in your own life and work. This study also comprises my doctoral dissertation research in the Department of Human Communication Studies at the University of Denver. I do hope that you will eagerly participate in this RIHEL alumni focused study.

As a part of this research, you will have the opportunity to re-take the "Self" Leadership Practices Inventory (LPI) and compare your scores against those when you entered RIHEL. In addition to completing the LPI and the enclosed 2-page leadership survey, random one-hour interviews will be conducted to further explore factors that most influence your leadership development. It is hoped that your reflections will contribute to the future development of RIHEL approaches to leadership training and to the larger community interested in training public health and environmental leaders.

Enclosed you will find a few short forms to complete and return for this study. The process of involvement will look like this:

1. Read and sign the RESEARCHER'S copy of the "RIHEL Alumni Agreement to Participate and Informed Consent" form; retain the PARTICIPANT/ALUMNI COPY form for your own personal records
2. Complete the "RIHEL Alumni Leadership Survey" form
3. Complete and score the special "copied with permission" LPI "SELF" form; detach p. 4 to return to researcher

4. Return the above 3 forms in the enclosed stamped self-addressed envelope and mail by January 21, 2004.
5. Await possible invitation to participate in a one-hour follow-up interview with researcher Linda Olson

If you have any questions please contact me, Linda Olson, at 303-871-2159 or by e-mail at lolson@du.edu. Thank you for your participation and valuable contribution to an important examination of health and environmental leadership development!

Sincerely,

Linda G. Olson, MEd
Doctoral candidate in Human Communication Studies
University of Denver

APPENDIX D

PARTICIPANT/ALUMNI COPY

RIHEL Alumni Agreement to Participate and Informed Consent

You are invited to participate in a study on leadership development of public health and environmental leaders. The research focuses on the process of leadership development and the factors that account for changes in leadership practices of alumni of the Regional Institute for Health and Environmental Leadership (RIHEL). A doctoral dissertation, academic conference papers and journal articles will be written based on analysis of the data collected. Your voluntary participation will involve the completion of the Leadership Practices Inventory (LPI) "self" form, the RIHEL Alumni Leadership Survey, and a possible 1 hour audio taped interview if your name should be drawn in the follow-up interviewing sample. There are no known or foreseeable risks to your involvement in this study. However, if at any time during the study, you are uncomfortable with a written or verbal question being asked, you can skip the question. You are also welcome to talk about your concerns with the researcher or supervising faculty at any time. If we cannot adequately address your concerns, you are free to withdraw your consent and discontinue participation at any time without prejudice from us.

In addition, several procedures are being followed to protect your confidentiality during and after the study. All information in all forms will be kept locked in the researcher's office with no access by those other than the researcher. At no time in the public reporting of this research will the name of any individual be revealed or attributed to a specific or general part of the data. Names will only be used to match pre- and post- LPI "self" scores, demographics and the scheduling of random interviews. Once that data is compiled, names will be dropped and numerical codes will be assigned for reporting. You will be provided a report of your scores by mail upon request.

Signed consent acknowledges the following important exceptions concerning confidentiality: "I understand that there are two exceptions to confidentiality. If information is revealed concerning suicide, homicide, or child abuse and neglect, it is required by law that this be reported to the proper authorities. In addition, should any information contained in this study be the subject of a court order to lawful subpoena, the University of Denver might not be able to avoid compliance with the order or subpoena."

There are several possible benefits to you and society as a result of your participation. Participating in the study may increase your understanding of the complexities of your leadership development since completion of RIHEL. You will have the opportunity to repeat the Leadership Practices Inventory and gain awareness of changes in your leadership practices. Your perspective will assist RIHEL in better understanding and serving future participants in its leadership training efforts. In addition you will be providing information that will contribute to a body of scholarly knowledge on leadership development, particularly in the fields of health and environment. Finally you are assisting a doctoral candidate in the completion of a dissertation research requirement for a PhD.

If you have any concerns or complaints about how you were treated during the research sessions, please contact: Dr. Maria Riva, Chair, Institutional Review Board for the Protection of

Human Subjects at (303) 871-2484 or Dawn Nowak, Office of Sponsored Programs at (303) 871-4052 or write to either at the University of Denver, Office of Sponsored Programs, 2199 S. University Blvd., Denver, CO 80208-2121.

You may also reach the researcher and supervising faculty at the following telephone numbers if you have any concerns or questions regarding this research: **Principal Investigator Linda Olson @ 303-871-2159 or 303-503-4020; RIHEL Director Kathy Kennedy, PhD @ 303-871-3483; Dissertation Director Darrin Hicks, PhD @ 303-871- 4319; Dissertation Committee member Carl Larson, PhD @ 303-871-4327.**

"I have read and understand the RIHEL Alumni Agreement to Participate and Informed Consent form presented for this study being conducted by Linda Olson (researcher). I have asked for and received a satisfactory explanation of any language that I did not fully understand. I agree to participate in all aspects of this study including the completion of the Leadership Practices Inventory (LPI) "self" form, completion of the RIHEL Leadership Survey, and an audio taped interview if my name should be drawn in the interview sampling. I have received a copy of this consent form."

____ "Please mail me a copy of my pre- and post-RIHEL LPI self scores."

Print Name:_____ Please keep for your records.

Signature:_____

Date:_____

APPENDIX E

RESEARCHER'S COPY

RIHEL Alumni Agreement to Participate and Informed Consent

You are invited to participate in a study on leadership development of public health and environmental leaders. The research focuses on the process of leadership development and the factors that account for changes in leadership practices of alumni of the Regional Institute for Health and Environmental Leadership (RIHEL). A doctoral dissertation, academic conference papers and journal articles will be written based on analysis of the data collected. Your voluntary participation will involve the completion of the Leadership Practices Inventory (LPI) "self" form, the RIHEL Alumni Leadership Survey, and a possible 1 hour audio taped interview if your name should be drawn in the follow-up interviewing sample.

There are no known or foreseeable risks to your involvement in this study. However, if at any time during the study, you are uncomfortable with a written or verbal question being asked, you can skip the question. You are also welcome to talk about your concerns with the researcher or supervising faculty at any time. If we cannot adequately address your concerns, you are free to withdraw your consent and discontinue participation at any time without prejudice from us.

In addition, several procedures are being followed to protect your confidentiality during and after the study. All information in all forms will be kept locked in the researcher's office with no access by those other than the researcher. At no time in the public reporting of this research will the name of any individual be revealed or attributed to a specific or general part of the data. Names will only be used to match pre- and post- LPI "self" scores, demographics and the scheduling of random interviews. Once that data is compiled, names will be dropped and numerical codes will be assigned for reporting. You will be provided a report of your scores by mail upon request.

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If you have any concerns or complaints about how you were treated during the research sessions, please contact: Dr. Maria Riva, Chair, Institutional Review Board for the Protection of Human Subjects at (303) 871-2484 or Dawn Nowak, Office of Sponsored Programs at (303) 871-

4052 or write to either at the University of Denver, Office of Sponsored Programs, 2199 S. University Blvd., Denver, CO 80208-2121.

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____ "Please mail me a copy of my pre- and post-RIHEL LPI self scores."

Print Name:_____

Signature:_____

Date:_____

Please Return Researcher's Copy" to:

Linda G. Olson
Regional Leadership Institute
2211 S. Josephine Street
Denver, CO 80208

APPENDIX F
Leadership Practices Inventory (Self form)

APPENDIX G

RIHEL Alumni Leadership Survey

1. Name:_____
2. Phone #:_____ 3. E-mail:_____
4. Age:_____ 5. Sex : _____Female _____Male
6. Check all that you use in reference to your racial or ethnic identification:
   a. ____ASIAN b. ____BLACK/AFRICAN-AMERICAN
   c. ____HISPANIC d.____WHITE e. ____
   OTHER—SPECIFY:_____
7. Education: Highest Degree Completed:_____
   In what field?:_____
8. Current
   Title/Position:_____
9. How long have you been in this current position? _____years
10. Is this position the a._____same or b._____different than the one you held when you entered RIHEL?
11. Briefly describe your work/duties in your current position:_____
    _____
12. Estimate the number of years you have served in public health or environment _____years.
13. We all have various opportunities to engage in leadership. Think of the last time you found yourself in an opportunity to engage in leadership. *Describe the situation using reverse side of paper if needed:*

What did you do? *Describe your leadership using reverse side if needed.*

14. Did your experience in RIHEL influence your response in this situation? __Yes __No
How*? Please describe using reverse side if needed.*

In items 15-19, please circle your response using the description that best applies to each question. Provide further comments or explanations. Please use reverse side if more space is needed for comments.

15.To what extent did your experience in RIHEL positively influence your current ability to effectively lead by **challenging the process?** (circle)

No Influence	Little Influence	Moderate Influence	High Influence	Very High Influence

Comments/Explanations:

16. To what extent did your experience in RIHEL positively influence your current ability to effectively lead by **inspiring a shared vision?** (circle)

No Influence	Little Influence	Moderate Influence	High Influence	Very High Influence

Comments/Explanations:

17. To what extent did your experience in RIHEL positively influence your current ability to effectively lead by **enabling others to act?** (circle)

No Influence	Little Influence	Moderate Influence	High Influence	Very High Influence

Comments/Explanations:

18. To what extent did your experience in RIHEL positively influence your current ability to effectively lead by **modeling the way?** (circle)

No Influence	Little Influence	Moderate Influence	High Influence	Very High Influence

Comments/Explanations:

19. To what extent did your experience in RIHEL positively influence your current ability to effectively lead by **encouraging the heart?** (circle)

No Influence	Little Influence	Moderate Influence	High Influence	Very High Influence

Comments/Explanations:

20. Please briefly discuss the key factors that have most contributed to your leadership development in the past 5 years? *Use reverse side if needed.*

21. Whether you mentioned RIHEL in #20 above or not, how important has RIHEL been to

your leadership development as compared to other key factors discussed? *Use reverse side if needed.*

APPENDIX H

Interview Schedule and Worksheet

Interview questions for RIHEL alumni:

1. Tell me what opportunities you have had for leadership since RIHEL.
2. Describe for me how you demonstrated leadership in those situations.
3. Tell me about a time when you knew you were practicing leadership in a different way and that you were successful at it.
4. From your perspective what key factors do you think have most influenced your leadership development today?
5. Your LPI shows that you have increased/decreased/experienced no change in your capacity to_____. What accounts for that increase/decrease/no change? Can you give me an example of a time you were challenged to utilize that capacity? (Ask this for each of the practices.)
6. What types of support have you sought or received that have helped you become a stronger leader?
7. What obstacles have you experienced in trying to exercise your leadership potential?
8. What one thing did RIHEL do to contribute to your leadership development?
9. What else?
10. What else do you think would be important for me to know about your leadership development?

APPENDIX I

Follow-up Postcard

Dear RIHEL alumni,

Your participation is still needed and wanted! The leadership development study that Linda Olson is conducting under the direction of Carl Larson and the Communication Dept. at the University of Denver is still open.

We know your lives are busy and you may have received the LPI and RIHEL Leadership Survey packet with little time to complete it by the first deadline. We have extended it to February 27 in order to encourage as strong participation as possible. **If you need a new packet,** please e-mail your current address to Linda at lolson@du.edu or phone 303-871-2159. Otherwise, we look forward to your involvement. Thank you for taking the time to contribute to this important study.

Sincerely,
Linda Olson
P.S. If you have already returned your packet, please disregard this notice...and thank you very much!

APPENDIX J

Demographics

Year of Graduation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1999.00	17	25.4	25.4	25.4
	2000.00	13	19.4	19.4	44.8
	2001.00	16	23.9	23.9	68.7
	2002.00	21	31.3	31.3	100.0
	Total	67	100.0	100.0	

Sex

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	41	61.2	61.2	61.2
	Male	26	38.8	38.8	100.0
	Total	67	100.0	100.0	

Ethnicity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Asian	3	4.5	4.5	4.5
	Black	2	3.0	3.0	7.5
	Hispanic	3	4.5	4.5	11.9
	White	59	88.1	88.1	100.0
	Total	67	100.0	100.0	

Age, Years in Job, Years in Public Health

		Age	Years in Current Job	Years in Public Health/Environment
N	Valid	66	67	67
	Missing	1	0	0
Mean		46.0758	5.8970	17.2612
Minimum		27.00	.20	.00
Maximum		65.00	26.00	40.00

Highest Educational Degree Completed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High School	1	1.5	1.5	1.5
	BA	1	1.5	1.5	3.0
	BS	16	23.9	23.9	26.9
	MA	15	22.4	22.4	49.3
	MS	11	16.4	16.4	65.7
	MPH	6	9.0	9.0	74.6
	MSN	2	3.0	3.0	77.6
	MSW	2	3.0	3.0	80.6
	MD	7	10.4	10.4	91.0
	PhD	2	3.0	3.0	94.0
	JD	3	4.5	4.5	98.5
	Post-doc	1	1.5	1.5	100.0
	Total	67	100.0	100.0	

Field of Study

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Medicine	7	10.4	10.4	10.4
	Nursing	10	14.9	14.9	25.4
	Health Related	14	20.9	20.9	46.3
	Nat. Sciences	12	17.9	17.9	64.2
	Soc. Sciences	8	11.9	11.9	76.1
	Bus/Admin/ Mgmt.	7	10.4	10.4	86.6
	Law	3	4.5	4.5	91.0
	Engineering	3	4.5	4.5	95.5
	Education	2	3.0	3.0	98.5
	Other	1	1.5	1.5	100.0
	Total	67	100.0	100.0	

Job Position Category

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Director/ Senior Mgmt.	34	50.7	50.7	50.7
	Management	17	25.4	25.4	76.1
	Non-management Team Member	2	3.0	3.0	79.1
	Professional	10	14.9	14.9	94.0
	Professor/ Educator	4	6.0	6.0	100.0
	Total	67	100.0	100.0	

Job Type Category

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Health	38	56.7	56.7	56.7
	Environ-ment	20	29.9	29.9	86.6
	Both	6	9.0	9.0	95.5
	Other	3	4.5	4.5	100.0
	Total	67	100.0	100.0	

Agency Category

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Government	43	64.2	64.2	64.2
	Corporate /Business	14	20.9	20.9	85.1
	Non-profit	6	9.0	9.0	94.0
	Educ. Institution	3	4.5	4.5	98.5
	Other	1	1.5	1.5	100.0
	Total	67	100.0	100.0	

Job Change Since RIHEL?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	33	49.3	49.3	49.3
	Yes	34	50.7	50.7	100.0
	Total	67	100.0	100.0	

APPENDIX K

LPI Change Scores and Groups

LPI Change Scores and Groups: Total N =67

High Change= Top 25%; Positive change on all 5 practices for a total of +41 to +106; N=19

ID #	CP	ISV	EOA	MW	EH	Total	Interview
51	+17	+25	+21	+22	+21	+106	Y
66	+16	+21	+17	+22	+21	+97	Y
14	+21	+19	+14	+9	+28	+91	Y
11	+12	+20	+13	+13	+22	+80	Y
7	+6	+17	+20	+31	+1	+75	N
24	+19	+19	+13	+11	+12	+74	N
48	+13	+20	+4	+13	+12	+62	Y
12	+3	+9	+8	+12	+28	+60	Y
2	+11	+9	+10	+12	+15	+57	Y
32	+14	+12	+15	+8	+6	+55	N
29	+14	+18	+7	+4	+11	+54	N
61	+7	+7	+2	+14	+20	+50	Y
38	+3	+14	+9	+6	+18	+50	N
47	+9	+14	+6	+12	+5	+46	N
44	+1	+10	+7	+8	+18	+44	Y
1	+15	+14	+1	+5	+9	+44	Y
54	+8	+11	+6	+3	+13	+41	N
31	+1	+18	+4	+7	+9	+39	N
54	+8	+11	+6	+3	+13	+41	41

Medium Change= 50-75%; Positive change on 4-5 practices for total of +20 to +40; N=18

ID#	CP	ISV	EOA	MW	EH	Total	Interview
31	+1	+18	+4	+7	+9	+39	N
59	+3	+15	+2	+10	+7	+37	N
60	+4	+7	+9	+9	+6	+35	N
28	+7	+12	+1	+7	+7	+34	Y
34	+3	+5	+8	+8	+10	+34	Y
9	+8	+12	+5	+2	+5	+32	Y
42	+7	+8	+5	+7	+5	+32	N
41	+10	+10	0	+8	+4	+32	Y
33	+4	+17	+7	+9	-7	+30	N
58	+4	+1	+6	+10	+7	+28	N
56	+3	+10	+6	+7	+1	+27	N
5	+7	+2	+4	+2	+12	+27	N
45	+1	+11	+7	+8	-1	+26	N
30	+14	+11	-2	-2	+2	+23	N
19	+3	+11	+2	+5	+2	+23	N
64	+5	+4	-3	+2	+14	+22	N
62	+6	+7	0	+5	+2	+20	N
16	+3	+4	+5	+3	+5	+20	N

Low Change=25-50%; Positive change on 3-5 practices for a total of +6 to +19; N=15

ID#	CP	ISV	EOA	MW	EH	Total	Interview
40	+7	0	+2	0	+10	+19	N
63	+4	0	+6	+7	+2	+19	N
4	+4	+1	+7	+1	+5	+18	N
50	+8	+7	0	0	+2	+17	N
55	+4	+6	-1	+1	+6	+16	N
65	0	+4	+2	-1	+11	+16	N
22	0	+4	+3	+3	+5	+15	N
49	+2	+7	+4	0	+1	+14	N
69	+4	+1	+3	+4	0	+12	N
18	+5	+1	-1	+7	-1	+11	Y
6	0	+3	-2	+1	+7	+9	N
39	+1	-5	+13	-6	+6	+9	N
27	+8	+5	-3	+1	-4	+7	N
57	+1	+7	0	-1	0	+7	N
52	-1	+6	+4	+3	-6	+6	N

No Change to Negative Change; Mixed change to negative change on all 5 practices; N=17

ID #	CP	ISV	EOA	MW	EH	Total	Interview
53	0	+3	-1	+2	+1	+5	N
36	0	+4	+2	-4	+3	+5	N
35	-2	+2	0	0	+5	+5	N
25	+4	-6	+3	-1	+3	+3	N
10	-6	-4	+3	+6	+3	+2	N
26	+7	-3	-1	0	-1	+2	N
15	0	+1	+1	-4	+2	0	N
67	-1	+2	-2	-2	_2	-1	N
23	-2	0	+2	-2	0	-2	Y
13	-4	-4	0	0	+6	-2	N
20	+1	+5	-3	-2	-9	-8	Y
43	-4	-7	-1	-2	+1	-13	N
3	+2	-4	-5	-6	-1	-14	Y
17	-7	-7	-1	-1	-5	-21	N
37	-10	-7	0	-5	-9	-31	N
21	-9	-9	-6	-7	-4	-35	N
8	-8	-18	-8	-3	-1	-38	N

A STUDY OF LEADERSHIP DEVELOPMENT IN THE REGIONAL INSTITUTE FOR HEALTH AND ENVIORNMENTAL LEADERSHIP

_____

An Abstract of a Dissertation

Presented to

the Faculty of Social Sciences

University of Denver

_____

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

_____

by

Linda Grace Olson

June 2005

Advisor: Darrin Hicks

Abstract

This study utilized mixed quantitative and qualitative methods to explore changes in leadership practices and factors influencing those changes for public health and environment leaders. Sixty-seven alumni who completed the Regional Institute for Health and Environmental Leadership (RIHEL) one year program during 1999-2002 participated. Leadership Practice Inventories (LPI-Self), an alumni survey and interviews provided evidence for changed leadership practices for alumni. The alumni experienced a consistent increase in pre- to post-LPI based leadership practices, collaborative leadership practices and communication skills taught in RIHEL.

Few demographic characteristics correlated with the pre- to post-LPI change scores. A negative correlation existed for alumni with more years experience in public health and their total combined LPI change scores. However, there was no significant correlation between their final post-LPI scores and years of experience.

In addition, nine factors were identified by the participants as important in encouraging these changes and developing them as leaders. RIHEL particularly was central in these factors. Having a leadership framework with which to define and understand leadership conceptually and practically was also found important. An understanding of self as leader, including strengths and weaknesses, coupled with an understanding of the daily applications of

leadership practices suggested that stronger self-awareness encouraged their growth. Opportunities, experience and practice were also important factors. RIHEL leaders learned and developed as they sought opportunities and gained experience in the practices. Passion and commitment centered the leaders allowing them to lead in difficult times, develop new approaches to old problems or create positive work environments. Supportive relationships were pervasive throughout the alumni fellows' experience. A positive climate spurred them on to further growth in their work setting. Finally, confidence was crucial in their development.

RIHEL as a training intervention can be credited significantly with the changes in leadership practices of alumni from years 1999-2002. It gave them self awareness, a leadership framework, and skills to improve in multiple leadership opportunities. Increased confidence was central to their development. Confidence was both an encouraging factor and a resulting factor to the increased exemplary practices. Leadership training had a positive impact overall in the RIHEL alumni leaders' development.