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Leadership Practices of School Nutrition Professionals

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Doctor of Education

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by

Linda Gail Dycus

May 2007

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Keywords: Leadership Styles, School Nutrition Professionals, Leadership Practice Inventory
(LPI), American School Nutrition Association, Childhood Obesity

ABSTRACT

Leadership Practices of School Nutrition Professionals

by

Linda Gail Dycus

School-aged children's nutritional needs have changed from a 1946 underweight and undernourished population to rapidly increasing numbers of overweight and obese children with associated health complications. The purpose of this quantitative study was to explore leadership practices of state and system school nutrition professionals. By obtaining information regarding the past and present practices of school nutrition professionals, this researcher strove to provide insight into best practices for future leaders.

Electronic mail messages linked to Kouzes and Posner's (1995) self-reporting leadership practices survey were sent to 194 Tennessee school nutrition professionals (53 state directors and 141 system supervisors). The survey had a response rate of 40.7 %. Descriptive statistics and content analysis were used to analyze responses from the survey's participants.

Findings of the study provided a reflection of current school nutrition professionals' leadership practices and a demographic profile of school nutrition professionals. School nutrition professionals tend to have exemplary leadership skills as measured by the LPI compared to Kouzes-Posner mean scores. Of the nutrition professionals, 68% reported plans to retire in 10 or fewer years. Current school nutrition professionals primarily come from the ranks of existing school instructional personnel. A majority of the school supervisors held associate or bachelor degrees. State directors tended to have degrees at masters or doctorate level. A small number

had postsecondary professional training in nutrition and disease. Over half had some type of training in nutrition.

The findings of the study resulted in several suggestions for the school nutrition professional of the future including creation of specialized degree programs and internships at the post secondary level to train future candidates for the job as school nutrition professionals. Today's school nutrition professionals' postsecondary curriculum content could be lacking essential nutrition content area and might not be reflective of the current school population's nutritional risks, needs, and best practices of preventions and/or treatments.

DEDICATION

I dedicate my dissertation to God for blessing me with my earthly treasures: my four daughters, Lindsey, Katherine, Ashley, and Elizabeth; my parents, Roy and Phoebe Dycus; and my brother, William.

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CHAPTER 1

INTRODUCTION

America's Child Nutrition Program has undergone major transformation in scope, vision, and practices. On June 4, 1946, the National School Lunch Program began with President Harry S. Truman signing the *National School Lunch* Act. This new legislation was enacted in response to claims that many American men had been rejected for World War II military service because of diet-related health problems. The federally-assisted meal program was established as "a measure of national security, to safeguard the health and well-being of the nation's children and to encourage the domestic consumption of nutritious agricultural commodities" (School Nutrition Association, 2006, n. p.).

In direct opposition to this goal, obesity rates of Americans have grown to epidemic proportions (Finkelstein, Fiebelkorn, & Wang, 2004). In the year 2000, 64% of Americans reportedly were either overweight or obese (Centers for Disease Control and Prevention, 2004b). During the past 20 years, a dramatic increase in the rate of childhood obesity in the United States has occurred. Nine million school-age children and adolescents reportedly were overweight to a degree that directly affected their health (National Center for Health Statistics, 2000). The health complications of childhood obesity include: Type 2 diabetes, insulin resistance, hypertension, gall bladder disease, sleep apnea, orthopedic complications, and low self-esteem (Dietz, 1998). Childhood obesity negatively impacts children's ability to learn, their test scores, behavioral and psychological health, ability to concentrate, energy levels, and school absenteeism (Schwinner, Burwinkle, & Varni, 2003). The *Richard B. Russell National Child Nutrition Reauthorization* Act of 2004 required every school system that participates in the federal school lunch program to have a wellness policy in place by the start of the 2006-2007 school year.

Statement of the Problem

School-aged children's nutritional needs have changed from a 1946 underweight and undernourished population to the present day population of overweight and obese children with health complications. A review of current research literature resulted in no publications that addressed the leadership styles and practices of school nutrition program leaders at the state and local school system level. However, the American Dietetic Association (2006a), upon recognizing the significant problem of children and adolescent obesity in the United States, published a position paper based on a systematic evidence-based analysis of pediatric overweight intervention programs. The American Dietetic Association's (2006a) position based on the study was:

> Pediatric overweight intervention requires a combination of family-based and school-based multicomponent programs that include the promotion of physical activity, parent training/modeling, behavioral counseling, and nutrition education. Furthermore, although not yet evidence-based, community-based and environmental interventions are recommended as among the most feasible ways to support healthful lifestyles for the greatest numbers of children and their families. ADA supports the commitment of resources for programs, policy development, and research for the efficacious promotion of healthful eating habits and increased physical activity in all children and adolescents, regardless of weight status. (p. 925)

Furthermore, the American Dietetic Association (2006a) summarized from an analysis of current research:

> School-based interventions at all grade levels have shown effectiveness in changing students' knowledge, attitudes, and behaviors around food and activity, and these positive efforts should be encouraged. To support and enhance the efficacy of family and school-based interventions, community-wide interventions are recommended. Although community programs are limited and have not been evaluated, they have the potential to reach the greatest numbers of people. Resources must be committed to support policies, programs, and research for the promotion of healthful eating habits and increased physical activity in children and adolescents of all ages and body weights. (p. 926)

If left unchecked, the impact of childhood obesity is long term and far reaching for Americans. The leadership of the nutrition school-based intervention component to combat the crisis of childhood obesity is crucial to prevention and management of this epidemic. School nutrition policy, practices, modeling, and other unidentified best-practice interventions must be

reflective of current knowledge in the field of nutrition and health. As demonstrated by the analysis of current research on childhood obesity, research and development of effective interventions and best practices must continue. Never before have educators been confronted with a preventable nutrition related health issue that, if left unresolved, will negatively impact student populations within learning communities. As with all changes, knowledge-based leadership must be present for positive change to occur. School nutrition leaders must be committed and equipped with the knowledge and professional tools to effectively lead others in embracing the prevention of childhood obesity and secondary health complications.

Considering the state of transformation in scope, vision, and practices of the school nutrition program, the purpose of this study was to explore self-reported leadership practices of state directors and Tennessee's school directors of the national school nutrition program.

Research Questions

Research Question # 1: Is there a difference in education and professional credentials between school nutrition state directors and system supervisors?

Research Question # 2: What are the self-reported leadership behaviors of present school nutrition state directors and school system supervisors as measured by the Leadership Practices Inventory (LPI)?

Research Question # 3: To what extent is there a difference between the leadership practices of school nutrition state directors and system supervisors regarding Kouzes-Posner norms?

Research Question # 4: Are there differences between self-reported leadership practices of school nutrition executives serving as state directors compared to system supervisors?

Research Question # 5: To what extent are education and professional credentials of school nutrition state directors and system supervisors related to their self-reported leadership practices as measured by the LPI?

Significance of the Study

The results of this study will provide insight into future school nutrition leaders' practices, professional training, and leadership characteristics. A small body of knowledge exists from one primary source that explored the leadership styles, demographics, and job expectations of individuals in school nutrition services. Few studies have focused on senior leadership positions of school nutrition programs. The results of this study could lead to the development of a model for professional leadership training of American school nutrition program executives.

Limitations and Delimitations

Limitations of any study limit the generalizability of results to other populations, individuals, and situations. The first limitation is that the proficiency of leaders to leadership competencies was self-reported in this study. As with all self-reported data, accuracy might or might not be valid if obtained from participants familiar with the leader's skill area competencies.

Secondly, this study was conducted within a particular organization. The national school nutrition program is a unique organization in terms of function, purpose, and structure. Therefore, the results might not be generalized to other organizations.

Thirdly, the study was conducted with a subgroup of leader administrators within the national school nutrition program thereby increasing the uniqueness of the surveyed population. The study's population might limit the general findings to other organizations and to other types of leaders within the national school nutrition program who might not presently hold a formal administrative position.

Finally, the researcher conducting this study is a member of the study's population; this might bias conclusions drawn. The research method and research tool was carefully chosen to lessen research bias. The research topic was limited to reporting results from a survey standardized by researchers outside the study's population. The reporting and tabulation of

results were completed electronically and by an individual outside the study's population from a summary table of results.

Definitions of Terms

1. *Leadership Practice Inventory (LPI)*: A quantitative instrument that measures the leadership practices identified by the studies of Kouzes and Posner (1995) as documented in their book, *The Leadership Challenge*. The authors developed five leadership practices: *model the way*, *inspire a shared vision*, *challenge the proces*s, *enable others to act*, and *encourage the heart*. These five exemplary practices were found to be common when describing personal-best leadership experiences (Kouzes and Posner).

2. *Leadership style*: The characteristic manner in which individuals lead others; their patterns of leadership behavior (Kouzes & Posner).

3. *Leadership:* An interaction occurring between two or more members of a group involving a structuring, or restructuring, of both the situation and the perceptions and expectations of the members (Bass, 1990a).

4. *Leadership skills*: The abilities to perform assigned tasks related to leadership (Kouzes & Posner).

5. *Professional development*: Additional skills and knowledge gained by participating in educational programs, conferences, workshops, and self-directed learning (Northouse, 2004).

6. *Transformational leader:* An agent of change, a good role model, a model of trustworthiness, a creator and articulator of visions for organizations, and one who empowers followers to achieve high standards and thereby give meaning to organizations (Bass, 1985).

7. *Diversity:* Difference among people with respect to age, class, ethnicity, gender, physical and mental ability, race, sexual orientation, spiritual practice, and other human differences (Gear, 1992).

8. *American School Nutrition Association:* The American School Nutrition Association (formerly American School Food Service Association) is a national, nonprofit professional organization representing school nutrition employees. Recognized as the authority on school nutrition, the school nutrition association has advanced the availability, quality, and acceptance of school nutrition programs as an integral part of education since 1946. The association provides members with education and training standards through certification and credentialing and gathers and transmits regulatory, legislative, industry, nutritional, and other types of information related to school nutrition to represent the nutritional interests of children (School Nutrition Association, 2006).

9. *State school nutrition director:* For the purposes of this study, a state director is the individual recognized by the USDA as administrative head of the state school nutrition program in each state's department of education.

10. *School system nutrition supervisor*: For the purposes of this study, a school system nutrition supervisor is the individual in each school system who oversees the national school nutrition program for the school district.

11. *National Food Service Management Institute* (NFSMI): This institute was authorized by Congress in 1989 and established in 1990 at The University of Mississippi in Oxford. The Institute operates under a grant agreement with the United States Department of Agriculture, Food, and Nutrition Services. The purpose of the NFSMI is to improve the operation of child nutrition programs through research, education, and information dissemination. The vision of the NFSMI is to be a leader in providing education, research, and resources to promote excellence in school nutrition programs (National Food Service Management Institute, 2005).

12. *Women, Infants, and Children (WIC):* WIC is a federal grant program for which congress authorizes a specific amount of funds each year for the program administered at the federal level by Food Nutrition Services of the United States Department of Agriculture. The WIC's target population are low-income, nutritionally at risk, pregnant women (through pregnancy and up to 6 weeks after birth or after pregnancy ends), breastfeeding women (up to infant's 1st birthday), and nonbreastfeeding postpartum women (up to 6 months after the birth of an infant or after pregnancy ends), infants (up to 1st birthday) and children up to their 5th birthday. WIC serves 45% of all infants born in the United States providing supplemental nutritious foods, nutrition education and counseling, health screening, and referrals to other health, welfare, and social services (Food and Nutrition Service, 2006).

Overview of the Study

The purpose of this study was to explore self-reported leadership practices of state and local national school lunch program state directors and system supervisors. Chapter 1 includes the introduction and background for the study, statement of the problem, research questions, significance of the study, limitations and delimitations, and definitions of terms. Chapter 2 is a review of relevant literature and research. The review of literature focuses on definitions of leadership, research approaches to leadership, leadership theories, leadership styles, the leadership practices inventory, leadership in a diverse changing world, an overview of childhood obesity, history of the national school nutrition program, and childhood dieting. Chapter 3 describes the methodology including the research design of the study. Chapter 4 presents the results of the study including statistical analysis and relevant findings. Chapter 5 gives a summary of the data and provides conclusions, recommendations for practice, and recommendations for further research.

CHAPTER 2

REVIEW OF LITERATURE

The purpose of this study was to describe the leadership styles of current state directors and local school supervisors of the school nutrition program. This chapter presents a review of the relevant literature concerning leadership styles and theories and is divided into the following major sections: definitions of leadership, study approaches to leadership, leadership theories, leadership styles, the Leadership Practices Inventory, influence of demographics on leadership styles, history of the school nutrition program, an overview of childhood obesity, and childhood dieting.

Definition of Leadership

Stogdill (1974) stated, "There are almost as many definitions of leadership as there are persons who have attempted to define the concept" (p. 7). Fleishman et al. (1991) reported that in the past 50 years, 65 different classification systems have been created to define the dimensions of leadership. One of these classification systems (Bass, 1990b) grouped definitions of leadership focus into processes with the leader at the center of group change and activity embodying the will of the group. Another grouping of leadership definitions indicated that leadership was a combination of special traits and characteristics possessed by an individual that enabled the leader to induce others to accomplish tasks (Fleishman et al.). A third grouping of leadership definitions commonly defined leadership by acts and behaviors that leaders do to bring about a change in a group (Fleishman et al.). Leadership definitions have also addressed power relationships between followers and leaders where the leader has power to effect change in the followers. Leadership was defined by others as an instrument of goal achievement empowering group members to achieve goals and needs. This definition of leadership included transformation of followers through vision setting, role modeling, and individualized attention.

Lastly, Northouse (2004) defined leadership from a skills perspective stressing the knowledge and skills that make effective leadership possible, "Leadership is a process, involves influence, occurs within a group context, and involves goal attainment" (p. 2). Based on these components, Northouse defined leadership as a "process whereby an individual influences a group of individuals to achieve a common goal" (p. 3). Leadership also implies "producing change and setting the direction of that change" (Kotter, 1990, p 104). Gardner (1990) defined leadership as "the process of persuasion or example by which an individual induces a group to pursue objectives held by the leader or shared by the leaders and followers" (p. 1). Other researchers defined leadership as a process occurring as one individual influences one or more people in an effort to facilitate organizational or group performance (Michener, DeLamater, & Schwartz, 1998).

Current leadership definitions stress cultural and symbolic aspects of leadership focusing on the process and results of leadership. Green (1997) characterized leadership as "transcending disciplinary and cultural boundaries" (p. 29). She further stated that leaders are products of different times and cultures as she studied them through political, psychological, and historical lenses. Cultures define who leaders are and what they can and cannot do (Green). Green concluded that although many variables define leaders, similarities and parallels could be drawn about leaders providing leadership.

Deal and Kent (1999) defined school leadership by presenting five central paradoxes school leaders will face in the future that must be harmonized and balanced while in an environment of conflicting values. The five paradoxes were:

1. Paradox of purpose: Leaders need to build and maintain a shared purpose while encouraging enough creative diversity to ensure continued growth for students and staff. Shared purpose is key to quality schools, but it is equally important to nurture diverse views, be open to innovation, and encourage flexibility for the sake of progress.

2. Paradox of people: Leaders must be caring and supportive of people who work in schools but also must champion and protect the integrity and common good of the institution. This is one of leadership's deepest and most challenging paradoxes. As

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schools empower, motivate, and nurture staff and parents, it must be for the common good of students, the school, and society at large.

3. Paradox of change: Leaders must perpetuate what is thriving in the present while reaching for what may be even better in the future. They must both embrace change and remain the same. They must balance the status quo with future improvements.

4. Paradox of action: Leaders must take time to reflect on purpose and potential but must also make decisions and take action. It is always a balancing act: reflecting ideas about what to do and implementing what appears to be a satisfactory decision. Leaders must visualize new purposes and better directions while bringing new possibilities to reality.

5. Paradox of leading: Leadership cannot come from one source. Leadership must come from everyone to sustain positive cultures. (p. 138)

Leadership Studies Approaches

Many studies have been conducted over the years with the goal of explaining leadership and the effect of different leadership approaches. Northouse (2004) presented an orderly method for organizing leadership approaches: (a) trait approach, (b) skills approach, (c) style approach, (d) situational approach, (e) contingency theory, (f) path-goal theory, (g) leader-member exchange theory, (h) transformational approach, and (i) psychodynamic approach.

Trait Approach

This approach to leadership emphasizes specific attributes and traits of leaders such as personality, motives, values, and skills. The trait approach is based on the assumption that the leader possesses certain traits that others do not possess. The trait approach assumes leaders are born with these traits, hence the term a "born leader." Because of the focus on identifying the innate qualities and characteristics possessed by great leaders, these theories were commonly called the "great man" theories. Some people, such as Məhatma Gandhi, Abraham Lincoln, and Napoleon, were believed to have been born with leadership traits. Trait-approach research was conducted with the hypothesis that specific traits could be identified that clearly differentiated leaders from followers and the leadership process was dependent upon the leader's personality

traits (Bass, 1990b; Jago, 1982; Northouse, 2004). The trait approach focuses on the leader exclusively and leaves the follower and situation unaddressed. The trait approach is straightforward theoretically because of the single focus on leader-possessed traits resulting in the depth and breadth of a century of research that gives a measure of credibility to trait theories. Trait approaches are centered on the traits a leader must exhibit for successful leadership and who has these traits. Therefore, personality assessments are used to determine whether an individual fits the leadership needs of an organization. Personal awareness and development is also used to give a clear picture of who leaders are and how they fit into the hierarchy of an organization. The trait approach has been criticized for "failure to delimit a definitive list of leadership traits, failure to consider the impact of situations, and inability to link leadership traits to positive outcomes of groups and teams" (Northouse, pp. 32-33).

Stogdill (1974) conducted two surveys of characteristics and leadership. In the second survey, Stogdill (1984) identified 10 characteristics of leaders that were positively associated with leadership:

1. a drive for responsibility and task completion,

2. vigor and persistence in pursuit of goals,

3. venturesomeness and originality in problem solving,

4. the drive to exercise initiative in social situations,

5. self-confidence and a sense of personal identity,

6. a willingness to accept consequences of decisions and actions,

7. readiness to absorb interpersonal stress,

8. willingness to tolerate frustration and delay,

9. ability to influence other persons' behavior, and

10. a capacity to structure social interaction systems to the purpose at hand. (p. 25)

A similar study of personality and leadership traits in small groups (Mann, 1959) identified leadership traits as: intelligence, adjustment, dominance, extroversion, and conservatism. Meta-analysis procedure was used by Lord, DeVader, and Alliger (1986) to

revisit Mann's leadership traits. Lord et al. found that intelligence, masculinity, and dominance were significantly related to how individuals perceived leaders and concluded that personality traits could be used to discriminate between leaders and nonleaders. Kirkpatrick and Locke (1991) stated, "It is unequivocally clear that leaders are not like other people" (p. 59). They developed a list of six traits that discriminate between leaders and nonleaders: drive, desire to lead, honesty and integrity, self-confidence, cognitive ability, and knowledge. Kirkpatrick and Locke concluded that these six traits could be learned, be present at birth, or both.

Skills Approach

In 1955, Robert Katz published "Skills of an Effective Administrator" in the *Harvard Review* that became a classic article for research on the skills approach to leadership (Northouse, 2004). Katz presented three basic administrative skills: technical, human, and conceptual and pointed out that it was important for leaders to have all three skills; but, some skills were more important in specific leadership levels in an organization. This classic article was published when researchers were trying to develop a definitive set of leadership traits and considered leadership skills as being attainable (Northouse).

According to Northouse (2004), Katz's work set the stage for an empirically-based skills approach in leadership research in the 1990s. The U.S. Army and Department of Defense conducted long-term studies of 1,800 Army officers of various ranks to assess skills, experiences, work situations, and develop a comprehensive theory of leadership based on problem-solving skills in an organization. Mumford, Zacarro, Connelly, and Marks (2000) formulated a skills-based model of leadership based on extensive findings from the U.S. Army and Department of Defense studies. Five components of effective leader performance were delineated in this model:

1. competencies of problem solving skills, social judgment skills, and knowledge;
2. individual attributes;
3. leadership outcomes;

4. career experiences; and

5. environmental influences. (p. 155)

The model demonstrated how effective problem solving and performance are supported by the

leader's basic competencies and these basic competencies are affected by the leader's attributes,

experiences, and the environment (Mumford et al.).

The skills model developed by Mumford et al. (2000) was a leader-centered model that

stressed the importance of the leader's abilities and placed learned skills at the center of effective

leadership performance. Therefore, using the skills approach, leadership is available to everyone

who can learn to lead. The skills approach provides a structure for leadership education and

development programs that include creative problem solving, conflict resolution, listening, and

teamwork (Northouse, 2004).

Style Approach

The style approach originated from three major research projects: the Ohio State

University studies, the University of Michigan studies, and Blake and Mouton's Managerial Grid

(Blake & Mouton, 1985). The style approach focused on what leaders do rather than who

leaders are. Two basic behaviors were identified in the style approach that leaders engaged in:

task behaviors and relationship behaviors. Combining these two types of behaviors to influence

others was the central purpose of the style approach. The style approach provided a framework

for assessing leadership by assessing task and relationship behavior (Northouse, 2004;

Yammarino, 2000).

Situational Approach

Hersey and Blanchard (Blanchard, 1985) based the situational approach on the 3-D

management style theory of Reddin. The situational approach has been refined and revised since

1969 (Blanchard, Zigarmi, & Nelson, 1993). The foundation of this approach is that different

situations demand different leadership and an effective leader adapts style to the needs and

demands of the situation at hand. This prescription of leading in a particular situation is derived from accurately diagnosing the followers and task, then, matching the diagnosis to the appropriate leadership style. According to Blanchard, situational leadership is comprised of four styles or leadership roles. The styles have varying amounts of directives and support applied to followers, developmental work levels of competency, and commitment. Situational leadership recognizes that there is not one "best" style of leadership but a need for leaders to be flexible and adapt style to the current situation.

Downton (1973) introduced transformational leadership as an important approach based on a classic work, *Leadership,* by Burns (1978). Burns defined leadership as the process of how leaders inspired followers to accomplish great things. The transformational approach to leadership stresses adaptation and understanding of followers' needs and motives. The transformational leader is an agent of change, a role model, a model of trustworthiness, a creator and articulator of visions for organizations, and one who empowers followers to achieve high standards and thereby give meaning to organizations (Bass, 1985; Bennis & Nanus, 1985; Burns; Tichy, & DeVanna, 1986). The multifactor Leadership Questionnaire is used to assess transformational leadership by focusing on seven areas: idealized influence (charisma), inspirational motivation, intellectual stimulation, individualized consideration, contingent reward, management-by exception, and laissez-faire behavior (Bass & Avolio, 1990).

Behavioral Approach

The behavioral approach followed trait leadership studies in an attempt to better understand the phenomenon of leadership. Researchers began looking at what leaders actually did on the job (Yukl, 2002). Yukl developed two subcategories of behavior: (a) how leaders spend their time and the typical pattern of activities, responsibilities, and functions of their jobs and (b) identification of effective leadership behaviors.

The studies of leadership traits and behaviors, although providing much needed information, were too simplistic; therefore, researchers began to dissect the complexity of leadership, resulting in the present evolving studies and theories of leadership.

Power-Influence Approach

The power-influence approach explored the influence between leaders and other individuals. Leader-possessed power types and how the power was exercised over followers, superiors, and individuals outside the organization was the focus of these studies (Yuki, 2002). Bradford and Cohen's (1984) studies revealed:

> Having clout with your boss gains respect from subordinates and peers, being influential with colleagues lets you deliver what your boss wants and your subordinates need; and high-performing subordinates increase your power sideways and upwards because you can deliver on your obligations and promises. (p. 280)

Integrative Approach

The integrative approach to leadership explores variables such as leadership traits, behavior, influence processes, and situational variables (Yukl, 2002). According to Bass (1990b), "Leadership must be conceived in terms of interaction of variables that are in constant flux" (p. 76). Bass and Steidlmeier (1999) stressed the importance of including cognitive, behavioral, and interactional variables in studies of leader-follower relations and outcomes. Charismatic and transformational leadership are examples of an "integrative approach to leadership that also involves leader traits, power, behavior, and situational variables" (Yukl, p. 270).

Leadership Theories

For the purpose of this literature review, leadership theories include contingency, Kouzes and Posner's (1995) theory, and transformational theory. Leadership theories evolved in response to demographic and market realities and the resulting basic economic and social goals

developed to achieve growth and profitability by fulfilling the marketable needs of target populations with goods and services. Leadership theories continue to evolve in response to changes in today's world and individual's visions of the future world.

Contingency Theory

The contingency theory of leadership is concerned with situations and styles. A framework is used to match the leader and the situation to optimize leadership outcomes. Personality-like measures such the Least Preferred Coworker (LPC) scale are used to measure leadership styles. Situations are measure by three variables: leader-member relations, task structure, and position power. Contingency theory is backed by considerable research (Fiedler, 1964; Fiedler & Garcia, 1984).

Kouzes and Posner Theory

Kouzes and Posner's (1995) leadership theory is based on value principles or practices. The Leadership Challenge began in 1983 and resulted in the development of the Leadership Practices Inventory (LPI). Kouzes and Posner explored what people did when they were at their "personal best" in leading others. By asking ordinary people to describe extraordinary experiences, the researchers found patterns of successful leadership. By 1987, Kouzes and Posner had analyzed more than 550 surveys, each requiring from 1 to 2 hours of reflection and expression. At the same time, a shorter, two-page form was completed by another group of 80 managers, and the researchers conducted an additional 42 in-depth interviews. In the initial study, they examined the cases of middle- and senior-level managers in private and public sector organizations. Since the original surveys, they have expanded their research and collected thousands of additional cases. This expanded data collection included community leaders, student leaders, church leaders, government leaders, and hundreds of others in nonmanagerial positions.

Kouzes and Posner (1995) devised a personal-best leadership survey consisting of 38 open-ended questions such as:

1. who initiated the project;

2. how were you prepared for this experience;

3. what special techniques and strategies did you use to get other people involved in the project; and

4. what did you learn about leadership from this experience? (n. p.)

Kouzes and Posner (1995) collected thousands of "personal best" stories based on the experiences people recalled when asked to think of a peak-leadership experience. Despite differences in individual stories, an analysis of the personal-best cases evolved into a model of leadership that consisted of what Kouzes and Posner called the five practices of exemplary leadership as shown in Table 1.

Table 1

Five Practices of Exemplary Leadership

Practice	Leadership
Model the Way	Leaders establish principles concerning the way people (constituents, peers, colleagues, and customers alike) should be treated and the way goals should be pursued. They create standards of excellence and then set an example for others to follow. Because the prospect of complex change can overwhelm people and stifle action, they set interim goals so that people can achieve small wins as they work toward larger objectives. They unravel bureaucracy when it impedes action; they put up signposts when people are unsure of where to go or how to get there; and they create opportunities for victory
Inspire a Shared Vision	Leaders passionately believe that they can make a difference. They envision the future, creating an ideal and unique image of what the organization can become. Through their magnetism and quiet persuasion, leaders enlist others in their dreams. They breathe life into their visions and get people to see exciting possibilities for the future.

Table 1 (continued)

Practice	Leadership
Challenge the Process	Leaders search for opportunities to change the status quo. They look for innovative ways to improve the organization. In doing so, they experiment and take risks. And because leaders know that risk taking involves mistakes and failures, they accept the inevitable disappointments as learning opportunities.
Enable Others to Act	Leaders foster collaboration and build spirited teams. They actively involve others. Leaders understand that mutual respect is what sustains extraordinary efforts; they strive to create an atmosphere of trust and human dignity. They strengthen others, making each person feel capable and powerful.
Encourage the Heart	Accomplishing extraordinary things in organizations is hard work. To keep hope and determination alive, leaders recognize contributions that individuals make. In every winning team, the members need to share in the rewards of their efforts, so leaders celebrate accomplishments. They make people feel like heroes.

This model of leadership was first published in *The Leadership Challenge* by Kouzes and Posner in 1983 (Kouzes & Posner, 1995). The development of the *Leadership Practices Inventory* (LPI) followed as a direct result of Kouzes and Posner's studies. The LPI was developed by triangulating qualitative and quantitative research. The five leadership practices, *model the way*, *inspire a shared vision*, *challenge the process*, *enable others to act*, and *encourage the heart*, were translated into leadership action and behavior statements measured by the LPI. Each statement was originally cast on a five-point Likert scale, but reformulated in 1999 into a 10-point Likert scale. A higher value represents more frequent use of a leadership behavior. The LPI contains 30 statements with 6 statements for measuring each of the 5 key practices of exemplary leaders. The LPI requires approximate 8 to 10 minutes to complete. Lewis (1995) reported that the LPI:

. . . demonstrates sound psychometric properties. Internal reliabilities for the five leadership practices, underlying factor structure across a variety of studies, and a setting demonstrating the LPI construct and concurrent validity. Findings are relatively consistent across people, gender, ethnicity and cultural backgrounds and organizational characteristics. The LPI has been noted to demonstrate powerful assessment of individuals' leadership capabilities, and demonstration for the five practices of exemplary leaders making a difference at the personal, interpersonal, small group, and organizational level. The LPI is quite robust in assessing individuals' leadership behavior and in providing feedback for developing and enhancing leadership capabilities. Overall, the five practices of exemplary leadership framework and the LPI contribute richly to the understanding of leadership process and in the development of leadership capabilities. (p. 557)

Research studies into the difference between leaders' self-reported leadership style and

their constituents using the LPI-Observer form to do so have been summarized by Posner and

Kouzes (1994):

Empirical tests of differences between leaders (using the LPI-Self form) and their constituents (using the LPI-Observer form) reveal no statistically significant differences (at the .001 level of probability) between these two groups on Modeling and Challenging. While statistically significant, the mean differences between these two groups on Inspiring, Enabling, and Encouraging have little practical significance, except to note that leaders view themselves as engaging somewhat less in Inspiring and Encouraging, and slightly more in Enabling, than do their constituents. It has not been unusual to find self-scores higher than Observer scores in specific workshop or research settings although the rank order of the practices has been generally consistent across sample populations. Some researchers have reported no significant differences between Self and Observer responses. Comparisons across leaders (LPI-Self) and their specific constituencies reveal no statistically significant differences ($p < .001$) for the leadership practices of Modeling and Challenging. Direct Reports, Coworkers/Peers and Others report their leaders engaging more on Inspiring than do the Leaders themselves. For Enabling, there are no differences between the Leaders' views and those from their Managers or Direct Reports. Coworkers/Peers and Others report less Enabling than do Leaders. On Encouraging, the scores from Leaders and their Direct Reports are not statistically different, while Manager, Coworker/Peers, and Others report more Encouraging than do Leaders.

Scores on the LPI for government managers were matched with a comparable group of business managers. Overall, there were no statistically significant differences between the two groups of managers. LPI-Self scores did not differ between these two groups of managers, nor did the scores differ as reported by their constituents (LPI-Observer). A study involving leaders employed in public or private sector health positions found no differences between the two groups, as was also the case for a study comparing the top staff of human service organizations (non-profit) with a random selection of business managers.

Transformational Leadership Theory

Transformational leadership is rooted in the studies and writings of Burns (1978), Bass (1985), Bennis and Nanus (1985), and Tichy and DeVanna (1986). Transformational leadership theory has been linked to improved organizational performance and recognized as a possible solution to the challenge of change in organizations (Northhouse, 2004). The Multifactor Leadership Questionnaire (MLQ) assesses the use of transformational leadership. The MLQ measures a leader's behavior in seven areas: idealized influence (charisma), inspirational motivation, intellectual stimulation, individual consideration, contingent reward, management by exception, and laissez-faire behavior. Bass and Avolio (1990) found that the higher the score on the MLQ, the stronger the transformational leadership was.

Tichy and DeVanna's (1990) conclusions from interviewing leaders in challenging situations brought about rapid change suggesting a three-act process:

1. recognizing the need for change, acting as change agents within organizations that tend to be comfortable with status quo;

2. creating a vision to use as a road map of how to get to the future and how the future of an organization will look; and

3. institutionalizing changes by breaking down the old and establishing new structures in an organization. (p. 45)

Leadership Styles

Leadership style refers to the characteristic manner in which leaders lead (Northhouse, 2004). Leadership styles have been categorized as autocratic, democratic, or laissez faire (Northouse). Northhouse described the autocratic leadership style as exhibited by leaders who maintain a high degree of control over a group without allowing decision-making by group members. The group's goals and methods to achieve the goals are set by the autocratic leader. The democratic leader seeks the group's input about development of procedures and methods to achieve the goals. The democratic leader uses high motivation techniques to guide the group.

The Laissez-faire leader is characterized by a "hands-off" approach. The group controls stimulation, goal setting, and methods or procedures (Northouse).

Diversity and Leadership

Demographers, based on 2000 census data, predicted, "Women, people of color, and ethnic minorities will represent over 50% of all new entrants to the workforce by 2008" (McCuiston & Wooldridge, 2004, p. 73). Future leaders will function in a very different world. Established global marketplaces along with dramatic demographic shifts are forcing future leaders to rethink models of success and strategies to achieve growth, profitability, and sustainability (Fitzpatrick, 1997; Martino, 1999; McBride & Bostian, 1998; Wheeler, 2001).

Leadership is and has been consistently ranked the single most important issue both today and in the future (Human Resource Institute, 2002). According to *Trendwatcher* (Human Resource Institute), the number of traditional leadership candidates from the 35- to 44- year-old group will decline by 15% through 2015 because of retirement.

Mosley (1998) concluded that the demographics of the workforce served by a program should be mirrored in the demographics of an organization's staff. Diversity of society and workforce is evident in the United States today. Thomas (1990) identified the problem of finding diverse candidates for an organization's leadership positions. Substantial empirical evidence suggests that demographic variables such as gender, age, ethnicity, tenure, background, and formal leadership training influence the leadership style of individuals (Arnold, Cooper, & Robertson, 2000). The influence of these variables on an individual's leadership style, combined with the specific abilities an individual possesses, are determining factors as to which individuals become leaders within an organization.

Leadership in the School Nutrition Program

Nutrition program leaders have encouraged healthy eating among students. However, according to national studies, such efforts are limited in many locations (U.S. Department of

Education, 2000). The engaged leader in the school nutrition program educates and disseminates by encouraging interest, commitment, and purposeful action from the school learning communities and the general public to improve local district policy and practice aimed at reducing childhood obesity. A school nutrition supervisor leads the learning community to include nutrition education in teaching the whole child by (a) educating and lobbying for daily physical activity for every student, (b) offering affordable healthy foods, (c) eliminating the marketing and sales of unhealthy foods in schools, (d) creating safe places for children and families to be physically active during school and nonschool hours, and (e) educating children about lifelong healthy habits. Nutrition education has been documented as one way to promote nutritious dietary habits among youth (U.S. Department of Education).

The U. S. Department of Education (2000) reported that teachers presented lessons about nutrition in 88% of kindergarten- through fifth-grade classes and spent an average of 13 hours per school year devoted to nutrition education. A study reported by the U. S. Department of Education determined that although most schools required some nutrition education at all grade levels, the median time spent on nutrition education was 5 hours in elementary grades and 4 hours during middle-school years. Lytle et al. (1996) and Lytle and Fulkerson (2002) found that the positive effects of nutrition education for school age children were directly related to time and duration of instruction. Lytle and Fulkerson also emphasized the importance of focusing on student behavior and underscored the importance of providing a healthy school environment to reinforce and encourage students to make healthy eating choices.

A study by the National Food Service Management Institute (2005) summarized barriers to providing nutritious meals and encouraging healthy eating. These barriers were: (a) budget pressures, (b) competing time demands, (c) lack of acceptance by students of healthy food options, and (d) limited resources and time to teach nutrition to educators and students in schools.

The American School Nutrition Association (SNA) is recognized as the authority on school nutrition. SNA began as an integral part of education in 1946. In 1964, SNA established the Child Nutrition Foundation to raise money for professional development and outreach programs as well as to provide members with tuition assistance opportunities (School Nutrition Association, 2006). The mission of the SNA is to ensure all children have access to healthful school meals and nutrition education. The SNA's mission actions are:

1. providing members with education and training;

2. setting standards through certification and credentialing;

3. gathering and transmitting regulatory, legislative, industry, nutritional and other types of information related to school nutrition; and

4. representing the nutritional interests of all children. (n. p.)

The SNA has 52 state affiliates, hundreds of local chapters, and thousands of school nutrition members and industry partners.

To provide educational opportunities thereby ensuring the professional development of its members, the SNA developed a career ladder program within schools that SNA members can climb from entry-level assistant to district director. The levels are: (a) SNA member, (b) SNA certified member, and (c) credentialed member school food nutrition specialist (School Nutrition Association, 2006).

The SNA has certification standards for academic education including specialized training as shown in Table 2 (School Nutrition Association, 2006) and work experience as conditions of being awarded certification. It has also established standards for continuing education as a condition of maintaining certification.

Table 2

School Nutrition Association Specialized Training Requirements

Specialized Training	Level 1	Level 2	Level 3
Key Area #1 Operations:	Credits	Credits	Credits
Required Course Options: Serving it Safe, Serve Safe, DMA's Sanitation & Safety Exam, or SNA-approved State Association course. Electives: HACCP, Purchasing / Inventory, Menu Planning, Food Preparation / Culinary, Now You're Cooking	10	10	20
Key Area #2 Nutrition:			
Required Course: Healthy EDGE: Building Healthy School Meals (CNF) or SNA approved state association course	10	10	20
Key Area #3 Administration:			
Electives, Suggested Topics: Personnel Management / Human Relations / Interpersonal Skills, Financial Management, Cashiering, Record Keeping, Accounting		10	20
General Electives: (can take courses from any of the four key areas)	10	50	70
Total Specialized Training Hours	30	90	9 semester hrs
College Courses (semester credits/hours):			
Sanitation & Safety / Microbiology			3
Nutrition			3
Foodservice Management			3
Total Semester Hours			9

The SNA web site (School Nutrition Association, 2006) listed the following benefits of certification:

1. increases knowledge and skills of food safety, nutrition, and more;

2. enhances professional image with parents, children, peers, and school administrators;

3. enables professional to stay current on issues concerning school nutrition initiatives;

4. increases pride in work; and

5. formalizes recognition of professional achievement. (n. p.)

The credentialing program of the School Nutrition Association (2006) was created to enhance the professional image of school foodservice and nutrition professionals. A key purpose of the association is to develop and encourage the highest standards and provide education programs for professional development of school food and nutrition personnel. The credentialing program includes standards for academic and specialized training, knowledge, and skills. Participation in the credentialing program is voluntary and open to anyone working in the school foodservice industry who meets the following minimum prerequisites:

1. associate's degree or education equivalent (60 college semester hours);

2. one year of experience in school foodservice and nutrition in the past 5 years at the school, district, college/university, state, or federal level. Trainers and consultants working in the industry and those who work in community nutrition programs are also eligible; and

3. 30 semester hours of specialized training beyond an associate's degree in foodservice management, business, nutrition, or related field. One year of work experience at a supervisor/director level in child nutrition programs may be substituted for each 10-semester hours of specialized training. (School Nutrition Association, n. p.)

The School Nutrition Association (2006) listed the following benefits of becoming credentialed as a school food nutrition specialist:

1. formal recognition of professional achievement at a national level;

2. professional recognition from subordinates, peers, and superiors;

3. increased self-esteem and pride in one's work;

4. increased ability to manage a complex foodservice operation;

5. demonstration of commitment to one's chosen profession;

6. more credibility with school district administrators and the general public; and

7. career opportunities. (n. p.)

History of Europe's School Lunch Program

Efforts regarding schools' foodservices in European countries began many years prior to America's programs of schools' food services. Germany, in 1790, had a combined program of teaching and feeding hungry, vagrant children in Munich. Free textbooks, clothing, and food were provided to needy children in 1875 by the Philanthropic School Society in Hamburg. The Society for Feeding Needy School Children at Dresden was the first privately funded society with the sole purpose of feeding school children (School Nutrition Association, 2006).

According to the School Nutrition Association (2006), Frenchman Victor Hugo provided funds hot meals for school children in 1865 while he was exiled in Guernsey. In 1867, the minister of France's Public Instruction, Victor Duray, requested school officials to give special attention to the nutrition of school children. Approximately 464 communities established school lunch programs for needy children in France. In 1871, the Society for People's Kitchen in the Public Schools was established in Augers, France. School children, if unable to pay the two-cents charge for a school meal, were provided funds to eat free. Paris's School Canteens in 1877 provided meals at public expense for children whose parents were listed on the Poor Board List. Two years later, this program was implemented in every Paris school district with the city's subsidy increasing yearly until the city paid the entire cost of school meals. The program was open to all students, regardless of ability to pay. If a child was able to pay, the cost of the meal was charged. Equipment and labor costs were not included. Anonymity of free-meal-status was fully protected by a system of identical free and paid lunch tickets. Paris teachers supervised this program for a 25-cents per day pay increase (School Nutrition Association).

England passed the *Education Provision of Meals* Act in 1905. Three hundred sixty-five private, charitable organizations provided meals at schools for needy children prior to this act (Gunderson, 2006).

The Children's Aid Society of New York as far back as 1853 served lunches to students at a vocational school after noting the schoolwork of malnourished children as inadequate. Two publications during this era showed support for the schools' feeding programs in the school setting. Spargo's *The Bitter Cry of the Children* was published in 1906. As a parallel publication to Hunter's *Poverty*, Spargo dwelled extensively upon the misfortunes of children and the effect of malnourishment upon their physical and mental well-being. From his studies, Spargo concluded:

> Not less than 2,000,000 children of school age in the United States are the victims of poverty that denies them common necessities, particularly adequate nourishment. Such children are in very many cases incapable of successful mental effort, and much of our nation's expenditure for education is in consequence an absolute waste. (p. 86)

The introduction to the *Bitter Cry of the Children* (Spargo, 1906) was authored by Robert Hunter. Hunter had the following comments:

> Few of us sufficiently realize the powerful effect upon life of adequate nutritious food. Few of us ever think of how much it is responsible for our physical and mental advancement or what a force it has been in forwarding our civilized life. To the contention that society, having assumed the responsibility of insisting that every child shall be educated, and providing the means of education, is necessarily bound to assume the responsibility of seeing that they are made fit to receive that education, so far as possible, there does not seem to be any convincing answer. It will be objected that for society to do this would mean the destruction of the responsibility for which society has assumed. Some individualists undertake to provide the children with food are far more logical than that of those who believe that society should assume the responsibility of educating the child, but not that of equipping it with the necessary physical basis for that education. (p. xxxvii-xxxviii)

In 1904, the state of Wisconsin began efforts to meet children's nutrition needs when the Women's School Alliance of Wisconsin began furnishing lunches to children in three centers located in areas where both parents were working and the greatest need was evident. The project was supported by donations from private individuals, churches, societies, and clubs. The lunches were prepared in the homes of women who lived near the schools and who were willing to cook and serve the meals. Improvement in attendance and scholarship was noted and six additional centers were in operation by 1910 (Gunderson, 2006).

Under the cloak of the Women's Educational and Industrial Union, Boston began serving hot lunches in September 1908 to high school students. The Boston School Committee was in charge of supervising the program. The day-to-day implementation was delegated to a lunchroom superintendent and a director of school lunches (Gunderson, 2006). As cited by Gunderson, Hunter estimated 60,000 to 70,000 schoolchildren in New York were not capable of completing accurate schoolwork because of malnourishment. The superintendent of New York schools in 1908 made a special plea in his report to the board of education, saying, "Again I appeal to you, in the name of suffering children, to establish in each school facility whereby the pupils may obtain simple wholesome food at cost price (Gunderson, n. p.). This plea, in part, led to a school lunch committee consisting of physicians and social workers with the question of whether a lunch program could be self-supporting at a three-cents charge to students. Two school lunch programs were piloted that year to determine the costs of a school lunch program. Two years later, the program was expanded to other schools in the city along with the committee's agreement to pay the cost of equipment, gas, and necessary rooms. Cost of food and labor was to be generated from lunch sales revenue. In January 1921, the responsibility for New York City elementary schools' lunch programs moved from volunteer social organizations to the board of education (Gunderson).

According to Gunderson (2006), the Cleveland Educational Survey of 1915 described the early school lunch menus in Cleveland, Ohio, high schools:

In 1914-1915, the normal school and all high schools except two are providing lunch services. This involves 6,715 students. All items served are priced a la carte and a typical menu offers a selection from about 15 items, including milk. In some schools the range of choice is too great; in others, [it is] too small. In all, it is uneven. Vegetable soup is always vegetable soup and the price is four cents; but price is the only constant factor, for the materials used vary from school to school. That is, a nickel will buy more food, often of better quality, in one school than it will in another. Milk is furnished to all schools by one dairy selected by the lunchroom supervisor. All other supplies are chosen by the individual concessionaires who are entirely responsible for the service. In a number of schools they prepare the food themselves, which increases their difficulties for they are frequently interrupted by trades people, by lunchroom helpers asking questions, by stray students who need attention, and by teachers on diets who want beef juice or an eggnog or by other teachers who have a free hour and want a special meal. Lunch has to

be prepared in between these demands and dishes are sometimes ready long before the regular lunch period. (n. p.)

As reported by Gunderson (2006), Boughton added to this first-hand account of an early school lunch program in 1915, with the comments of a survey committee concerning the place of lunch service in the school system:

> School lunches meet a natural need of all children. The purpose of the service is to teach children to choose wisely the food they buy. The conduct of school lunches is a business, an art, and a science. The Superintendent of Lunches should have the same rank as the director of any other special division and be compensated accordingly. She should be subordinate to the educational department, for her work bears a direct relation to all health teaching in the schools and offers an opportunity to teach children the ethics and economics of spending and various factors affecting the price of school meals and restaurant meals. The school lunch division should reach all children; it should provide wholesome and nutritious food for them at cost, train them in sane habits of eating, and teach them to choose wisely what food they buy. (pp. 145-146)

Cincinnati served five items daily for a penny starting in one school in 1909. The Council of Jewish Women paid the cook's salary with lunchroom sales meeting all other costs. As reported by Gunderson (2006), the following were sample menus:

1. hot meat sandwich, baked sweet potato, oranges, candy balls, and graham crackers; or

2. hot wieners, rice pudding in cones, candy, bananas, and cakes. (n. p.)

As an experiment, five schools in St. Louis's congested areas of the city began lunch services in October 1911. The purpose of this experiment was to explore expansion of the already existing high school lunch program to primary schools. Five centers with a population of 900 students participated. The lunches were first transported from the existing high school production areas; however, this endeavor proved very expensive. After 1 month, the meal production was moved to individual schools and the programs were required to be fully self-supporting aside from the school board providing funds for equipment cost (Gunderson, 2006).

Early in 1900, rural schools attempted to establish a noonday lunch program for their students. Teachers devised plans for preparing soups and other hot lunch meals from donated meats and vegetables that the students brought to school. The large kettle used to cook the lunch also served to heat the schoolroom. The "pint jar method" was begun in Wisconsin to provide

lunch for school children in rural areas. The students were encouraged to bring pint jars of soup, macaroni, cocoa, and other items that the teacher could set in a large bucket of water to heat until lunchtime. County home demonstration agents of the university extension service became involved. They devised plans for safe hot food preparation and provided suggested menus (Gunderson, 2006).

According to Cronan (1962), a Pinellas County, Florida, health officer in 1914 offered to provide each child at school with a half pint of milk per day. Results were so impressive that soon a bowl of soup was added. Following were community donations of pots, pans, crackers, potatoes, and meat to supplement the principal's school garden-grown vegetables.

The school lunch program, with the help of private and public boards and individuals, continued to expand and gain momentum during the 1920s. By 1931, an estimated 64,500 school cafeterias were operating in America (Cronan, 1962)

The 1930s' depression years heightened concern over hunger and malnourishment among America's children. Legislation was passed in many states appropriating funds to provide school lunches to children. Laws were passed in 15 states authorizing the operation of lunchrooms under local school boards by 1937. The laws provided for cost meal charges; however, four states created provisions for needy children and gave free meals to these children or charged below the cost of meals (School Nutrition Association, 2006).

The Reconstruction Finance Corporation in 1932 loaned towns in Missouri money to pay labor costs associated with school lunches. The Civil Works Administration and the Federal Emergency Relief Administration expanded this effort to 39 states in 1933 and 1934. This produced paid for employment of 7,442 women (Cronan, 1962).

In 1935, federal assistance was essential as the danger of malnutrition among American children became a recognized national risk. Coupled with this risk was a surplus of farm products resulting in decreasing farm product sales. The 74th Congress passed Public Law 320 to remove price-depressing surplus foods from the agriculture market by government purchase of surplus farm products. Approval came August 24, 1935, making the Secretary of Agriculture's

access to funding equal to 30% of the gross receipts from duties collected on customs laws during each calendar year. A separate fund was established to purchase the surplus agricultural commodities. Thereby, this diversion of farm products resulted in fair market price for farm products by adjusting supply through normal channels of trade and commerce. A secondary purpose was to dispose of the surplus farm products through exports and domestic donations to needy families. The school lunch program became a constructive method for distribution of surplus farm products. The USDA Commodities Program provided needy school children supplemental foods at lower cost (U. S. Department of Agriculture, 2006).

The United States *National School Lunch Act* was signed by President Harry S. Truman on June 4, 1946. The *National School Lunch Act* authorized the establishment of the National School Lunch Program (NSLP). The purpose of this federally-funded grant program was to provide states with a "measure of national security, to safeguard the health and well-being of the nation's children, and to encourage the domestic consumption of nutritious agricultural commodities" (U. S. Department of Agriculture, 2006, n. p.).

The initial per-meal reimbursement was approximately nine cents with three meal options including: Type A, B, and C. Type A was a complete lunch. Type B was an "incomplete" lunch with smaller portions and fewer items. Type C was one half pint of milk only. The American School Food Service Association (ASFSA) was founded by the 1946 *National School Lunch Act*. During the first year, the National School Lunch Program served a half billion meals to 7.1 million children (School Nutrition Association, 2006).

Participation in the program soon outgrew appropriated dollars; in 1958, the Type B meal program was discontinued and per-meal reimbursements dropped to four cents. NSLA was amended in 1958 from grant aid to states to a guaranteed meal reimbursement. Schools with high percentages of low-income children began receiving additional funding (School Nutrition Association, 2006).

In 1966, PL 69-642, the *Child Nutrition Act* (CNA) created a 2-year pilot project school breakfast program, a food service equipment assistance program, and increased funds for meals served to needy students (School Nutrition Association, 2006).

In 1968, summer programs began providing subsidies for meals in childcare centers and funding for state administrative expenses. Two public laws were passed in 1968; PL 87-780 established National School Lunch Week and PL 90-302 extended the program's authority for the School Breakfast Program through fiscal year 1971 (School Nutrition Association, 2006). President Richard Nixon during the 1969 White House Conference on Hunger established free and reduced-priced lunches for needy children through additional funding with the goal to end hunger in America (School Nutrition Association).

The National School Lunch Program and the Conference on Hunger's 1970 amendments established guidelines for providing free or reduced-priced meals prohibiting discrimination and overt identification of needy children. By 1971, the National School Lunch Program served 3.8 billion meals to 24.5 million children and welcomed the passage of PL 92-32 extending the School Breakfast Program through fiscal year 1973, providing eligibility for free and reduced-priced meals based on the same income guidelines established in the National School Lunch Program and allowing the USDA to pay 100% of the operating costs of school breakfast programs in severe need areas (School Nutrition Association, 2006).

The law guaranteed that funds were available for each meal served increasing in accordance with the food-away-from-home index. In 1975, PL 94-105, the School Breakfast Program, was made permanent and residential childcare institutions were allowed to participate as "schools" in the NSLP (School Nutrition Association, 2006).

Malnutrition can affect brain development and performance in school. Pollitt (1995) found that children's brain function was diminished by short-term or periodic hunger or malnutrition caused by missing or skipping meals. Inadequate consumption of key foods deprived children of essential vitamins, minerals, fats, and proteins necessary for optimal cognitive function (Tufts University, 1995) and low protein intake has been associated with lower achievement scores (American School Food Service Association, 1989). Iron deficiency increases fatigue, shortens attention span, decreases work capacity, reduces resistance to infection, and impairs intellectual performance as measured by poor performance on vocabulary, reading, and other tests (Murphy et al., 1998; Troccoli, 1993). Students who eat breakfast have shown an increase in math grades and reading scores, an increase attention, reduced nurse visits, and improved behavior (Michener et al., 1998.) Children who begin their school day without breakfast pay less attention in late morning classes, have a negative attitude toward schoolwork, and retain fewer lessons in class (Public Media Center and California Food Policy Advocates, 1998.) Children who eat well-balanced meals have higher sustained energy levels than do children who select foods from only one or two food groups often high in sugar or fat (Child Nutrition and Food Distribution Division, 1994). In addition, children without proper nutrition, whether it is over or under nutrition, have been reported to demonstrate shorter attention spans, more irritability, and more suspensions (Action for Healthy Kids, 2004; California Project LEAN, 2004). Janssen, (2004) reported that overweight students were more likely to be bullies or victims of bullying than were children of normal weight. The Action for Health Kids study showed that obese students tended to have higher rates of absenteeism.

Cost of Obesity

Annual healthcare expenditures attributable to obesity were estimated at $75 billion in 2003 dollars, and approximately half of these expenditures were financed by Medicare and Medicaid (Finkelstein et al., 2004). Results from the 1999 to 2000 National Health Nutrition

Examination Survey showed that 64% of U.S. adults were either overweight or obese. Over 5.3% of American citizens' annual health care costs were healthcare expenses attributable to obesity (Finkelstein, Fiebelkorn, & Wang, 2003).

Tobacco was reported to be responsible for 440,000 deaths per year in the United States with a corresponding cost of more than $75 billion in direct healthcare costs (Centers for Disease Control and Prevention, 2004a). Obesity was responsible for at least 300,000 deaths per year and had a direct health cost of $75 billion in 2003. This direct heath cost in 2003 is equal to $350 per year for every American adult (Finkelstein et al., 2003).

Tax-supported health insurance plans pay nearly half of the healthcare costs of obesity. From 1998 to 2000, the rate of obesity in the general population was found to be 20% with a cost of $75 billion or 6% of America's total health expenditures. In addition, 21% of Medicare patients, most of whom were elderly, were also obese with an $18 billion healthcare expenditure for obesity-related health problems or 7% of the Medicare budget. The rate and cost of obesity among poor and disabled Medicaid recipients was even higher at a 30% rate with the total expenditure of $21 billion; this was 11% of Medicaid healthcare spending in the population group. Obese patients with Medicare and Medicaid accounted for 49% of the total obesity-related healthcare expenditures in American in 2003 (Finkelstein et al., 2003). In 2002, it was reported that 80,000 stomach and intestine stapling surgeries were performed with an estimated cost of $2.4 billion (Finkelstein et al., 2003). Chronic diseases, many times secondary to obesity, included endometrial cancer, some breast cancers, colon and kidney cancer, sleep apnea, gall bladder disease, back and joint disorders, and depression (Field, Coakley, & Must, 2001; Must et al., 1999).

The health-related economic cost of obesity to U.S. businesses was reported to be 5% of total healthcare care costs (Thompson, Edelsberg, Kinsey, & Oster, 1998). In 1994, this estimated cost was $12.7 billion with $2.6 billion the result of mild obesity and $10.1 billion because of moderate to severe obesity. Health insurance expenditures of $7.7 billion represented 43% of all spending by American businesses on coronary heart disease, hypertension, Type 2

diabetes, hypercholesterolemia, stroke, gallbladder disease, osteoarthritis of the knee, and endometrical cancer. In 1994, obesity-related business expenditures and corresponding expenditures were: sick leave ($2.4 billion), life insurance ($1.8 billion), and disability insurance ($800 billion) (Thompson et al.)

Healthcare bills for severely obese Medicare patients were an average of $6,000 more per year than bills for normal weight men and women. Americans spend $117 billion a year on care for obesity-related diseases including direct healthcare costs of diseases related to obesity and indirect costs such as loss of productivity. Obesity-associated annual hospital costs for children more than tripled over 2 decades rising from $35 million in 1979-1981 to $127 million in 1997-1999 (Wang & Dietz, 2002).

The Lewin Group (Centers for Disease Control and Prevention, 1999) completed a cost study in 1999 to examine expenditures related to 15 conditions secondary to obesity. Data from the 1995 National Health Interview Survey and the third National Health and Nutrition Examination Survey (NHANES III) databases established prevalence rates of each condition. Each of the 15 conditions was associated with a percentage of cost determined through the scientific literature of professional associations according to the percentage of the cost attributed to methods. Indirect costs were not examined (see Table 3).

Table 3

Obesity Costs in Relation to the Co-Morbidities (1999 Dollars in Billions)

Disease	($) Direct Cost of Obesity	($) Direct Cost of Disease	Direct Cost of Obesity as a Percentage of Total Direct Cost of Disease (%)
Arthritis	7.4	23.1	32
Breast Cancer	2.1	10.2	21
Heart Disease	30.6	101.8	30

Table 3 (continued)

Disease	($) Direct Cost of Obesity	($) Direct Cost of Disease	Direct Cost of Obesity as a Percentage of Total Direct Cost of Disease (%)
Colorectal Cancer	2.0	10.0	20
Diabetes (Type 2)	20.5	47.2	43
Endometrial Cancer	0.6	2.5	24
ESRD	3.0	14.9	20
Gallstones	3.5	7.7	45
Hypertension	9.6	24.5	39
Liver Disease	3.4	9.7	35
Low Back Pain	3.5	19.2	18
Renal Cell Cancer	0.5	1.6	31
Obstructive Sleep Apnea	0.2	0.4	50
Stroke	8.1	29.5	27
Urinary Incontinence	7.6	29.2	26
Total Direct Cost	102.2	331.4	31

As shown in Table 4, the Lewin Group (Centers for Disease Control and Prevention, 1999) also reported a direct correlation between Body Mass Index (BMI) and increased prevalence of the 15 co-morbid conditions, including Type 2 diabetes, hypertension, heart disease, stroke, and arthritis.

According to the National Center for Health Statistics (2000), the percentage of overweight school-age children from 12 to 19 more than tripled in the last 30 years, rising from 5% to 15.5%. Among children and adolescents, the annual cost of treating obesity-related

diseases has increased more than threefold, from $35 million in 1979-1981 to $127 million in 1997-1999. A 10% weight loss could reduce an overweight person's lifetime healthcare costs by $2,200-$5,300 (National Center for Health Statistics).

Table 4

Increased Risk of Obesity Related Diseases with Higher BMI

Disease	BMI of 25 or Less	BMI Between 25 and 30	BMI Between 30 and 35	BMI of 34 or More
Arthritis	1.00	1.56	1.87	2.39
Heart Disease	1.00	1.39	1.86	1.67
Diabetes (Type 2)	1.00	2.42	3.35	6.16
Gallstones	1.00	1.97	3.30	5.48
Hypertension	1.00	1.92	2.82	3.77
Stroke	1.00	1.53	1.59	1.75

Childhood Obesity

Today's children may live 2 to 5 years less than they might otherwise live because of childhood obesity and it complications (Ebbeling, Pawlak, & Ludwig, 2002; Weiss et al., 2004).

Obesity is presently the second leading cause of preventable death after smoking. However, the Centers for Disease Control director, Gerberding stated, "If current trends continue, obesity will become the leading cause by 2005, with the toll surpassing 500,000 deaths annually" (as cited in Bhattacharya, 2004, n. p.).

Currently more than 112,000 Americans die annually from obesity and related diseases (Centers for Disease Control and Prevention, 2004b). The Centers for Disease Control and Prevention (2004b) reported the percentages of overweight children from ages 6 to 11 have more

than doubled in the past 2 decades, rising from 7% in 1980 to 16% in 2002. Overweight adolescents from age 12 to 19 have more than tripled during the same period going from 5% to 16%. Minorities fare even worse; 43% of Mexican American adolescent boys' ages 6 to 19 are overweight or at risk of becoming overweight with 37% of Mexican American girls having the same risk factors. In addition, 31% of NonHispanic African American boys are overweight and 40% of females. Whites have a 29% rate for males and 27% rate for females for the same risk factors (Centers for Disease Control and Prevention, 2004b).

Obesity is associated with increased chronic diseases and a short lifespan. The Third National Health and Nutrition Examination Survey (NHANESIII) showed that as overweight and obesity increased, so did the prevalence of numerous health outcomes such as Type 2 diabetes, gallbladder disease, coronary heart disease, high blood cholesterol, high blood pressure, and osteoarthritis (Mokdad, Ford, Bowman, Dietz, & Vinicor, 2003). The prevalence of having two or more health conditions increased with weight status across all racial and ethnic subgroups (Mokdad et al.).

NFSMI Research Conferences are composed of invited representatives from state agencies, large and small school districts, university and community colleges, child and adult care food programs, the American School Food Service Association, the Centers for Disease Control and Prevention, and the United States Department of Agriculture (National Food Service Management Institute, 2005). In 1995, the NFSMI held their initial research conference that resulted in identification of three areas for research: financial integrity of child nutrition programs, nutrition integrity of child nutrition programs, and customer service. In 1999, 10 research areas were identified during the second NFSMI research conference. In June 2003, the NFSMI research committee updated the research plan again. The update identified four important areas for new research ranked in order of importance by the research conference attendees. They were: obesity and healthy weight of children, the relationship between financial stability and customer satisfaction, labor and workforce challenges, nutrition integrity, and style of service (National Food Service Management Institute).

The 2001 School Nutrition Dietary Assessment Study II by USDA (General Accounting Office, 2003) found evidence supporting needs for quality child nutrition programs, as many schools were still not meeting guidelines. More than 28 million children participated in the National School Lunch Program (NSLP) providing 50% to 60% of their total daily energy intake. USDA's most recent study of the NSLP found that in school year 1998-1999, fewer than one fourth of the school lunch meals served met current fat and saturated fat standards (no more than 30% of calories from fat with less than 10% from saturated fat). Schools were more successful at breakfast time with 71% serving breakfasts that met the fat standard and 52% meeting saturated fat standards. Despite these findings, relative to NSLP nonparticipants, NSLP participants consumed greater amounts of essential vitamins and minerals, vegetables, milk and milk products, or meat and meat substitutes and less soda and fruit juices and had a better quality diet overall (General Accounting Office).

Nutrition education has been shown to lead to changes in children's knowledge and food choices. The Child and Adolescent Trial for Cardiovascular Health (CATCH) focused on nutrition education and school meal choices. Children decreased their cholesterol, total fat, and saturated fat intakes and improved in nutrition knowledge, reported usual behavior, intentions, self-efficacy, and perceived social reinforcement for healthy food choices (American Dietetic Association, 2006b). Several school-based nutrition education programs were funded by the National Cancer Institute's 5-A-Day for Better Health Program resulting in significant increases in children's intake of fruits and vegetables (American Dietetic Association, 2006b).

Researchers also found that the WIC program was effective in improving children's iron status, diet quality, and intakes of iron, foliate, and vitamin B-6. WIC participants had significantly lower intakes of added sugars. These diet improvements were attributable to supplemental foods, nutrition education, health services, and social services (American Dietetic Association, 2006b).

The most appropriate treatment strategy for obesity according to evidence-based guidelines is diet in combination with physical activity and behavior therapy as well as

adjunctive treatment with other modalities including pharmacotherapy and gastric surgery. Various combinations of dietary strategies, including healthy eating plans and meal replacements have been used by dietetic professionals to achieve a 5% to 10% change in body weight (Coles & Gilbert, 2005). Obese patients with diabetes receiving nutrition intervention from dietitians as their case managers achieved better treatment outcomes, reduced body weight and waist circumference, and decreased the number of medication prescriptions (Wolfe, 2003).

Childhood Dieting

Studies have shown that children and adolescents who are overweight are more likely to diet and to engage in unhealthy weight control practices than are children and adolescents of normal weight (Neumark-Sztainer et al., 1997; Schreiber et al., 1996; Story et al., 1994). In the National Heart, Lung, and Blood Institute's growth and health study, 40% of 9- and 10-year-old girls reported that they were trying to lose weight. Of those girls classified in the upper fourth quartile of body mass index (BMI), 75% were trying to lose weight (Schreiber et al.). In a recent review, Crago, Shisslak, and Estes (1996) found that being overweight was a risk factor for eating disturbances among minority women, including American Indians. The Indian Adolescent Health Survey showed that nearly one half of the 13,545 American Indian adolescent girls surveyed had dieted in the past year. Of those girls who were overweight or obese, 65% had dieted compared with only 31% of the normal-weight girls (Story et al).

Studies of weight control behaviors, body perceptions, and attitudes toward healthy eating and physical activity in children at high risk for obesity are important. Concerns about weight and dieting often begin to appear before adolescence (Childress, Brewerton, Hodges, & Jarrell, 1993; Hill & Robinson, 1991; Hill, Draper, & Stack, 1994; Maloney, McGuire, Daniels, & Specker, 1989; Sands, Tricker, Sherman, Armatas, & Maschette, 1997) and dieting to lose weight may be associated with a number of potential health consequences in children such as slower growth rates or delayed sexual maturation (Mallick, 1983). Dieting among preadolescent girls has also been shown to be a significant risk factor for eating disorders (Attie & Brooks-

Gunn, 1989; Bryant-Waugh & Lask, 1995; Hill, 1993). Overweight youth are more likely to

engage in weight modification efforts; it is important to examine these behaviors among youth

who have a documented high prevalence of obesity. Currently, there are few data on the

prevalence of weight-related concerns and behaviors in these populations. A better

understanding of weight-related issues and behaviors in young children will assist in the

development of health promotion messages and interventions aimed at American youth and their

families to prevent and treat childhood obesity (Murray, Story, & Stevens, 2001).

CHAPTER 3

RESEARCH METHODOLOGY

This chapter consists of a description of the study, population, research design, instrumentation, data collection, and data analysis that was used in this study. The research design used in this study was intended to explore self-reported leadership practices, leadership strengths, and professional development needs of state directors and school supervisors of the National School Nutrition Program.

Population

The study population consisted of state directors and Tennessee system supervisors of School Nutrition. Personnel changes occurring at the time of the survey resulted in the number of those participating differing from the actual number of state directors. As new professionals entered the field, an invitation to participate was also sent to each new leader, resulting in an overlap of three state directors. One hundred ninety-four school nutrition professionals, 53 state directors, and 141 Tennessee system supervisors were invited to participate in the study. Empty vacant positions at the time of survey could affect the number of participants. Each state has at least one director and each school system has a school system supervisor or designee.

Research Design

This is a quantitative study designed to explore the self-reported leadership styles in the National School Nutrition Program. Exploratory descriptive research methods were used. Descriptive statistics were used to organize, summarize, and report the data (Gall, Borg, & Gall, 1996).

The Leadership Practices Inventory (LPI) was used to collect data on self-reported leadership practices from school nutrition state directors and system supervisors. Permission to use the LPI was granted by Barry Posner (see Appendix A). The Leadership Practices Inventory self-assessment form questions can be viewed in Appendix C. Self and Observer forms of the LPI have been developed; only the LPI self-assessment was used in this study (Kouzes & Posner, 1995). The LPI self-assessment is a 30-item questionnaire designed to measure five empirically developed leadership behaviors. Six statements were designed by Kouzes and Posner to measure each of the five leadership practices.

Kouzes and Posner (1995) developed *The Leadership Challenge* made up of five leadership practices that include: *model the way, inspire a shared vision, challenge the process, enable others to act,* and *encourage the heart.* These five exemplary practices were found to be common when describing personal-best leadership experiences. Leadership styles result from an individual's self-reported leadership behavior in the Leadership Practice Inventory (LPI). As shown in Table 5, the LPI has the following breakdown:

Table 5

Leadership Practices Inventory

Leadership Practice	Item #	Statement
Model the Way:	1	I set a personal example of what I expect of others.
	6	I spend time and energy making certain that the people I work with adhere to the principles and standards we have agreed on.
	11	I follow through on the promises and commitments that I make.
	16	I ask for feedback on how my actions affect other people's performance.
	21	I build consensus around a common set of values for running our organization.

Table 5 (continued)

Leadership Practice	Item #	Statement
	26	I am clear about my philosophy of leadership.
Inspire a Shared Vision:	2	I talk about future trends that will influence how our work gets done.
	7	I describe a compelling image of what our future could be like.
	12	I appeal to others to share an exciting dream of the future.
	17	I show others how their long-term interests can be realized by enlisting a common vision.
	22	I paint the "big picture" of what we aspire to accomplish.
	27	I speak with genuine conviction about the higher meaning and purpose of our work.
Challenge the Process:	3	I seek out challenging opportunities that test my own skills and abilities.
	8	I challenge people to try out new and innovative ways to do their work.
	13	I search outside the formal boundaries of my organization for innovative ways to improve what we do.
	18	I ask, "What can we learn?" when things don't go as expected.
	23	I make certain that we set achievable goals, make concrete plans, and establish measurable milestones for the projects and programs that we work on.
	28	I experiment and take risks, even when there is a chance of failure.
Enable Others to Act:	4	I develop cooperative relationships among the people I work with.
	9	I actively listen to diverse points of view.
	14	I treat others with dignity and respect.
	19	I support the decisions that people make on their own.
	24	I give people a great deal of freedom and choice in deciding how to do their work.
	29	I ensure that people grow in their jobs by learning new skills and developing themselves.

Table 5 (continued)

Leadership Practice	Item #	Statement
Encourage the Heart:	5	I praise people for a job well done.
	10	I make it a point to let people know about my confidence in their abilities.
	15	I make sure that people are creatively rewarded for their contributions to the success of our projects.
	20	I publicly recognize people who exemplify commitment to shared values.
	25	I find ways to celebrate accomplishments.
	30	I give the members of the team lots of appreciation and support for their contributions.

Data Collection

An initial letter of introduction was emailed to all participants 3 days prior to the invitation to participate in the survey email. Any email addresses that were inactive or incorrect were addressed at this time. The invitation to participate in the survey email contained a link to the survey tool (see Appendix F). The invitation to participate (see Appendix F) was sent to the participants who did not respond to the online survey after the initial 10-day period. At the conclusion of the research project, a letter (see Appendix G) containing the web link to the finished dissertation for review of results and appreciation for participation was emailed to each participant.

All statistical analyses are presented in summary form to protect participants' identities. Only nonrespondents were identified for the purpose of a follow-up invitation.

Data Analysis

The findings from the surveys were analyzed using the Statistical Package for Social Sciences (SPSS) software program that is used to analyze and graphically display quantitative

research results (Gall et al., 1996). The following research questions served as the guide for this study:

Research Question # 1: Is there a difference in education and professional credentials between school nutrition state directors and system supervisors?

To answer this research question, cross-tabulated tables were created. Chi-square was used to test the following null hypotheses:

$Ho1_1$: There is no difference between school nutrition state directors and system supervisors regarding the types of degrees they hold.

$Ho1_2$: Among respondents who have a college degree, there is no difference between school nutrition state directors and system supervisors regarding having a college major in the field of nutrition.

$Ho1_3$: There is no difference between school nutrition state directors and system supervisors regarding whether or not they have current American School Nutrition Association membership.

$Ho1_4$: There is no difference between school nutrition state directors and system supervisors regarding whether or not they are currently certified by the American School Nutrition Association.

$Ho1_5$: There is no difference between school nutrition state directors and school nutrition supervisors regarding whether or not they are currently school food service and nutrition specialist credential by the American School Nutrition Association.

$Ho1_6$: There is no difference between school nutrition state directors and system supervisors regarding whether or not they are currently a registered dietitian.

$Ho1_7$: There is no difference between school nutrition state directors and system supervisors regarding whether or not they are a currently licensed dietitian in the state in which they work.

Ho1₈: There is no difference between school nutrition state directors and system supervisors regarding whether or not they are an active members of the American Dietetic Association.

Research Question # 2: What are the self-reported leadership behaviors of present school nutrition state directors and school system supervisors as measured by the Leadership Practices Inventory (LPI)?

To answer this research question, means and standard deviations were calculated for each of the five leadership practices: *model the way, inspire a shared vision, challenge the process, enable others to act*, and *encourage the heart*.

Research Question # 3: To what extent is there a difference between the leadership practices of school nutrition state directors and system supervisors regarding Kouzes-Posner norms?

This research question was answered by comparing the self-reported leadership practice means of school nutrition state directors and system supervisors to the Kouzes-Posner norms. The following null hypotheses were tested with a one-sample *t* test:

Ho3₁: There is no difference between school nutrition professionals regarding the manner in which they *model the way* and the Kouzes-Posner *model the way* norm.

Ho3₂: There is no difference between school nutrition professionals regarding the way they *inspire a shared vision* and the Kouzes-Posner *inspire a shared vision* norm.

Ho3₃: There is no difference between school nutrition professionals regarding the ways they *challenge the process* vision and the Kouzes-Posner *challenge the process* vision norm.

Ho3₄: There is no difference between school nutrition professionals regarding the ways they *enable others to act* and the Kouzes-Posner *enable others to act* norm.

Ho3$_5$:   There is no difference between school nutrition professionals regarding the ways they *encourage the heart* and the Kouzes-Posner *encourage the heart* norm.

Research Question # 4: Are there differences between self-reported leadership practices of school nutrition executives serving as state directors compared to system supervisors? To answer this research question, a *t* test for independent samples was used to test the following null hypotheses:

Ho4$_1$:   There is no difference between school nutrition state directors and system supervisors regarding *model the way* leadership practice.

Ho4$_2$:   There is no difference between school nutrition state directors and system supervisors regarding *inspire a shared vision* leadership practice.

Ho4$_3$:   There is no difference between school nutrition state directors and system supervisors regarding *challenge the process* leadership practice.

Ho4$_4$:   There is no difference between school nutrition state directors and system supervisors regarding *enable others to act* leadership practice.

Ho4$_5$:   There is no difference between school nutrition state directors and system supervisors regarding *encourage the heart* leadership practice.

Research Question # 5: To what extent are education and professional credentials of school nutrition state directors and system supervisors related to their self-reported leadership practices as measured by the LPI?

This research question was answered by using a one-way ANOVA for testing degree type and Pearson's correlations for evaluating the relationship between the number of professional credentials and membership and leadership practices. The null hypotheses for this research question were:

Ho5$_1$:   There are no differences among school nutrition professionals with different degrees regarding *model the way* leadership practice.

Ho5$_2$: There are no differences among school nutrition professionals with different

degrees regarding *inspire a shared vision* leadership practice.

Ho5$_3$: There are no differences among school nutrition professionals with different

degrees regarding *challenge the process* leadership practice.

Ho5$_4$: There are no differences among school nutrition professionals with different

degrees regarding *enable others to act* leadership practice.

Ho5$_5$: There are no differences among school nutrition professionals with different

degrees regarding *encourage the heart* leadership practice.

Ho5$_6$: There is no relationship between the number of professional affiliations of

school nutrition professionals and the *model the way* leadership practice.

Ho5$_7$ There is no relationship between the number of professional affiliations of

school nutrition professionals and the *inspire a shared vision* leadership

practice.

Ho5$_8$: There is no relationship between the number of professional affiliations of

school nutrition professionals and the *challenge the process* leadership

practice.

Ho5$_9$: There is no relationship between the number of professional affiliations of

school nutrition professionals and the *enable others to act* leadership practice.

Ho5$_{10}$: There is no relationship between the number of professional affiliations of

school nutrition professionals and the *encourage the heart* leadership practice.

CHAPTER 4

RESULTS

The purpose of this research was to explore self-reported leadership practices of school nutrition professionals. The Leadership Practices Inventory Self-assessment by Kouzes and Posner was used as the survey instrument (see Appendices A & C). The purpose of this chapter is to report the results of the research as they relate to the demographic questions and specific research questions. Demographic data are presented first and the findings are presented as responses to individual research questions.

Demographics of Population

The study's population consisted of 194 school nutrition professionals. Invitations to participate in the survey were sent to 53 state directors and 141 Tennessee system supervisors. Seventy-nine state directors and system supervisors completed the online survey for a response rate of 40.7 %. State directors' response rate was 43.4% (*n* 23). The system supervisors' response rate was 39.7% (*n* 56).

When asked if they plan to remain in their current job until retirement, 3.9% of the respondents reported that they do not plan to stay until retirement, 22.1% of the respondents reported they were not sure if they would stay in their current job until retirement, and 74% of the respondents self-reported that they plan to remain in their current position.

When asked approximately how many years until they plan to retire, 31.6% of respondents reported plans to retire in the next 5 years, and 68.4% plan to retire in 10 or fewer years.

Respondents were also asked what job they had prior to becoming a school nutrition professional. Prior positions reported were categorized into eight categories: business administrator, SNS administrator, dietitian, educational administrator, teacher, extension agent,

SNS worker, school bookkeeper, food services professional, child care professional, and other.

The results are shown in Table 6.

Table 6

Position Held Prior to Becoming a School Nutrition Professional % state directors, %system supervisor and total %

Prior Position	*n*	State Directors %	*n*	System Supervisors %	*n*	Total %
Business Administrator		0.0	3	5.4	3	3.8
SNS Administrators	13	56.5	2	3.6	15	19.0
Dietitian		0.0	4	7.1	4	5.1
Education Administrators	4	17.4	4	7.1	8	10.1
Teachers	2	8.7	14	25.0	16	20.3
Extension Agents		0.0	4	7.1	4	5.1
SNS Workers	1	4.3	2	3.6	3	3.8
School Bookkeeper		0.0	5	8.9	5	6.3
Food Services	1	4.3	10	17.9	11	13.9
Child Care	1	4.3	1	1.8	2	2.5
Other	1	4.3	7	12.5	8	10.1
Total	23	100.0	56	100.0	79	100.0

Research Question # 1

Is there a difference in education and professional credentials between school nutrition state directors and system supervisors?

The initial analysis of the 2 x 5 crosstabulated table for position (state director versus system supervisor) by highest degree (high school diploma, associate's degree, bachelor's degree, master's degree, and doctorate) showed there were violations of the assumptions of chi-square. Therefore, highest degree was recoded into the following three categories: (a) high school diploma and associate's degree, (b) bachelor's degree, and (c) master's or doctorate. The preliminary analysis of the 2 x 3 crosstabulated table showed that after recoding the degree types into three categories, there were no violations of the assumptions of chi-square.

There was a significant difference between state directors and Tennessee system supervisors and the highest degree they earned, X^2 (2) = 12.94, p <.01. Therefore, the null hypothesis was rejected. The strength of the relationship, as measured by Cramér's V for a 2 x 3 table (.41), showed a moderate relationship between the variables. As shown in Table 7, none of the state directors held a high school diploma or associate's degree as their highest degree while 23.6% of Tennessee system supervisors reported their highest degree was a high school diploma or associate's degree. Almost 83% of the state directors reported their highest degree was either a master's or doctorate while 40% of system supervisors reported a master's or doctorate as their highest degree.

Table 7

Crosstabulated Table for Position by Highest Degree Earned

	State Director		System Supervisor	
Highest Degree	*n*	%	*n*	%
High School or Associate	0	0.0	13	23.6
Bachelor	4	17.4	20	36.4
Masters or higher	19	82.6	22	40.0
Total	23	100.0	55	100.0

The analysis of the 2 x 2 crosstabulated table for position by whether or not respondents had a college nutrition major showed no violations of the assumptions of chi-square. Among respondents with a college degree, there was not a significant difference between state directors and system supervisors regarding a college major in the field of nutrition, $X^2 (1) = 1.44, p = .23$. Therefore, the null hypothesis failed to be rejected. The strength of the relationship as measured by Φ for a 2 x 2 table (.15) showed a weak relationship between variables. As shown in Table 8, 60.9% of state directors had a college major in nutrition while 75% of the system supervisors had a college major in nutrition.

Table 8

Crosstabulated Table for Position by College Nutrition Major (No Versus Yes)

Nutrition Major	State Director		System Supervisor	
	n	%	*n*	%
No	9	39.1	11	25.0
Yes	14	60.9	33	75.0
Total	23	100.0	44	100.0

The initial analysis of the 2 x 2 crosstabulated table for position (state director versus system supervisor) by whether or not respondents were members of the American School Nutrition Association showed there were violations of the assumptions of chi-square. Therefore, the null hypothesis was not tested. As shown in Table 9, nearly 96% of state directors were

members of American School Nutrition Association compared to almost 86% of system supervisors who were members.

Table 9

Crosstabulated Table for Position by Membership in the American School Nutrition Association

	State Director		System Supervisor	
ASNA Member	*n*	%	*n*	%
No	1	4.3	8	14.3
Yes	22	95.7	48	85.7
Total	23	100.0	56	100.0

The initial analysis of the 2 x 2 crosstabulated table for position by whether or not respondents were currently certified by the American School Nutrition Association showed no violations of the assumptions of chi-square. There was a significant difference between state directors and system supervisors in regard to current certification by the American School Nutrition Association, X^2 (1) = 6.08, *p* = .01. Therefore, the null hypothesis was rejected. However, while Φ showed there was a definite relationship between the variables, it was somewhat weak (.28). As shown in Table 10, 61% of the system supervisors were certified members of American School Nutrition Association while only 30.4% of state directors were currently certified members of American School Nutrition Association.

Table 10

Crosstabulated Table for Position by Certification by American School Nutrition Association

	State Director		System Supervisor	
ASNA Certified	n	%	n	%
No	16	69.6	21	38.9
Yes	7	30.4	33	61.1
Total	23	100.0	54	100.0

The analysis of the 2 x 2 crosstabulated table for position by whether or not respondents were credentialed by American School Nutrition Association showed no violations of the assumptions of chi-square. There was no significant difference between state directors and system supervisors and whether or not respondents were credentialed by American School Nutrition Association, $X^2 (1) = .59, p = .44..$ Therefore, the null hypothesis failed to be rejected. The strength of the relationship as measured by Φ showed a very weak relationship between variables (.09). Table 11 shows 17% of state directors were credentialed by ASNA and nearly 26% of system supervisors were credentialed by ASNA.

Table 11

Crosstabulated Table for Position by Credentialed by American School Nutrition Association

	State Director		System Supervisor	
Credentialed by ASNA	n	%	n	%
No	19	82.6	41	74.5
Yes	4	17.4	14	25.5
Total	23	100.0	55	100.0

The initial analysis of the 2 x 2 crosstabulated for position (state director versus system supervisor) by registered dietitian showed violation of the assumptions of chi-square. Therefore, the null hypothesis was not tested. Table 12 shows 17% of state directors were registered dietitians compared to 9% of system supervisors at the time of survey.

Table 12

Crosstabulated Table Position by Registered Dietitian

	State Director		System Supervisor	
Registered Dietitian	*n*	%	*n*	%
No	19	82.6	50	90.9
Yes	4	17.4	5	9.1
Total	23	100.0	55	100.0

The initial analysis of the 2 x 2 crosstabulated table for position by whether or not respondents were licensed dietitians in the state in which they work showed there were violations of the assumptions of chi-square. Therefore, the null hypothesis was not tested. Table 13 shows 13% of state directors reported they were licensed dietitians in the state they work compared to 5% of system supervisors.

Table 13

Crosstabulated Table for Position by Licensed Dietitian in the State

	State Director		System Supervisor	
Licensed dietitian in the state that they work	*n*	%	*n*	%
No	20	87.0	53	94.6
Yes	3	13.0	3	5.4
Total	23	100.0	56	100.0

The initial analysis of the 2 x 2 crosstabulated table for position by whether or not respondents were active members of American Dietetic Association showed there were violations of the assumptions of chi-square. Therefore, the null hypothesis was not tested. As shown in Table 14, nearly 22% of state directors reported they were members of American Dietetic Association compared to almost 13% of system supervisors.

Table 14

Crosstabulated Table for Position by Active Member of the American Dietetic Association

	State Director		System Supervisor	
Active member ADA	*n*	%	*n*	%
No	18	78.3	49	87.5
Yes	5	21.7	7	12.5
Total	23	100.0	56	100.0

What are the self-reported leadership behaviors of present school nutrition state directors and school system supervisors as measured by the Leadership Practices Inventory (LPI)?

To answer this research question, means and standard deviations were calculated for each of the five leadership practices: *model the way*, *inspire a shared vision*, *challenge the process*, *enable others to act*, and *encourage the heart*. Each leadership practice had a potential range of scores from 6 to 60. Table 15 shows mean scores were high for all five leadership practices.

Table 15

Descriptive Statistics for Leadership Practices

Leadership Practice	*N*	Minimum	Maximum	*M*	*SD*
Model the Way	74	39	60	52.39	4.49
Inspire a Shared Vision	75	33	60	48.99	6.70
Challenge the Process	73	32	60	49.07	6.96
Enable Others to Act	66	41	60	53.74	4.17
Encourage the Heart	74	29	60	52.53	6.22

Research Question # 3

To what extent is there a difference between the leadership practices of school nutrition state directors and system supervisors regarding Kouzes-Posner norms?

This research question was answered by comparing the self-reported leadership practice means of school nutrition professionals to the Kouzes-Posner norms. The null hypotheses were tested with a one-sample *t* test.

There was a significant difference between the school nutrition professionals' mean on *model the way* and the Kouzes-Posner norm, t (73) = 10.30, p < .01. The mean for school nutrition professionals (M = 52.39, SD = 4.49) was over five points higher than the Kouzes-Posner norm (M = 47.02, SD = 7.10).

There was a significant difference between the school nutrition professionals' mean regarding the way they *inspire a shared vision* and the Kouzes-Posner norm, t (74) = 6.00, p < .01. The mean for school nutrition professionals (M = 48.99, SD = 6.70) was 4.7 points higher than the Kouzes-Posner norm (M = 44.34, SD = 8.79).

There was a significant difference between the school nutrition professionals' mean regarding the ways they *challenge the process* and the Kouzes-Posner norm, t (72) = 3.63, p < .01. The mean for school nutrition professionals (M = 49.07, SD = 6.96) was almost 3 points higher than the Kouzes-Posner norm (M = 46.12, SD = 7.22).

There was a significant difference between the school nutrition professionals' mean regarding the ways they *enable others to act* and the Kouzes-Posner norm, t (65) = 8.46, p < .01. The mean for school nutrition professionals (M = 53.74, SD = 4.17) was over 4 points higher than the Kouzes-Posner norm (M = 49.40, SD = 6.42).

There was a significant difference between the school nutrition professionals' mean regarding the ways they *encourage the heart* and the Kouzes-Posner norm, t (73) = 7.57, p < .01. The mean for school nutrition professionals (M = 52.54, SD = 6.22) was over 5 points higher than the Kouzes-Posner norm (M = 47.06, SD = 8.20).

Are there differences between self-reported leadership practices of school nutrition executives serving as state directors compared to system supervisors?

A *t* test for independent samples was conducted to evaluate the difference between school nutrition state directors and school system supervisors on *model the way* leadership practice. There was no significant difference, t (72)=1.04, p= .30. Therefore, the null hypothesis was retained. The effect size as measured by η^2 was small (.02) with position accounting for only 2% of the variance in *model the way* scores.

The *t* test for independent samples showed there was a significant difference between school nutrition state directors and school system supervisors on leadership practice, *inspire a shared vision*, t (73)= 1.96, p = .05. Therefore, the null hypothesis was rejected. The effect size was small measured by η^2 (.05) with position accounting for 5% of the variance in inspired a shared vision leadership practice. The mean for state directors was more than three points higher than the mean for system supervisors.

The *t* test for independent samples showed there was a significant difference between school nutrition state directors and school system supervisors on leadership practice, *challenge the process*, t (71)= 2.09, p = .04. Therefore, the null hypothesis was rejected. The effect size was small (.06) with position accounting for 6% of the variance in *challenge the process* leadership practice. The mean for state directors was 3.6 points higher than the mean for system supervisors.

A *t* test for independent samples was conducted to evaluate the difference between school nutrition state directors and school system supervisors on *enable others to act* leadership practice. There was no significant difference, t (64) = 1.43, p = .16. Therefore, the null hypothesis was retained. The effect size was small (.03) with position accounting for only 3% of the variance in *enable others to act* scores.

The *t* test for independent samples was conducted to evaluate the difference between school nutrition state directors and school system supervisors on *encourage the heart* leadership

practice. As shown in Table 16, there was no significant difference, t (72) =.11, p = .92.

Therefore, the null hypothesis was retained. The effect size was small (<.01) with position

accounting for less than 1% of the variance in *encourage the heart* scores.

Table 16

Leadership Practice Versus Position t test

Leadership Practice	Current position	N	M	SD	df	t	η^2	p
Model the Way	State Director	22	53.23	4.00	72	1.04	.02	.30
	Supervisor	52	52.04	4.67				
Inspire a Shared Vision	State Director	23	51.22	7.71	73	1.96	.05	.05*
	Supervisor	52	48.00	6.01				
Challenge the Process	State Director	23	51.52	6.37	71	2.09	.06	.04*
	Supervisor	50	47.94	6.99				
Enable Others to Act	State Director	20	54.85	4.90	64	1.43	.03	.16
	Supervisor	46	53.26	3.77				
Encourage the Heart	State Director	22	52.41	7.24	72	.11	<.01	.92
	Supervisor	52	52.58	5.82				

* Significant at the .05 level

Research Question # 5

To what extent are education and professional credentials of school nutrition state

directors and system supervisors related to their self-reported leadership practices as measured

by the LPI?

This research question was answered by using a one-way ANOVA for testing degree type and Pearson's correlations for evaluating the relationship between the number of professional credentials and membership and leadership practices.

Model the Way

A one-way ANOVA was used to evaluate the differences among school nutrition professionals with different degrees regarding *model the way* leadership practices. As shown in Table 17, there was no significant difference among school nutrition professionals with different degrees and their *model the way* leadership practice, $F(2, 70)= 1.75$, $p= .18$. Therefore, the null hypothesis was retained. The effect size, as measured by η^2, was small (.05). Highest degree earned accounted for only 5% of the variance in *model the way* scores.

Table 17

Means and Standard Deviations for Model the Way by Highest Degree Earned.

		Model the Way	
Highest Degree Earned	*N*	*M*	*SD*
High school or associate	12	53.17	5.24
Bachelor	22	50.91	4.64
Masters or higher	39	53.00	4.13

Inspired a Shared Vision

The one-way ANOVA was used to evaluate the differences among school nutrition professionals with different degrees regarding inspired a shared vision leadership practices. As shown in Table 18, there was no significant difference among school nutrition professionals with

different degrees and their *inspire a shared vision* leadership practice, $F(2, 71) = .31$, $p = .74$.

Therefore, the null hypothesis was retained. The effect size, as measured by η^2, was small (.01).

Highest degree earned accounted for only 1% of the variance in *inspire a shared vision* scores.

Table 18

Means and Standard Deviations for Inspire a Shared Vision by Highest Degree Earned

	Inspire a Shared Vision		
Highest Degree Earned	*N*	*M*	*SD*
High school or associate	12	48.92	6.02
Bachelor	22	48.14	7.07
Masters or higher	40	49.55	6.85

Challenge the Process

One-way ANOVA was used to evaluate the differences among school nutrition professionals with different degrees regarding *challenge the process* leadership practices. As shown in Table 19, there was no significant difference among school nutrition professionals with different degrees and their challenge the way leadership practice, $F(2, 69) = 1.21$, $p = .31$. Therefore, the null hypothesis was retained. The effect size, as measured by η^2, was small (.03). Highest degree earned accounted for only 3% of the variance in *challenge the process* leadership practice scores.

Table 19

Means and Standard Deviations for Challenge the Process by Highest Degree Earned

	Challenge the Process		
Highest Degree Earned	*N*	*M*	*SD*
High school or associate	11	47.82	8.76
Bachelor	21	47.57	6.61
Masters or higher	40	50.23	6.65

Enable Others to Act

The one-way ANOVA was used to evaluate the differences among school nutrition professionals with different degrees regarding *enable others to act* leadership practices. As shown in Table 20, there was no significant difference among school nutrition professionals with different degrees and their *enable others to act* leadership practice, $F(2, 62) = 1.00$, *p*= .37. Therefore, the null hypothesis was retained. The effect size, as measured by η^2, was small (.03). Highest degree earned accounted for only 3% of the variance in *enable others to act* leadership practice scores.

Table 20

Means and Standard Deviations for Enable Others to Act by Highest Degree Earned

	Enable Others to Act		
Highest Degree Earned	*N*	*M*	*SD*
High school or associate	11	52.55	3.59
Bachelor	20	54.60	3.02
Masters or higher	34	54.00	4.39

Encourage the Heart

One-way ANOVA was used to evaluate the differences among school nutrition professionals with different degrees regarding *encourage the heart* leadership practices. As shown in Table 21, there was no significant difference among school nutrition professionals with different degrees and their *encourage the heart* leadership practices, $F(2, 70)= .16$, *p*= .85. Therefore, the null hypothesis was retained. The effect size, as measured by η^2, was small (.01). Highest degree earned accounted for only 1% of the variance in *encourage the heart* leadership practices scores.

Table 21

Means and Standard Deviations for Encourage the Heart by Highest Degree Earned

	Encourage the Heart		
Highest Degree Earned	*N*	*M*	*SD*
High school or associate	12	53.42	6.01
Bachelor	22	52.50	5.28
Masters or higher	39	52.23	6.94

Pearson's correlations were conducted to evaluate the relationship between the number of professional affiliations and each leadership practice. As shown in Table 22, there were no significant relationships between the number of professional affiliations and leadership practices. Therefore, all null hypotheses were retained. The magnitude of each correlation between numbers of professional affiliations with each leadership practice was weak.

Table 22

Correlations for Leadership Practices With Number of Professional Affiliations

	Number of Professional Affiliations		
Leadership Practice	*N*	*r*	*p*
Model the Way	74	.11	.35
Inspire a Shared Vision	75	.06	.18
Challenge the Process	73	.18	.13
Enable Others to Act	66	.06	.62
Encourage the Heart	74	.08	.48

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Chapter 5 gives a summary of the data and provides conclusions. Recommendations for practicing professionals and consideration for training institutions are offered. Lastly, recommendations for additional research are suggested as the final section of Chapter 5.

Summary of Findings

One hundred ninety-four school nutrition professional (53 state directors and 141 Tennessee system supervisors) were sent invitations to participate. Seventy-nine respondents (23 state directors, and 56 Tennessee system supervisors) completed the online survey for a response rate of 40.7 %. Results should be applied cautiously outside this demographic description.

Both state directors and system supervisors tend to have exemplary leadership skills as measured by the LPI and compared to mean score norms by Posner. State directors have exceptional leadership practices of *inspire a shared vision* and *challenge the process* compared to system supervisors and mean score norms by Posner.

Level of education degree held was not indicated as a factor regarding above Posner mean scores leadership practices of school nutrition professionals.

Professional affiliation was found to be an influence regarding the above Posner mean scores leadership practices of school nutrition professionals. A high percentage of school nutrition professionals reported being members of the American School Nutrition Association (SNA). Nearly 96% of state directors and 86% of system supervisors were members of the SNA. Three and a half times the number of system supervisors are certified SNA members compared to SNA certified state directors ($n = 7$; $n = 33$). Nearly half (43%) of the school nutrition professionals were credentialed by SNA.

Members of the American School Nutrition Association (ASNA) tend to score higher on leadership practices: *model the way*, *inspire a shared vision*, and *challenge the process*. ASNA certification and/or credentialing did not increase any of the leadership practices.

Seventeen percent of state directors are registered dietitians compared to 9% of system supervisors. . The registered dietitians did not score higher on any of the leadership practices. Nearly 22% of state directors and almost 13% of system supervisors are members of the American Dietetic Association. Lack of influence regarding leadership practices by professional affiliation was also found regarding registered dietitians that were active members in the American Dietetics Association and those licensed in the state where they work registered dietitians.

Near a third (31.6%) of respondents plan to retire in the next five years, with 68.4% planning to retire in 10 or fewer years; 36% of respondents indicated they do not have definite plans to remain in their current job until retirement.

Current school nutrition professionals primarily come from the ranks of existing school instructional personnel (70%). Only a small number have postsecondary professional training in nutrition and disease (27%). However, over one half have some nutrition training of some type (69%). A majority of the school nutrition professional have bachelor or higher degrees. State directors' tend to have degree level of masters or doctorate.

Conclusions

School nutrition leaders are practicing transformational leadership at exemplary levels as measured by the LPI. Current school nutrition professionals engage best practices of leadership as they: (a) create standards of excellence and then set examples for others to follow, (b) envision the future, (c) create an ideal and unique image of what the organization can become by enlisting others in their dreams, (d) look for innovative ways to improve by experimentation and risk-taking, (e) foster collaboration and build spirited teams, and (e) accomplish extraordinary things by recognizing the contributions that individuals make. These best practices are

substantiated in literature as effective leadership during times of change (Arnold et al., 2000; Bass & Avolio, 1990; Blake & Mouton, 1985; Blanchard, 1985; Blanchard et al., 1993; Burns, 1978; Downton, 1973; Kouzes & Posner, 1995; Lord et al., 1986; Mann, 1959; Mosley, 1998; Northouse, 2004; Stogdill, 1974; Thomas, 1990; Tichy & DeVanna, 1986; Yammarino, 2000; Yukl, 2002).

Postsecondary educational institutions, state school nutrition programs, USDA training institutions such as the American Food Management Institute, and professional organizations such as the American School Nutrition Association and the American Dietetic Association will have significant opportunities to impact quality and quantity of the school nutritional applicant pool within the next 10 years. It is important to know where look for potential future leaders and to provide them updated content training reflective of current school population nutritional needs.

There will be substantial demand for postsecondary education training programs for future new school professionals within the next 10 years. Future candidates for leadership positions will become more difficult as the candidate pools decrease in number (Arnold et al., 2000; Human Resource Institute, 2002; Thomas, 1990). Within the next 10 years or fewer, a replacement need of approximately 70% could be projected within the survey population of school nutrition professionals.

Preventive nutrition intervention in the historically healthy school age population is a new concept to professionals in the education and medical field. Creation of specialized degree programs and internships at the postsecondary degree level may be needed to train future candidates as school nutrition professionals. Today's school nutrition professionals' postsecondary curriculum content may be lacking essential nutrition content area and/or not reflective of the current school population's nutritional risks, needs, and best practice preventions and/or treatments. The annual healthcare expenditures attributable to obesity are costly and projected to continue to increase (Centers for Disease Control and Prevention, 2004a; Field et al, 2001; Finkelstein et al., 2003; Finkelstein et al., 2004; Thompson et al., 1998).

Left unchecked, increasing numbers of school age children could become overweight in the near future and obesity paralleled by complex nutritional needs of secondary associated diseases are reported in multiple literature sources (Centers for Disease Control and Prevention, 1999; Childress et al., 1993; Crago et al., 1996; Dietz, 1998; Ebbeling et al., 2002; Finkelstein et al., 2004; Mallick, 1983; Murray et al., 2001; National Center for Health Statistics, 2000; Weiss et al., 2004).

Childhood obesity, as well as secondary diseases of childhood obesity, could be preventable (Field et al., 2001; Must et al., 2001). Prevention is the preferred treatment rather than diagnosis and treatment of incurable costly diseases associated with childhood obesity (Murray, Story, & Stevens, 2001; Wang & Dietz, 2002).)

Nutrition education provided by a specialized postsecondary degree program of school nutrition professionals can be identified as a best practice ((Murphy et al., 1998; Troccoli, 1993; U. S. Department of Education, 2000). Numerous studies have documented potential positive change resulting from preventive nutrition education regarding children's food choices and health of school age children (American Dietetic Association, 2006a; Coles & Gilbert, 2005; Finkelstein et al., 2004; Michener et al., 1998; Thompson et al., 1998; Wang & Dietz, 2002; Wolfe, 2003). The direct impact of good nutrition on learning and test scores is documented in literature (Action for Healthy Kids, 2004; American School Food Services Association, 1989; California Project LEAN, 2004; Child Nutrition and Food Distribution Division, 1994; Janssen, 2004; Michener et al., 1998; Murphy et al., 1998; Pollitt, 1995; Schwinner et al., 2003; Troccoli, 1993; Tufts University, 1995).

Recommendations for Practice

The Leadership Practices Inventory and the Leadership Challenge model of leadership by Kouzes and Posner (1995) provided a framework for leadership development and analysis. As a result of this study, the following recommendations are proposed to promote leadership development of school nutrition professionals:

1. As the demands on school nutrition professionals continue to increase, transformational leadership should be a focus of school nutrition leaders' training.

2. Processes should be in place to provide transformational leadership training to new school nutrition leaders and school nutrition at all levels.

3. A leadership-needs assessment should be conducted to address transformational leadership training needs of school nutrition professionals.

4. The Leadership Practices Inventory is a model that can and should be used to assess school nutrition leadership practices at all levels within the school nutrition program.

5. Based on the findings of this research, professional development of present system supervisors leadership training should emphasize the transformational leadership skill *inspire a shared vision*.

Future Research Topics

1. A comparison study regarding current job description for school nutrition leaders versus the National Food Management Institution's recommended job descriptions of school nutrition professionals. Are the job functions reflective of current demographics nutritional needs of the school age child in the school environment?

2. An exploration is needed of the topic, "Who will be the future leaders of school nutrition program?"

3. Are postsecondary education programs are available to successfully train future school nutrition professionals to meet current and future demands of this transforming position?

4. Evaluation of leadership practices, implementation of a leadership training program, and reevaluation of leadership practices would be helpful in determining the effects of a leadership-training program as new school nutrition leaders enter the program.

5. An investigation to determine of professional training programs content areas reflective of the changing needs of the school population and new guidelines.

6. An exploration of specific qualifications needed by leaders at federal, state, and system levels in regard to development and implementation of guidelines and mandates reflective of the needs of today's and tomorrow's school-age child.

7. A study to answer the research question, "Should school nutrition professionals' leadership practices be impacted by degree held or number of professional affiliations?"

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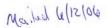
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APPENDICES

APPENDIX A

Barry Posner Permission Letter

Mailed 6/12/06

KOUZES POSNER INTERNATIONAL

15419 Banyan Lane
Monte Sereno, California 95030 USA
FAX: (408) 354-9170

January 23, 2006

Ms. Linda Dycus Holland
2416 East Stone Drive, 1200L
Kingsport, Tennessee 37664

Dear Linda:

Thank you for your request to use the Leadership Practices Inventory (LPI) in your dissertation. We are willing to allow you to reproduce the instrument as outlined in your request, at no charge, with the following understandings:

> (1) That the LPI is used only for research purposes and is not sold or used in conjunction with any compensated management development activities;
> (2) That copyright of the LPI, or any derivation of the instrument, is retained by Kouzes Posner International, and that the following copyright statement is included on all copies of the instrument: "Copyright © 2003 James M. Kouzes and Barry Z. Posner. All rights reserved. Used with permission.";
> (3) That one (1) **bound** copy of your dissertation and one (1) copy of **all** papers, reports, articles, and the like which make use of the LPI data be sent **promptly** to our attention; and,
> (4) That you agree to allow us to include an abstract of your study and any other published papers utilizing the LPI on our various websites.

If the terms outlined above are acceptable, would you indicate so by signing one (1) copy of this letter and returning it to us. Best wishes for every success with your research project.

Cordially,

Barry Z. Posner, Ph.D.
Managing Partner

I understand and agree to abide by these conditions:

(Signed) _Linda D. Holland_ Date: _6/12/06_

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APPENDIX B

Demographic Survey Questions

1. What is your current position?

    _____ 1. School Nutrition State Director
    _____ 2. School Nutrition System Supervisor

2. What was your job prior to becoming a School Nutrition System Supervisor or School Nutrition State Director?

    _____

3. Approximately how many years until you retire? _____ (years until retirement)

4. Do you plan to stay in your current position until you retire?

    _____ 1. No
    _____ 2. Not sure
    _____ 3. Yes

5. What is your highest degree? (Check one.)

    _____ 1. No high school diploma
    _____ 2. GED diploma
    _____ 3. High school diploma
    _____ 4. Associate's degree
    _____ 5. Bachelor's degree
    _____ 6. Master's degree
    _____ 7. Doctorate

    5b.   If you have a college degree, did you have a college major related to nutrition?

            _____ 1. No
            _____ 2. Yes

6. Have you had any college level courses in Nutrition?

    _____ 1. No
    _____ 2. Yes

7. Are you a member of the American School Nutrition Association?

   _____ 1. No
   _____ 2. Yes

8. Are you a certified member of the American School Nutrition Association?

   _____ 1. No
   _____ 2. Yes

9. Are you credentialed by the American School Nutrition Association as a School Food Service and Nutrition Specialist?

   _____ 1. No
   _____ 2. Yes

10. Are you an active member of the American Dietetic Association?

    _____ 1. No
    _____ 2. Yes

11. Are you currently a Licensed Dietitian in the state where you work?

    _____ 1. No
    _____ 2. Yes

12. Are you currently a Registered Dietitian?

    _____ 1. No
    _____ 2. Yes

APPENDIX C

Sample Questions From the Leadership Practices Inventory

LEADERSHIP PRACTICES INVENTORY
James M. Zouzes and Barry Z. Posner

To what extent do you typically engage in the following behaviors? For each of the following statement, please circle the response which best describes how often you as a principal engage in the practice.

1 = Almost Never   4 = Once in a while   7 = Fairly Often   10 = Almost always
2 = Rarely   5 = Occasionally   8 = Usually
3 = Seldom   6 = Sometimes   9 = Very Frequently

1.	I set a personal example of what I expect of others.	1	2	3	4	5	6	7	8	9	10
2.	I talk about future trends that will influence how our work gets done.	1	2	3	4	5	6	7	8	9	10
3.	I seek out challenging opportunities that test my own skills and abilities.	1	2	3	4	5	6	7	8	9	10

APPENDIX D

IRB Study Approval Letter

ETSU

East Tennessee State University
Office for the Protection of Human Research Subjects • Box 70565 • Johnson City, Tennessee 37614-1707 • (423) 439-6053
Fax: (423) 439-6060

APPROVAL - Initial Review (Exempt)

August 30, 2006

Linda Holland
2416 East Stone Drive 1200L
Kingsport, TN 37664

Re: Leadership Styles of Executives School Nutrition Directors and Tennessee System Supervisors
IRB#: c06-007e
ORSPA #:

The following items were reviewed and approved on August 30, 2006:
- Form 103
- Narrative
- CV
- Questionnaire / Survey
- Conflict of Interest Form
- Letter to Participants (ver 8/28/06)

On August 30, 2006, a final approval was granted. It is understood this project will be conducted in full accordance with all applicable sections of the IRB Policies. No continuing review is required.

The exempt approval will be reported to the convened board on October 5, 2006.

I reviewed the above-referenced study and find that it qualifies as exempt under category:
45 CFR 46.101(b)(2)
Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior on subjects 18 years of age or older, unless:
(a) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and
(b) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Full
AAHRPP
Accreditation

Accredited Since December 2005

Unanticipated Problems Involving Risks to Subjects or Others must be reported to the IRB (and VA R&D if applicable) within 10 working days.

Proposed changes in approved research can not be initiated without IRB review and approval. The only exception to this rule is that a change can be made prior to IRB approval when necessary to eliminate apparent immediate hazards to the research subjects [21 CFR 56.108 (a)(4)]. In such a case, the IRB must be promptly informed of the change following it's implementation (within 10 working days) on Form 109 (www.etsu.edu/irb). The IRB will review the change to determine that it is consistent with ensuring the subject's continued welfare.

Sincerely,

Andrea Clements, Ph.D., Chairperson
ETSU Campus Institutional Review Board

APPENDIX E

IRB Approved Letter of Introduction/Informed Consent

August 28, 2006

Dear Participant:

My name is **Linda Dycus Holland** and I am a graduate student at East Tennessee State University. I am working on my doctoral degree in **Educational Leadership and Policy Analysis.** In order to finish my studies, I need to complete a research project. The name of my study is Leadership Styles of School Nutrition State Executive Directors and Tennessee System Supervisors.

The purpose of this study is to explore self-reported leadership practices of state executive directors and Tennessee's school directors of the national school nutrition program. I would like to give a brief survey questionnaire to **School Nutrition Program's state executive directors and Tennessee school system supervisors**. It should only take about **fifteen minutes** to complete. You will be asked questions about **your leadership style**. Since this project deals with **self reported leadership styles**, it might cause some minor stress. However, you may also feel better after you have had the opportunity to learn about **your leadership style.** This study will provide insight into future school nutrition leaders' practices, professional training, and leadership characteristics with results leading to the development of a professional leadership model for training school nutrition program executives and supervisors. There are no alternative procedures except not to participate.

This method is completely anonymous and confidential. In other words, there will be no way to connect your name with your responses. Although your rights and privacy will be maintained, the Secretary of the Department of Health and Human Services, the ETSU IRB for non-medical research, and personnel particular to this research have access to the study records.

If you do not want to fill out the survey, it will not affect you in any way.

Participation in this research experiment is voluntary. You may refuse to participate. You can quit at any time without any penalty or loss of benefits to which you might be entitled to.

If you have any research-related questions, you may contact me, **Linda Dycus Holland** at **423-341-1509.** I am working on this project under the supervision of **Dr. Nancy Dishner.** You may reach her at **423-439-4213.**

Also, the chairperson of the Institutional Review Board at East Tennessee State University is available at (423) 439-6055 if you have questions about your rights as a research subject. If you have any questions or concerns about the research and want to talk to someone independent of the research team or you can't reach the study staff, you may call an IRB Coordinator at 423/439-6055 or 423/439/6002.

Sincerely,

Linda Dycus Holland

APPROVED
By The ETSU / VAIRB

AUG 30 2006

BY
CHAIR/IRB COORDINATOR

Ver 8/28/06

APPENDIX F

Email Invitation to Survey

Subject: Leadership Practices of School Nutrition Professionals

You have been invited to take the Leadership Practices of School
Nutrition Professionals Survey at East Tennessee State University Survey
System. Please proceed to
http://www.etsu.edu/coe/UltimateSurvey/takeSurvey.asp?surveyID=44&invid
=
3214

If you cannot access the survey by clicking on the link, please copy and
paste the link in your browser.

If you have questions about the survey, please reply to this email.

Thank you!

Linda Dycus, Ed.S., R.D.
Director School Nutrition
Kingsport City Schools
1701 East Center Street
Kingsport, Tennessee 37660
nutritionsurvey@charter.net

APPENDIX G

Thank You Note to Respondents

Dear_____,

I am very appreciative of the time and valuable input you provided to the survey. The overall response rate is reflective of the supportive caring group of professional you are. It is my hope that this study provides a glimpse of past, present and spark interest in future leadership training of school nutrition leaders', who's job impacts all school age children's learning potential and lifelong quality of life. Thank you,

Linda Dycus

VITA

LINDA GAIL DYCUS

Personal Data: Date of Birth: June 29, 1956
                   Place of Birth: Lafayette, Tennessee

Education: Tennessee Technological University, Cookeville, Tennessee;
                        Bachelor of Science, 1978
                   University of Alabama, Birmingham;
                        Dietetic Internship, clinical/administrative dietetics, 1979
                   Tennessee Technological University, Cookeville, Tennessee;
                        Master of Arts, 1989
                   Tennessee Technological University, Cookeville, Tennessee;
                        Educational Specialist, 2000
                   East Tennessee State University, Johnson City, Tennessee;
                        Educational Leadership and Policy Analysis, Ed.D.;
                        2006

Professional
Experience: Dietetic Intern, University of Alabama Medical Center, Birmingham;
                        1978-1979,
                   Director Hospital Nutrition Services, Smith County Memorial,
                        Carthage, TN;
                        1979 -1981
                   WIC Nutritionist II, Upper Cumberland Regional Public Health;
                        Cookeville, TN,
                        1985-1990
                   Regular and Special Education Teacher/ Consultant;
                        Putnam County Schools, TN,
                        1993-2001

                   Special Education Teacher;
                        Dalton City Schools, Georgia,
                        2001-2002

                   Director School Nutrition Service;
                        Kingsport City Schools, Tennessee,
                        2002 - Present

Professional
Activities:

- Tennessee Association of Curriculum and Supervision, member
- Tennessee State Board of Education Advisory Committee Member, Public Law 708- Food Sales in Schools
- 1st District School Nutrition Supervisors Association: 2005-2006 President, 2004-2005 President Elect, member 2002-present
- Tri Cities Dietetic Association Executive Counsel Legislative Chair: 2004, 2005, 2006
- Certified Member- American School Nutrition Association, Tennessee School Nutrition Association and Kingsport School Nutrition Association, Advisor
- Registered Dietitian, American Commission of Registered Dietitians
- Licensed Dietitian in state of Tennessee ,Tennessee Child Nutrition Task Force member 2004-present, Chair
- Director, District of Excellence, American School Nutrition Association 2006

Honors and
Awards:

- Kappa Delta Pi,
- Phi Kappa Phi,
- Pi Lambda Theta,
- Gamma Beta Phi,
- Kappa Omicron Phi