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A Study of Job Satisfaction Among High School Principals in Pennsylvania

Robert Lombardo
Seton Hall University

A STUDY OF JOB SATISFACTION AMONG HIGH SCHOOL PRINCIPALS IN PENNSYLVANIA

BY

ROBERT LOMBARDO

Dissertation Committee

Joseph Stetar, Ph. D. - Mentor
John W. Collins, Jr., Ed. D.
Ivan Shibley, D. Ed.
Alex Dubil, Ed. D.

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Abstract

A Study of Job Satisfaction Among High School Principals in Pennsylvania

The purpose of this study was to determine the overall job satisfaction of high school principals in Pennsylvania. The Minnesota Job Satisfaction Questionnaire long form was the instrument used for this study. The study used a proportional random sampling to survey the four hundred and twenty six high school principals in Pennsylvania. The study surveyed two hundred and twenty five male high school principals and eighty female high school principals. The study determined the level of intrinsic and extrinsic satisfaction and determined the relationship of selected factors of gender; age; ethnicity; levels of education; salary level; years of experience; number of assistant principals; years in current school district; school socio-economic level; and school size. This study explored the relationship between general job satisfaction and ten demographic variables. The study asked the question does the independent variable (demographic variable) affect the levels of the dependent variable (general job satisfaction). Analysis of variance showed that only one demographic variable (age) had an effect on the general job satisfaction levels of high school principals. The mean score for the general job satisfaction scale is 79.8623 with a standard deviation of 9.4569. Using the normative data for employed non-disabled the mean score of 79.8623 falls between the 55th and 60th percentile. This would indicate that as a group high school principals in Pennsylvania have an average level of general job satisfaction. The mean score for the intrinsic satisfaction scale is 50.0507 with a standard deviation of 5.5412. Using the normative data for engineers

the mean score of 50.0507 falls between the 55th and 60th percentile. This would indicate that as a group high school principals in Pennsylvania have an average level of intrinsic satisfaction. The mean score for the extrinsic satisfaction scale is 21.7554 with a standard deviation of 4.3453. Using the normative data for engineers the mean score of 21.7554 falls between the 45th and 55th percentile. This would indicate that as a group high school principals in Pennsylvania have an average level of extrinsic satisfaction. As a group, high school principals scored higher on the intrinsic scales.

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Dedication

It is with much love that I dedicate this work to my wife Barbara. Her support and belief in my ability allowed me to take on this monumental task with confidence and enthusiasm. Her understanding and patience made the work easier to complete. Her intellect made me look smarter!

However, it is her ability to be a mother that I am truly thankful for. Her commitment to her daughters is unparallel and her love is unmatched. She has sacrificed so others can do. She is loved immensely and forever ...

To my daughters Stephanie and Adrienne - I do not remember a time without you. This work is an example of what can be done when you put your mind to it. It is my sincerest hope that all of your dreams come true. I love you both.

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CHAPTER I

Introduction

During the past several years education policy has been in the forefront of American politics and the principals of our nation's schools have been asked to shoulder much of the burden. On August 1, 2001, President George W. Bush said, "When it comes to the education of our children … failure is not an option." Former United States Secretary of Education Rod Paige reiterated the sentiment when he said "America's children depend on us. We must not thrust the burden onto our posterity. It is ours to bear" (United States Department of Education, 2003). More than ever our nation looks to exceptional educational leadership to move our schools forward.

But with the mounting pressure on principals to elevate student achievement and to provide safe havens for students, is the job taking a toll on the well-being of the building level administrator? Are building level administrators satisfied with their jobs? Considering that one-third of an average person's life is spent working, job satisfaction becomes increasingly important.

Background of the Problem

Prior to the 1920's the popular management theory was the Taylor model of scientific management (Bolman & Deal, 1997; Neff, 1968). During this period, organizations relied "on authority, rules and policies as the primary vehicles for coordinating work" (Bolman & Deal, p. 58). Frank and Lillian Gilbreth advanced this paradigm by formulating generic elements that can pertain to the analysis of any physical

task. By eliminating unnecessary elements task efficiency can be improved (Cunningham, 2000; Neff, 1968).

The complex study of motivation and job satisfaction had its beginnings in the 1920's with the Hawthorne studies (Mayo, 1946). The Hawthorne studies (Mayo 1946; Neff, 1968; Wikipedia, 2004) were conducted during the 1920's and 1930's and eventually led to the human relations view of management which emphasized the concerns of the worker. The purpose of these studies was to better understand the effects of working conditions on worker productivity (Wikipedia). There were three sets of studies that were performed under the leadership of Elton Mayo. The first studies, also known as the illumination studies, took place between 1924 and 1927. Two groups were studied. One group had experienced a decrease in lighting over a period of time while another group had a constant amount of light. The experiment showed that there was an increase in productivity in both groups even when the test group worked in near dark conditions. The researchers concluded that there were other factors besides lighting that affected work.

The second series of studies was a response to the conclusions made in the first study. Researchers wanted to know what caused increases in productivity. This set of studies was conducted between 1927 and 1933. Researchers altered supervisory arrangements and made the workers report to the researchers. The workers were also given various special privileges. Under this study production increased, and it was determined by the researchers that this was the result of the altered supervisory arrangement and that other variables were less important. The researchers theorized that there was a key variable that managers had been ignoring that dealt with workers'

relationships, feelings, and perceptions. The researchers suggested that by grouping people and changing the working environment and conditions the workers felt that management cared about them, and people in the different groups created relationships.

The third series of studies were built on the findings of the second study and were designed to examine the social structure of employees. This study was done between the years of 1931 and 1932. The purpose of this study was to examine the dynamics of the group when incentive pay was introduced. The work group had established a work norm regardless of pay. The researchers concluded that informal groups operate in the work environment to manage behavior.

"Not until the early 1930's was it recognized that the attitudes, motivations, and personality of the worker might be quite as important conditions of work as the manner in which work was organized or the particular conditions of illumination and ventilation" (Neff, 1968, p. 22). Researchers began to study the human resource management paradigm to improve worker performance and job satisfaction. Job satisfaction has been studied to improve the productivity of lower level employees, the thought being that a satisfied worker will be more productive (Bacharach & Mitchell, 1983). Walker and Guest (1952) studied factory workers on the assembly line and found that workers whose jobs had little variety had low levels of job satisfaction. They also found that those workers who put out quality work had higher levels of satisfaction while those who did not were a source of irritation.

Various researchers and many studies (Adams 1963; Alderfer 1972; Herzberg 1959; Lawler & Wanous 1972; Maslow 1954; McGregor 1960) have explored motivation and job satisfaction of workers. A large research base and body of literature exists

describing worker motivation and job satisfaction. Research is needed and continues today in this field.

Describing and defining the concepts of job satisfaction has been the task of researchers since the Hoppock (1935) studies in the first part of this century. Robert Hoppock (1935), a pioneer in job satisfaction research, states:

> A person may be satisfied, dissatisfied, indifferent, or uncertain. He may be satisfied with some aspects of his job and dissatisfied with others; he may combine such specific satisfactions and dissatisfactions into a composite satisfaction with the job as a whole. Such satisfaction may vary from day to day, and it may be rationalized; it is not identical with interest. The mechanics of satisfaction may eventually be explained by physiological chemistry, but external stimuli in the job situation will probably help to determine the result. Complete satisfaction may be both impossible and undesirable. (p. 47)

Cranny, Smith, & Stone, (1992) through a review of literature found that while there are some differences between the many job satisfaction definitions there appears to be general agreement that "job satisfaction is an affective reaction to a job that results from the incumbent's comparison of actual outcomes with those that are desired." (p.1) Locke (1969) defines job satisfaction as "the pleasurable emotional state resulting from the appraisal of one's job as achieving or facilitating the achievement of one's job value. Job dissatisfaction is the unpleasurable emotional state resulting from the appraisal of one's job as frustrating or blocking the attainment of one's job values or as entailing disvalues. Job satisfaction and dissatisfaction are a function of the perceived relationship between what one wants from a one's job and what one perceives it as offering or

entailing." (p.316) Spector (1997) defines job satisfaction as "how people feel about their jobs and different aspects of their jobs. It is the extent to which people like (satisfaction) or dislike (dissatisfaction) their jobs." (p.2) Kalleberg (1977) defines job satisfaction as "an overall affective orientation on the part of individuals toward work roles which they are presently occupying." (p.126) Porter and Lawler (1968) define satisfaction "as the extent to which rewards actually received meet or exceed the perceived equitable level ofrewards." (p. 31) Lawler (1973) defines facet satisfaction as "people's affective reactions to particular aspects of their job and overall job satisfaction as "a person's affective reaction to his total work role." (p.64) Mumford (1972) suggests to "consider job satisfaction in terms of the degree of fit between what an organization requires of its employees and what the employees are seeking from the firm."(p.5) Smith, Kendall, and Hulin (1969) looks at satisfaction as a feeling of affective responses to the work situation best explained by a discrepancy between the work motivation attitudes and the incentives offered by the administration. Brief (1998) offers a more recent definition: "Job satisfaction is an internal state that is expressed by affectively and/or cognitively evaluating an experienced job with some degree of favor or disfavor." (p.86)

Significance of the Problem

According to Herzberg (1959) "Work is one of the most absorbing things men can think and talk about. It fills the greater part of the working day. For the fortunate it is the source of great satisfaction; for others it is the source of great grief." (p.1) Dawis and Lofquist (1990) describe work as "central to human development and total life adjustment and that work provides a situation for satisfying needs." (p.7)

Job satisfaction has been studied extensively in a variety of disciplines. Cranny, Smith, & Stone, (1992) estimate that there are over 5,000 research articles on job satisfaction. Although the research base continues to grow in this area, studies on job satisfaction in the educational arena have not been as prolific. Thompson, McNamara, and Hoyle (1977) looked at the first 26 volumes of Educational Administration Quarterly and its 474 articles. Their research showed that only 41 articles addressed the issue of job satisfaction in education. Out of the 41 articles responding to job satisfaction only three articles were committed exclusively to the job satisfaction of the administrator, indicating that administrator job satisfaction has been largely ignored. Various studies conclude that little attention has been paid to the job satisfaction of administrators (Bacharach & Mitchell 1983, Friesen, Holdaway, & Rice 1983).

There are various reasons why it is important to study job satisfaction and research associated with it. According to Cranny, Smith, and Stone (1992) "Organizations measure job satisfaction primarily because of its presumed direct relationship to the short-term goals of cost reduction through increased individual productivity and reduced absences, errors, turnover, and so, on".(p.6) Herzberg, Mausner, and Snyderman (1959) contend that the study of job attitudes as benefiting industry, the community and the individual. By understanding the research on job satisfaction, industry is better able to increase productivity by increasing the efficiency of the worker, decreasing employee turnover, decreasing absenteeism, and creating working relations that benefit all. The community can see the benefits in reduced psychological causalities, gains made in the overall production of industrial plants, and the effective use of human resources. The individual may see the benefits in the understanding of

improved morale which can lead to happiness and greater self-realization. Iris and Barret (1972) maintain that job satisfaction has been positively related to life satisfaction. Cranny, Smith, and Stone (1992, p. 45) suggests that "greater job satisfaction means better quality of life, better health (both mental and physical), more job stability, and probably greater cooperativeness." Kalleberg (1977) also suggests that there is a link between job satisfaction with one's work and the quality of life outside of the work environment and the possibility of increasing productivity and organization functioning.

Spector (1997) proposes that job satisfaction is the most widely studied variable in organizations. Job satisfaction, according to Spector, is studied because it can lead to behaviors that affect organizational functioning. Also, workers deserve to be treated fairly and with dignity, and job satisfaction is a reflection of good treatment. Research has found that job satisfaction is negatively related to absenteeism (Muchinsky, 1977). Palmore (1969) mentions that satisfied workers tend to live longer. Job satisfaction has also been shown to be negatively related to employee turnover (Locke, 1984). Vroom (1964, p.19) suggests "Turnover rates and to a lesser degree absenteeism rates have shown in many research studies to be related to job satisfaction." Vroom also contends that job satisfaction is important if organizations want to reach their goals. Lawler and Porter (1967) and Lawler (1973) also suggest that we study job satisfaction because of the strong correlations between job satisfaction and absenteeism and the strong correlation with job turnover. They contend that people are motivated to do things which they feel they have a high success of leading to rewards they value. They also reveal that research for job satisfaction stems from a low but consistent association with job

performance. Alderfer (1972) found that overall job satisfaction was higher in the enlarged jobs when they are compared to the related more delimited jobs.

Another reason to study job satisfaction is because of the necessity to recruit and maintain qualified educational administrators. It is becoming difficult to secure highly qualified educational leaders (Blackman & Fenwick, 2000; DiPaola & Tschannen-Morgan, 2003; Rayfield & Diamantes, 2004; Whitaker, 2001). There is a concern by school administrators on the lack of interest shown by teachers in becoming building principals. These concerns have been well noted at local, regional, state, and national administrative conferences (Malone, Sharp, & Thompson, 2000). The Institute for Educational Leadership warns "the nation is facing a serious educational leadership void. Strengthening educational leadership must become a national priority if we're serious about making higher standards a reality for the 53 million children who depend on us" (Institute for Educational Leadership, 2004, p. 1). In a paper presented at the annual meeting of the American Educational Research Association, Professor John C. Daresh argued that there is a crisis facing our educational system. It is becoming increasingly more difficult to attract and retain highly qualified educators in the various roles needed to run schools. "People are no longer expressing great interest in becoming principals, assistant principals, and superintendents." (Daresh, 2002, p. 4) Issues involving school boards, state mandates, long hours, insufficient pay, accountability demands, and teacher demands have made the principalship less attractive (Blackman & Fenwick, 2000; Daresh 2002; DiPaola & Tschannen-Morgan, 2003; Pennsylvania School Boards Association 2003; Jones 2001). School administrators are becoming increasingly alarmed with the use of standardized tests to judge principalship performance (Johnson, 2002). Findings

by Wooster (1991) show that the power and authority of the principal have been in decline and have lead to additional stress in the position. He sees the effectiveness of the principal being strained by bureaucracy, teacher unions, court decisions, and mandates. DiPaola and Tschannen-Morgan (2003) found that principals do not feel that they have the necessary resources to be effective and spend too many hours on the job.

Now the lack of qualified building level leaders has placed a significant burden on America's educational institutions (Gilman & Lanman-Givens, 2001). One out of every five Vermont principals had resigned or retired at the end of 2001. Fifteen percent of the principals in Washington State did the same in 2000. New York City has been unable to meet the demand of filling administrative positions and had to use temporary leaders in two hundred schools (National Association of Secondary School Principals, 2001). Gilman and Lanman-Givens (2001) report that 79 percent of Indiana's principals will probably retire by 2009 and in Iowa 93 percent of its principals were eligible to retire by the end of 2003. The United States Department of Labor estimates that 40 percent of the 93,200 principals in the United States are nearing retirement, and the need for school leaders will increase from ten to twenty percent through 2005 (Blackman & Fenwick, 2000). There are a number of reasons that account for the current and anticipated shortages of public school principals. Tracy and Weaver (2000) found that teachers have a lack of interest in taking on leadership roles. Blackman and Fenwick interviewed superintendents and principals and found that the top three obstacles facing the recruitment of new principals are insufficient compensation when compared to responsibilities, high stress level of the position, and too much time spent on the job.

Goodwin, Cunningham, and Childress (2003) suggest that there are an adequate number of people who are certified to assume a principalship but there is a shortage of qualified applicants. They believe the reason for the shortage of qualified candidates to be the constantly changing role of the principalship. As Gerald N. Tirozzi, executive director of the National Association of Secondary School principals notes, "In our more than 80 years of serving the profession, rarely have we encountered such a confluence of pressures on the principalship" (National Association of Secondary School Principals, 2003).

Purpose of the Study

The purpose of this study will be to determine the overall job satisfaction of high school principals in Pennsylvania. The study used a proportional random sampling to survey the 426 high school principals in Pennsylvania. The study surveyed 225 male high school principals and 80 female high school principals. The study determined the level of intrinsic and extrinsic satisfaction and determined the relationship of selected factors of gender; age; ethnicity; levels of education; salary level; years of experience; number of assistant principals; years in current school district; school socio-economic level; and school size.

Limitations of the Study

The researcher has identified several limitations to this study. The study employed a questionnaire to measure the job satisfaction of high school principals. The use of a questionnaire inherently has limitations (Krathwohl, 1998; Lawler, Nadler, & Cammann, 1980). The questionnaire is dependent on the voluntary participation of the participants. The questionnaire is a self-reporting instrument where it is assumed that the participants

are answering for themselves and answering truthfully. The participant may give answers he/she feels are the socially acceptable answers rather than what he/she truly believes. The participant can think over and change answers whereby the checking of answers can increase consistency. The use of a questionnaire is non-empathic and often there is a tendency to ask too many questions. The study is limited to public high school principals in the Commonwealth of Pennsylvania. The study is limited to the type of questionnaire that was used. The Minnesota Satisfaction Questionnaire was the instrument used by this researcher. The study used a proportional stratified random sample.

Definition of Terms

Extrinsic motivators – "The desire or push to perform a certain behavior based on the potential external rewards that may be received as a result." (AllPsych Online, 2004)

Facet Job Satisfaction – Defined as "people's affective reactions to particular aspects of their job." (Lawler, 1973 p.64)

Intrinsic motivators – "The motivation or desire to do something based on the enjoyment of the behavior itself rather than relying on or requiring external reinforcement." (AllPsych Online, 2004)

Minnesota Satisfaction Questionnaire (MSQ) – Survey instrument used to describe job satisfaction (Weiss, Dawis, England, & Lofquist, 1967).

Motivation – "The process that energizes and/or maintains a behavior." (AllPsych Online, 2004)

No Child Left Behind (NCLB) - The reauthorization of the Elementary and Secondary Education Act which asks the states to set standards for student performance and teacher quality. (United States Department of Education, 2003)

Overall Job Satisfaction – Defined as "a person's affective reaction to his total work role". (Lawler, 1973 p.64)

High school – Defined as a school that includes only secondary level students normally in grades 9-12.

Research Questions

1. What is the overall level of job satisfaction of high school principals in Pennsylvania as measured by the Minnesota Satisfaction Questionnaire?
2. What is the relationship between overall job satisfaction level of high school principals in Pennsylvania and the following demographic variables: age; gender; levels of education; number of assistant principals; ethnicity, salary level; years of experience; years in current school district; school socio-economic level; and school size?
3. What degree of satisfaction do principals express with each of the twenty sub-factors of job satisfaction as measured by the Minnesota Satisfaction Questionnaire?
4. How do high school principals in Pennsylvania compare to the national norms of the Minnesota Satisfaction Questionnaire (white collar: professional engineers).
5. What are the levels of intrinsic and extrinsic job satisfaction of high school principals in Pennsylvania?

CHAPTER II

Review of Literature

This chapter provides a review of the literature related to the job satisfaction of high school principals. The researcher reviewed literature on the role of the principal and effective schools, theories of motivation and job satisfaction, and job satisfaction studies.

The Role of the Principal

The job of the principal is always changing and expanding, and its work is complex and overwhelming. Demands are made by numerous organizations for the time of a principal. According to Cooley and Shen (2003) schools and communities demand an exorbitant amount of time from their principals in management tasks alone so they can make sure that their schools are safe. Drake and Roe (2003) write of the numerous reports that make today's principal the focal point in education more than in any time in history, and suggest that the principal's educational leadership ability is an important solution to bringing this country's schools to excellence. The studying of job satisfaction allows us to understand both the positive and negative aspects of the principal'sjob. It allows us to identify those variables that are relevant to the position which bring satisfaction to the work. It is significant to understand the role of the principal, the challenges of the principalship, the principal and effective schools research, and the principal shortage so as to maintain and secure effective future leaders for our schools.

In 1993, the National Policy Board for Educational Administration identified four essential domains delineating the knowledge and skill base for practicing

principals. The functional domain includes leadership, data collection and analysis, implementation, and delegation. The programmatic domain contains curriculum design, student and staff development, and resource allocation. The interpersonal domain claims motivating others and various forms of communication. The contextual domain incorporates philosophical and cultural values, understanding of law, and public relations (Drake & Roe, 2003). Drake and Roe (p. 181) suggest that the "principal's major task is to exercise leadership in order to make a positive difference in student learning and to improve the quality of life of each individual within the school." According to Sergiovanni (1996) the effective principal should be able to accomplish a multitude of tasks. These tasks involve the bringing together of a shared vision; consensus building; developing policies and procedures; motivating the school community; managing the daily procedures of the school; facilitation of resources; supervising; and accepting responsibility. According to Portin, Shen, and Williams (1998, p. 1)

> "In recent years, a number of significant changes have occurred in our public schools, including shifting federal program priorities, adoption of state curriculum standards, and the development of site-based decision making. These changes come at a time when many schools are also experiencing significant changes in the ethnic and socioeconomic composition of their student body, and when many families are struggling to meet challenges arising from family break-up, poverty, or job requirements that limit time available to be with their children."

How much has principal leadership changed over the course of time? John Dewey wrote in 1936 that the leadership of the school administrator "will be that of intellectual stimulation and direction, through give and take with others, not that of an

aloof official imposing, authoritatively, educational ends and methods. He will be on the lookout for ways to give others intellectual and moral responsibilities, not just for ways of setting tasks for them" (Maxcy, 1991). The role of today's principal is dominated with high stakes testing, rigorous standards, teacher accountability, safe schools, crisis management, and a wealth of societal issues that have been placed at his/her doorstep. According to Cross and Rice (2000, p. 62)

> "Where schools are successful, one will find a principal who places academics first and who knows how to motivate staff and teachers. This cannot happen unless the principal can devote a significant amount of time to the academic program of the school. It is often difficult for principals, burdened with budgetary concerns, hiring staff, repairing a leaking roof, attending evening parent and community activities, and maintaining discipline, to make time to review student work or to reflect on the academic health of the school."

Among the newest challenges facing the high school principal is the No Child Left Behind Act of 2001. The new act requires that states have challenging academic content and achievement standards for all students in reading, language arts, and mathematics with science standards to be in place by 2005-06 (Education Commission of the States, 2003). Although the NCLB Act mandates the states to take action it will be the principals who will carry out much of the provisions and mandates.

The NCLB Act magnifies the principal's accountability and responsibilities of a child's education. According to the National Association of Secondary School Principals (2003) principals will need to ensure that all students participate in the assessments; create an environment that will lead to maximum success; have the ability

to analyze and interpret the data to make sound educational decisions; disseminate information to the public; develop school improvement plans: and demonstrate that the instructional strategies used by his staff, the curriculum materials utilized by students, and the staff development opportunities given to teachers and support staff are founded in research that are proven effective. These added responsibilities do not come without consequences and additional stress for the principal. School districts who fail to demonstrate student achievement can have sanctions placed upon them, including removal of administrators.

Do principals make a difference in schools? Research on effective schools has been ongoing for decades and may offer insights to the importance of the principalship. Descriptions of effective schools vary but central themes are prevalent in all of them. According to the Ohio Center for Effective Schools (2003) effective schools have strong instructional leadership. Effective school research shows that the principal acts as the instructional leader. He empowers teachers to become collaborative leaders in continuous professional development. The principal is responsible to effectively communicate the vision and goals of the school to all school stakeholders. He or she effectively and persistently communicates the school's mission to staff, parents, and students. The effective instructional leader understands the research that promotes effective teaching and learning and utilizes those best practices in the school (Ohio Center for Effective Schools, 2003). Krug (1992); Austin (1979) propose that among the most consistent characteristics of effective schools was the pivotal role played by the principals. They found these effective principals to be highly qualified and having greater experience. The quality of leadership appeared to be the critical factor in

determining why these schools succeeded while others failed. Lazotte (1992) contends that throughout the literature on effective schools instructional leadership is critical. Effective schools research advocates that effective schools are led by individuals with the vision that learning in a democracy must be all for students. Sybouts and Wendel (1994) suggest that effective schools share one quality and that is an exceptional principal or other leader who influences teachers and students through knowledge of instruction. They have high expectations. In the effective school the principal acts as instructional leader and continually communicates that leadership role to staff, parents, and students. In a speech delivered on September 9, 2003, President George W. Bush said, "I learned some pretty interesting lessons as the governor. And one lesson is that in order for schools to succeed, you better have a good principal. A good school begins with a good principal, somebody who is willing to challenge the bigotry of low expectations" (Bush, 2003).

Theories of Motivation and Job Satisfaction

Herzberg's groundbreaking work (Herzberg, 1966; Herzberg, et. al 1959) began in the late 1950's and continued in subsequent decades. Herzberg received a grant to investigate the area of job attitudes by interviewing two hundred engineers and accountants to evaluate events that led to considerable changes in their job attitudes and to determine the factors that caused those changes (Herzberg, 1959). Herzberg and his associates questioned these people to relate critical incidents of their job when they felt most satisfied and most dissatisfied. He found that these questions received two different types of answers. The result of his analysis led to his Two Factor Theory or often called Motivation-Hygiene Theory.

Two-Factor Theory (Herzberg, et.al 1959) describes two dimensions to job satisfaction. Both dimensions come from the analysis of the data that was collected in the original survey in 1959. Herzberg contended that "Job satisfaction and job dissatisfaction are not opposites; they are completely separate continua, like hearing and vision. If this is true, if we recognize that they are separate continua, then they must be produced by different factors and have their own dynamics" (Dowling, 1971). Herzberg described the two dimensions as hygiene factors and motivators.

Herzberg's theory (Herzberg, 1966; Herzberg, et.al 1959) suggests that hygiene factors are related to the context or environment of the job. Hygiene factors (extrinsic factors) are related to job dissatisfaction because of a need to avoid unpleasantness. Hygiene factors cannot motivate people but can minimize dissatisfaction. Herzberg considered hygiene issues to be company and administrative policies, supervision, salary, working conditions, and interpersonal relations. If hygiene issues are absent or mishandled they can only lead to dissatisfaction. Herzberg argues that before employee satisfaction and motivation are possible hygiene issues must first be met.

Herzberg's theory (Herzberg, 1966; Herzberg, et.al 1959) suggests that motivator factors are related to the relationship one has with his job. Herzberg contends that motivators create satisfaction by fulfilling individual needs for meaning and personal growth. Five factors that stood out as strong determiners of job satisfaction are achievement, recognition, the work itself, responsibility and advancement. Work itself, responsibility, and advancement were found to be the most important aspects for bringing lasting changes of attitude. Motivators (intrinsic factors) led to job satisfaction because of a need for growth and self-actualization.

The idea of job enrichment is one of the most significant contributions of Herzberg's theory (Bolman & Deal, 1997). Herzberg saw job enrichment as paramount to motivation. Meaningful tasks allow for growth, and job enrichment is a relatively simple method for facilitating this growth. Job enrichment encouraged the adding of different tasks to a job to provide workers with more freedom and authority. This allowed workers to become more accountable and to utilize their skills to a greater involvement and interaction with the task.

In 1963, John S. Adams contributed to motivation research with his equity theory of job motivation (Adams, 1963; Berkowitz 1965; Business Open Learning Archive 2004; Chapman 2002; Lindner, 1998). Building from the foundation of previous researchers, (e.g. Herzberg and Maslow, etc.), Adams' theory recognizes that various factors affect an individual's judgment and observation of their work. Adams suggests that workers seek a fair balance of what is put into work and what is taken out of work. He described those variables as inputs and outputs. His theory holds that individuals decide what a fair balance is by comparing situations with other workers or colleagues in a similar work environment. Inputs (what a person brings into a job) include variables such as effort, loyalty, hard work, commitment, skill, ability, adaptability, flexibility, tolerance, determination, enthusiasm, trust in superiors, support of co-workers, and personal sacrifice. Outputs (what a person takes out of a job) include financial compensation, recognition, reputation, praise and thanks, achievement, and advancement. Adams contended that if our inputs exceeded our outputs we would not be motivated in relation to our job and employer. He asserts that if this happens some workers will

reduce effort and may even become disrupted while others may seek to change outputs or find another job.

Vroom's approach to motivation theory was to look at the internal, cognitive processes that people go through to satisfy needs (Vroom 1960; Vroom, 1964; Vroom & Jago 1988; Vroom & Yetton, 1973). Vroom argued that critical to motivation at work was the relationship between effort and reward. Vroom's assumption was that the behavior we decide to display depends upon what we expect to achieve from that behavior. According to the Vroom model, the individual effort one is motivated to exert first depends on how well one can perform that task, and subsequently on what that performance will produce. Workers would calculate first if there was a connection between effort and reward then the probability of achieving the reward with high performance.

Vroom's theory assumes that an individual's behavior is a result of choices that are made to maximize pleasure and minimize pain. He describes three fundamental areas that are significant to the theory: expectancy, instrumentality, and valence. Expectancy is the probability that the amount of effort you put into a task will produce the desired performance. Instrumentality is the probability that the performance will lead to the reward. Valence is the value of the reward.

In Vroom's theory individuals elect to follow levels of job performance that they believe will maximize their overall best interests. Motivational forces will not exist if the person does not believe they can perform the job; the person believes that after successfully completing the task there is no reward; and the person believes that completion of the task will result in a negative reward.

Abraham Maslow (Lowry 1973; Maslow, 1954; Maslow, Stephens, & Heil, 1998) promoted that people are motivated by a variety of wants. Some of these needs were more basic than others. Maslow grouped this hierarchy of needs into five areas. The physiological needs are considered to be the lowest-level needs and are considered necessary for survival: water, food, air, and sex. People are motivated by anything that assures them of food and shelter. If these needs are not met they become the motivating drives in that person's life. Safety needs include those that allow people to be free from danger, attack, or threat. It includes those needs necessary for shelter and security and a desire for law, structure, and order. The social needs include a sense of belonging and love provided for positive and loving relationships with others. After the social needs have been satisfied, ego and esteem needs become the motivation needs. Esteem needs allows one to feel valued and includes the desire for self-respect, self-esteem, and the esteem of others. Self-actualization is the highest of the needs in Maslow's hierarchy. Self-actualization allows for one to live to his fullest and to live to one's full potential. It provides for continuous self-development and improvement. In Maslow's hierarchy the physiological and safety needs must be satisfied first. Once these needs are met individuals can pursue the higher needs.

Alderfer's ERG theory (Alderfer, 1972; Alderfer & Brown, 1975) modified Maslow's and suggests that human needs can be divided into three groups: existence needs, related needs, and growth needs. Existence needs deal with basic material survival necessities which include nutritional and material requirements. Related needs consider the desires we possess to have meaningful interpersonal relationships. Growth needs reflect a desire for personal developments.

Alderfer's theory differs from Maslow's theory in several important ways. Alderfer did not believe that needs should be placed in a hierarchy but rather in a continuum. Alderfer contends that more than one need may be present at one time. He argued that you may move along the continuum in any direction rather than just up the hierarchy. Alderfer contended that as related needs and growth needs are met they become more important where as Maslow felt that once a need was met it became less important to the individual. Alderfer also deals with frustration-regression. Frustration-regression alleges that if a higher-order need is not met an individual could then regress to the satisfaction of a lower-order need that has already been met (Alderfer, 1972; Alderfer & Brown, 1975).

McGregor (1960) believed that how well an organization can perform is directly related to how well that organization can utilize its human potential. Based on how people behave in the workplace, Douglas McGregor developed his Theory X and Theory Y models. Theory X assumes that people dislike work and will avoid it unless they are controlled or threatened. Managers who believe in this paradigm assume that workers are passive, lazy, and resistant to change. Managers motivate employees through force either by ways of threats or punishments. Theory X describes the average human being as wanting to be directed, having little ambition, and avoiding responsibility. What the individual strives for is security. Over time this method of management generates low productivity and a hostile work environment. Theory Y assumes that if workers are respected and involved in the decision making process then they will be highly motivated. Workers who are committed to the organization's objectives will be self-directed. Theory Y suggests that people seek responsibility, and the full potential of the

human being is only partially realized. Managers who believe in this paradigm view their task as arranging the organization's environment so people can achieve their own goals. In this way, individuals can find satisfaction in their work (Bolman & Deal, 1997).

Goal-setting theory (Locke & Latham, 1990; Locke & Latham, 2002; Seijts 2001) assumes that goals serve as motivators. The fundamental premise is that individuals evaluate their present ability to perform with that which is needed to succeed at their goals. Goal-setting theory maintains that employees who have challenging, tangible, and measurable goals tend to be more productive than those who do not have these goals. People who set precise, demanding goals perform at a higher level than those who set no goals or who have abstract goals. A goal must be specific and difficult to raise performance. Specific goals define what an acceptable level of performance is. Abstract goals allow individuals to give themselves the benefit of the doubt when evaluating their performances. In the absence of goals, individuals feel that their level of performance is actually better than it is. Individuals do not give their best effort when they are instructed to merely do their best. Goals direct effort and provide parameters for how much effort to put into each activity when there are multiple goals. Participation in goal-setting increases the individual's sense of control and fairness in the process. Goal setting theory (Locke & Latham, 1990; Locke & Latham, 2002; Seijts 2001) maintains that assigned goals become personal goals. Workers accept the organization's goals and are committed to their attainment. Managers who assign goals to workers will see performance at a higher level when asked to meet specific high performance goals.

David C. McClelland was an original researcher in workplace motivational thinking. His breakthrough research (McClelland, 1985) led to the development of his

motivational needs theory. McClelland suggested that there were three types of motivational needs that drive people. He described those motivational needs as achievement motivation, power motivation, and affiliation motivation. McClelland argued that people possess a combination of these needs; however, some needs have a higher intensity than others and vary in individuals.

An achievement motivated person looks for accomplishments, seeks the realization of goal completion, and looks to advance in the organization. This individual seeks feedback from others on the status of his progress to the task. Most people are not achievement motivated, but those who are display a consistent behavior of setting goals. Achievement motivated individuals set goals which they can control with their effort and ability. Achievers tend to avoid low risk and high risk situations. "Managers motivated by the need to achieve aren't worried about what people think of them. They focus on setting goals and reaching them, but they put their own achievement and recognition first" (McClelland & Burnham, 2003, p.117).

A power motivated person is authority motivated. These individuals have a strong desire to influence others and make a strong contribution. These individuals desire personal status and prestige. They have strong work ethics and are loyal to the organization. They want personal power where they can direct others, or social power to influence others for the sake of the organization. "Recognizing that you get things done inside organizations only if you can influence the people around you, they focus on building power through influence rather than through their own individual achievement" (McClelland & Burnham, 2003, p.117).

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An affiliated motivated person garners motivation through friendly relationships with others. These individuals want to be liked and are team players. These individuals may have difficulty in being objective because of their strong desire to be liked by others.

"Affiliative managers need to be more liked than they need to get things done. Their decisions are aimed at increasing their own popularity rather than promoting the goals of the organization" (McClelland & Burnham, 2003).

Studies of Job Satisfaction

Friesen, Holdaway, and Rice (1983) examined job satisfaction among principals in Alberta, Canada. The researchers collected data from a stratified random sampling utilizing critical incident methods. The researchers sought to answer two questions: (1) Which two factors contribute most too overall job satisfaction with the principalship? and (2) Which two factors contribute most to overall job dissatisfaction with the principalship? The researchers identified seven job facets as being relevant to the overall levels of job satisfaction. The job facets included work itself, occupational status and prestige, interaction with district administration, interaction with teachers, interaction with students, salary and benefits, and working conditions. Their results indicated that principals with more than 20 years experience chose hygiene factors more often than principals with lesser experience. Male principals chose hygiene factors more frequently than female principals. Town and rural principals chose hygiene factors more often than urban principals and smaller school principals chose hygiene factors more frequently than larger school principals.

The study identified various facets of both job satisfaction and job dissatisfaction. Facets that were considered sources of job satisfaction included sense of achievement,

interpersonal relationships, recognition and status, importance of work, and relations with central office. Facets that were associated with job dissatisfaction included administration and policies, amount of work, overall constraints, attitudes of society, lack of adequate facilities, stress from destructive criticism, and impact on home life. The study also identified job facets that were identified as being sources of both job satisfaction and job dissatisfaction. These included relationships with teachers, responsibilities, autonomy, workload, student attitudes and performance, and relationships with parents (Friesen, Holdaway, & Rice, 1983).

Eckman (2004) studied the similarities and differences of male and female high school principals in role conflict, role commitment, and job satisfaction. Using the Job Satisfaction Survey, Eckman found that there was no significant difference in job satisfaction levels between male and female principals. Both groups experienced only moderate levels of job satisfaction. Job satisfaction levels increased with years of experience.

Chen, Blendinger, and McGrath (2000) studied high school assistant principals in Mississippi utilizing the Minnesota Satisfaction Questionnaire and found that they showed high job satisfaction levels. No significant relationship was found between school size and years of experience with assistant principals and job satisfaction. The findings of this study showed that intrinsic aspects of job satisfaction were higher than extrinsic factors.

Eight hundred principals were surveyed by MetLife with two-thirds of them describing their levels of job satisfaction as being very satisfied (Metropolitan Life

Insurance Company, 2003). Nearly ninety-five percent of all principals that were surveyed indicated that they were somewhat satisfied with their job.

Fansher and Buxton (1984), utilizing the Job Descriptive Index, investigated the job satisfaction of female secondary school principals in the United States and found that their overall job satisfaction was high, and that it was higher than their male counterparts. Facets of satisfaction that were highest were supervision, followed by people, and then work. Salary/pay and promotion were the least among the five sub-areas tested. The study showed that the strongest predictors of job satisfaction were size of school, age of principal, and feedback from children.

Dorning and Brown's (1982) study using the Minnesota Satisfaction Questionnaire found that principals who demonstrated behavior that was perceived as considerate are most likely to have assistant principals who were highly satisfied in extrinsic factors such as working conditions, salary, status, security, policies, and supervisions. Intrinsic factors such as recognition, achievement, the work itself, responsibility and advancement were not as highly related to the principals' behavior. The study also showed that demographic variables of race, educational experience, size of school, years of experience, and the like had little effect on the job satisfaction of assistant principals in this study.

Malone, Sharp, and Walter (2001) argue that the environment in which one works is crucial to job satisfaction and job motivation. Principals view community support as an essential factor to where they want to work. In a study of Indiana school principals (Malone, et. al, 2001) the highest job satisfaction for principals was working with students. The second highest level of job satisfaction for the principal was being able to

make a difference with students. Salary, prestige, and the greater freedom afforded an administrator did not have a high job satisfaction level for principals. The facets cited by principals that had the least amount of job satisfaction were having completed courses in educational leadership, the ability to live in a certain area because of the job, and had paid their dues. When asked if they would do it again, 95 percent of the responding principals said they would. Malone's study found that 34 percent of the principals rated their job satisfaction as very high and 57 percent rated their job satisfaction as high.

Malone, Sharp, and Thompson (2000) developed their own questionnaire for the purpose of collecting data to their survey. Questions were divided into two categories: factors that principals perceived as relevant to their jobs as they currently perform them; and factors that serve to motivate them to make the principalship a career. Sub-questions of the questionnaire allowed for data collection on sources of support issues that make the principalship more satisfying. The authors did not share validity or reliability data to support their questionnaire.

Richford and Fortune (1984) investigated the relationship between manipulativeness and locus of control and job satisfaction. Utilizing the facet-free job satisfaction questionnaire, the researchers found that certain high school principals resorted to interpersonal manipulation to increase their control when the formal organization failed to provide the necessary autonomy. The principals who were highly manipulative were found to be less satisfied with their jobs than those principals who were less manipulative.

Johnson and Holdaway (1994) conducted a study of elementary and junior high school principals in Alberta, Canada concerning their job satisfaction. Data was collected

by use of questionnaires and follow-up interviews. The job satisfaction questionnaire that was used was based on similar instruments that were used at the University of Alberta. The researcher took a variety of steps to insure the appropriateness of the instruments, including preliminary interviews and pilot testing. The study specifically looked at the current levels of facet satisfaction and overall job satisfaction of these principals. The study also looked at the perceived importance of the individual job facets for their job satisfaction. Their research indicated that the principals that participated in this study expressed moderately high to high overall job satisfaction. The two facets that ranked highest in both groups that were tested were working relationships with teachers and relationships with students. The facets that were the least satisfying to the study group were conflict, bureaucratic procedures, powerlessness, funding, and amount of work. The study showed that there were differences between the two groups. The competence of teachers ranked much higher for elementary principals then it did for the junior high principals. Freedom to allocate teaching assignments, authority of the position, and relationships with central personnel other than the superintendent ranked higher with the junior high principals. Both groups were similar when expressing their views on which job facets were important sources of job satisfaction. The three highest rankings that were central for job satisfaction that were shared by both groups were working relationships with teachers, teacher competence, and satisfaction and morale of staff.

Stemple (2004) did research on job satisfaction of high school principals in Virginia. Stemple used the Minnesota Satisfaction Questionnaire to look at the overall job satisfaction levels and a variety of demographic variables including gender, age,

salary, years of experience, number of assistant principals, school size, and accreditation status. The findings indicated that high school principals in Virginia were generally satisfied with their jobs. His study showed that non-white principals were significantly less satisfied than white principals. His study also showed that as income increased so did the level of job satisfaction. Principals who were fortunate to have multiple assistant principals (more than 3) also experienced higher levels of job satisfaction.

Newby (1999) study the job satisfaction of middle school principals in Virginia utilizing the Minnesota Satisfaction Questionnaire. The survey included one hundred and eighty-eight middle school principals. Along with the Minnesota Satisfaction Questionnaire respondents were asked to fill out a demographic data sheet. The study demonstrated that respondents were satisfied with their positions. Middle school principals also indicated that being of service to others was the highest contributor to their satisfaction. Overall satisfaction with compensation contributed least to the satisfaction of these principals. Supervision and working conditions also contributed to high satisfaction of suburban principals. School size data indicated that middle school principals from large schools were highly satisfied with advancement, supervision, and security. Middle school principals from large schools also cite supervision (human relations and technical) and security as sources of satisfaction. Newby also noted that female middle school principals scored higher than males on eighteen of the twenty job dimensions of the Minnesota Satisfaction Questionnaire although these findings were not significantly higher.

Waskiewicz (1999) did research on the variables that explain the job satisfaction of assistant principals of secondary schools. By using the Minnesota Satisfaction

Questionnaire, Waskiewicz found that assistant principals were only marginally satisfied with their jobs. Variables that did not have an effect on intrinsic, extrinsic and general job satisfaction included age and compensation. Career aspirations and opportunity for advancement did not have an effect on extrinsic and general job satisfaction. Feelings of compensation fairness did not have an effect on intrinsic job satisfaction. Supervisor relations and ability utilization had significant effects on intrinsic, extrinsic, and general job satisfaction.

Sutter (1996) tried to determine if predictors of an assistant principal's level of job and career satisfaction could be found. Using several satisfaction survey instruments including the Minnesota Satisfaction Questionnaire, career inventories, and demographic data, 416 Ohio assistant principals were surveyed. The results of the study showed that assistant principals had higher levels of job satisfaction if they felt they were making accomplishments on the job. Those assistant principals who believed they had not accomplished much had lower levels of job satisfaction. Assistant principals who believed that they had opportunities for advancement in their current educational placement had much higher levels of satisfaction than those who did not believe they had opportunities for advancement. Assistant principals who believed their talents and skills were used effectively had higher levels of satisfaction compared to those principals who believed that they were not having their skills and talents used effectively. Those assistant principals who wanted to become principals had higher levels of satisfaction than those who wanted to remain as assistant principals.

A study (Wright & Custer, 1998) dealing with the motivation of "excellent" technology education teachers demonstrated that the most significant job satisfaction

came from the excitement and stimulation of working with new technologies, the enjoyment of working with kids, and the ability to make a difference in their lives. The study also showed that the greatest job dissatisfaction was the lack of funding for new equipment. The instrument used for this study was developed by the researchers based on the literature review. The instrument was reviewed by a panel of experts and incorporated modifications based on their suggestions.

Stockard and Lehman (2004) used historical data from the 1993 to 1995 nationwide Schools and Staffing Survey and the teacher Follow-up Survey, as well as a teacher survey from a western state, to study the influences on job satisfaction and retention of first year teachers. Their findings show that the most important influence on retaining first year teachers is job satisfaction, and the variables that most influence job satisfaction are school management and social support. Demographic variables such as age, gender, ethnicity, education, and experience had little influence on a teacher's level of job satisfaction. Variables that were significantly related to a teacher's job satisfaction were difficulty of teacher assignments, teaching outside their certification area, and lack of academic supplies.

Results appear to suggest that first year teachers were more satisfied in schools that were well managed and in which the work environment was safe. Teachers who perceived that they were in control of their teaching environment, had mentors for support, and were teaching in their certificated area felt more successful. Stockard and Lehman (2004) suggest that administrators seem to influence the job satisfaction levels of first year teachers in an indirect way by providing learning environments conducive to teaching, proper teaching assignments, and providing teachers with a sense control.

Castillo and Cano (2004) studied the variance in the level of overall job satisfaction of a group of Ohio State faculty members explained by hygiene – motivator theory. The study used the Job Satisfaction Index and Wood's faculty Satisfaction/Dissatisfaction Scale to collect data. The study showed that faculty members were generally satisfied with their jobs, with male faculty members more satisfied than female faculty members. The study described that the work itself was the highest motivation aspect of faculty members and working conditions the least motivating factor. The study showed that eleven hygiene and motivator factors were moderately to substantially related to overall job satisfaction.

Miskel, Glassnapp, and Hatley (1975) found that work pressure is negatively associated with job satisfaction. The researchers used multiple questionnaires adapted from established instruments to collect data. The researchers also compiled a variety of statistical techniques to test the adaptability of the instruments to various educational situations. Their research argued that educators who identify conditions that require extra effort are also accompanied by lower levels of job satisfaction. They suggest that administrators may need to lower work demands or increase incentives to adjust for the job dissatisfaction levels.

In a 2003 MetLife study, teacher job satisfaction was at its highest level since 1984 (Metropolitan Life Insurance Company, 2003). One thousand and seventeen teachers were surveyed, and fifty-seven percent indicated that they were very satisfied with teaching as a career. This did not differ with grade level. The study also showed that teachers who were satisfied with their jobs were satisfied with their relationships

with their principals. The survey also indicated that only nineteen percent of teachers surveyed aspired to be principals.

Prelip (2001) looked to measure the overall job satisfaction of health educators with five facets: salary, coworkers, supervision, work, and opportunities for employment. Prelip used the Job Descriptive Index and Job in General Index to collect data. The study found that the health educators were satisfied with their jobs in general and showed satisfaction with work, co-workers, pay and supervision. The lowest level of job satisfaction came from opportunities for employment. The study also looked at the difference in job satisfaction levels between credentialed health educators and those health educators who were not credentialed. Non-credentialed educators had a higher job satisfaction level than those who were credentialed.

Derlin and Schneider (1994) did a study on job satisfaction involving teachers and principals in both urban and suburban settings and found job satisfaction is perceived differently by educators. The researcher used historical data collected by the Study Commission on the Quality of Education in Milwaukee Metropolitan Public Schools. The study found that there was a difference in the extrinsic issues between teachers and administrators. Administrators were influenced by salary, security, and advancement more so than the teachers. Teacher's satisfaction came from issues of student achievement, recognition, and involvement. Urban teacher job satisfaction was affected by issues of school climate/work environment – influenced more by providing the type of education that will make their students more successful. Suburban teacher satisfaction was influenced more by staff recognition, decision making, district support, and professional development. Urban principal job satisfaction was more influenced by

extrinsic factors such as salary. Suburban principal satisfaction was more affected by favorable work environment.

Malanowski (1999) did research on the overall job satisfaction of public school superintendents in New Jersey in urban districts which included intrinsic and extrinsic satisfaction. The study also looked at various variables and how they related to job satisfaction. Collection of data for this study was gathered using the Minnesota Satisfaction Questionnaire. Malanowski found that urban superintendents are generally satisfied with their jobs and their intrinsic job level of satisfaction is high. The study also showed that New Jersey superintendents are satisfied with the extrinsic facets of the job. Specifically, superintendents in this study were most satisfied with the chance of helping people, doing things that make use of their skills, keeping busy, using their expert judgment, feelings of accomplishment, and a chance to be somebody in the community. Superintendents were less satisfied with the practice of policies, chances for advancement, and work load. Satisfaction levels were not related to age, gender, level of education, or years of experience. However, there was a positive relationship of job satisfaction and tenure of a superintendent.

Solomon (2004) did research to investigate the level of perceived job satisfaction, perceived intrinsic job satisfaction, and perceived extrinsic job satisfaction of public school superintendents in affluent districts in New Jersey. The study also looked at various variables and their impacts on job satisfaction. New Jersey superintendents were very satisfied and indicated positive responses in all areas of the job. The Minnesota Satisfaction Questionnaire was used as the collection data instrument in this study.

O'Malley (2004) investigated the relationship between job satisfaction and a selected population of New Jersey superintendents. Using the short form of the Minnesota Satisfaction Questionnaire O'Malley examined that relationship with the following variables: salary, structure of the district, size of the district, and the age and gender of the superintendent. The study found that the level of job satisfaction among the respondents fell at the higher end of the job satisfaction range. The areas that showed the highest range of job satisfaction included: chance to try my own methods of doing job; chance to do things for other people; and chance to do something that makes use of my abilities. The areas that showed the lowest range of job satisfaction included: competence of my supervisor in making decisions; and chance to tell people what to do. The study also concluded that the intrinsic job satisfaction of the respondents was high and the extrinsic job satisfaction of the respondents was uncertain. There was a low correlation between gender and the job satisfaction of respondents and no significant relationship between salary and district size and respondent's job satisfaction.

CHAPTER III

Research Methodology

The purpose of this study was to determine the overall job satisfaction of high school principals in Pennsylvania. The study determined the level of intrinsic and extrinsic satisfaction and determined the relationships of selected factors of gender; age; race; levels of education; salary level; years of experience; number of assistant principals; years in current school district; school socio-economic level; and school size. This chapter describes the population, instrumentation, data collection and data analysis procedures of the study.

Population

There are 501 school districts in the Commonwealth of Pennsylvania. Other local educational agencies that are included in the Commonwealth of Pennsylvania are full-time out-of-district special education, comprehensive area vocational-technical schools, occupational area vocational-technical schools, charter schools, state-owned schools, consortium-operated alternative high schools, and juvenile correctional institutions (Pennsylvania Department of Education, 2004).

The Commonwealth's General Assembly and the locally elected school boards are responsible for the funding and operation of Pennsylvania's public schools. Individual public schools are under the supervision of principals who report to superintendents or assistant superintendents.

Proportional stratified sampling (Krathwohl, 1998) techniques will be employed to determine the population to be surveyed for this study. There are a total of 426 high

school principals in the Commonwealth of Pennsylvania. The population includes only those principals whose responsibilities are for students in grades 9 – 12. The stratification of the population is based on gender. In the 2004-05 school year there were 346 male high principals and 80 female high school principals (Pennsylvania Department of Education, 2004). The source of this population was the Pennsylvania Department of Education.

Utilizing proportional stratified sampling techniques the sample size for male high school principals is 186 and the sample size for female high school principals is 67. Sample size calculators (Creative Research Systems, 2003; Raosoft, 2004) were used to determine sample size. This sample has a margin of error (confidence interval) of 5%, a confidence level of 95%, and a response distribution of 50%.

Procedures

The Randombots Medusa Random Sampler Generator was purchased to randomly select the male high school principal participants for this study. Two hundred and twenty- five male high school principals were randomly selected from a male high school population of 346. All 80 female high school principals were selected for this study. Appendix A contains data pertaining to the random sampling of male high school principals.

Surveys were mailed to the 305 Pennsylvania high school principals included in this study on June 2, 2005. Included in the mailings were a cover letter (Appendix A) the Minnesota Satisfaction Questionnaire long form and a demographic data form (Appendix B). The cover letter described the identity of the researcher and the purpose. The demographic data form requested responses dealing with the following variables:

age; gender; levels of education; number of assistant principals; ethnicity: salary level; years of experience; years in current school district; school socio-economic level; and school size. A code number was placed on the demographic data form to identify non-respondents so follow-up letters can be mailed. Included in the mailings were self-addressed, stamped envelopes for return mail.

Participants were instructed to mark their responses to the Minnesota Satisfaction Questionnaire and to complete the demographic data form. Participants were instructed to mail the completed survey and data forms using the self-addressed, stamped envelopes that were provided. Postcards were sent a week after the initial mailing as a reminder to complete the survey. On June 24, 2005 a follow-up mailing was sent to non-respondents. A replacement survey and demographic data form was sent along with another cover letter. This researcher used regular mailings and postage to maintain reasonable costs. Approval to disseminate the surveys was granted by Seton Hall University.

Population Sample

Three hundred and five mailings were sent to Pennsylvania high school principals on June 2, 2005. A follow-up post card was sent a week later. One hundred and two principals (33.45%) returned surveys after the first mailing. A second mailing was sent on June 24, 2005 to Pennsylvania high school principals. Thirty-nine principals (12.79%) responded to the second mailing. A total of 141 high school principals (46.23%) responded to the survey.

Two high school principals did not fill out the demographic data form and the Minnesota Satisfaction Questionnaire long form. One respondent cited the very recent retirement of the principal and the other respondent described administration turnover as

the reason not to fill out the survey. One respondent did not fill out questions 4, 24, 44, 64, and 84 on the Minnesota Satisfaction Questionnaire long form. These questions correspond to the independence scale of the Minnesota Satisfaction Questionnaire long form.

Instrumentation

According to Spector (1997) job satisfaction can be viewed as an overall sense about the job or about various facets of the job. Overall levels of satisfaction are used when the global or bottom line attitude is of interest. The facet approach is used to find out which aspects of the job produce satisfaction or dissatisfaction. The facet approach can give more of a complete picture of a person's level of satisfaction.

There are multiple instruments that are able to measure both overall job satisfaction and facet job satisfaction. Many of these instruments employ scales to measure the various levels and facets. According to Spector (1997) there are advantages and disadvantages to using scales to measure job satisfaction. Scales often incorporate the major facets of job satisfaction and have been employed for a long period of time so that they are able to provide norms. Scales have acceptable levels of reliability and validity and can save the researcher time and money. Among the disadvantages are that the scales limit the facets to those that are in the instrument, the facets tend to be general in nature, and it can be costly if large numbers are used. A brief analysis of some of the instruments that are used in job satisfaction follows.

The Job Satisfaction Index (JSI) assesses nine job facets and overall job satisfaction levels. The nine job facets are pay, promotion, supervision, fringe benefits, contingent rewards, operating conditions, coworkers, and the nature of work

communications. The instrument employs favorable and unfavorable statements about the job. The scale ranges from "disagree very much" to "agree very much." Research on the JSI has shown that this instrument shows both reliability and validity (Spector, 1985).

The Job Descriptive Index (JDI) is the most popular of the facet job satisfaction instrument used (Smith, Kendall, & Hulin, 1969). It is a highly validated instrument that examines five facets of job satisfaction. These include work, pay, promotion, supervision, and co-workers. The entire scale contains seventy-two items, with nine or eighteen items per subscale. The JDI uses combinations of favorable and positively worded items and unfavorable and negatively worded items. The extensive body of research has provided good validity for this scale. However, the limited number of facets (5) is a drawback.

The Job Diagnostic Survey (JDS) is used to study job characteristics of people. It contains a variety of sub-scales to measure the nature of the job and the job tasks, motivation, personality, psychological states, and reactions to the job. The job facets in this scaled instrument include growth, pay, security, supervision, and overall satisfaction. A seven point scale is used, ranging from "extremely dissatisfied" to "extremely satisfied" (Hackman & Oldman, 1975).

The Job In General Scale (JGS) is designed to assess overall levels of job satisfaction rather than facet job satisfaction. The scale contains eighteen items in a short phrase about the job in general. The total score is a combination of all the items. A three-point scale using "agree," "aren't sure," and "disagree" is used, and negatively worded items are reverse scored (Ironson, Smith, Brannick, Gibson, & Paul, 1989).

This researcher has chosen a questionnaire to collect the data for this study. The advantages of a questionnaire are many: answers can be quantified because the respondent is doing the coding to the fixed responses; responses can be summarized, aggregated, and submitted for statistical analysis; they are easy to use with large samples; they are cost effective; they can be scored easier than an interview; and they can secure large amounts of data from an individual (Lawler, et al, 1980).

Relevant studies in the review of literature describe a variety of instruments used to determine job satisfaction levels. Some of the studies (Malone, et al, 2000; Wright & Custer, 1998) used created survey instruments, which raises some concerns. Created survey instruments are original and need to be developed, tested for reliability, and proven valid before they can be used. Panel of experts, preliminary interviews, and pilot testing are often required to validate instruments.

Some of the studies (Johnson and Holdaway, 1994; Miskel, et al, 1975) adapted acceptable survey instruments to collect data for their research. Although adapted surveys are modeled after acceptable instruments, they also need to be tested for reliability and validity.

A number of studies (Castillo & Cano, 2004; Dorming & Brown, 1982; Fansher & Buxton, 1984; Malanowski, 1999; Newby, 1999; Prelip, 2001; Richford & Fortune, 1984; Solomon, 2004; Stemple, 2004; Sutter, 1996; Waskiewicz, 1999) in the relevant review of literature used a highly acceptable survey instrument to collect data because of their proven validity and reliability. These instruments included the Job Description Index, Facet Free Job Satisfaction Questionnaire, Job Satisfaction Index, and the Minnesota Satisfaction Questionnaire.

This researcher has chosen the Minnesota Satisfaction Questionnaire long form as the instrument for this study. The Minnesota Satisfaction Questionnaire long form is a one hundred item questionnaire with each item corresponding to a reinforcer in the work environment. The Minnesota Satisfaction Questionnaire long form is a self – administering instrument of an approximately fifteen to twenty minute duration. There are five possible responses that can be used for each of the one hundred items: very dissatisfied; dissatisfied; neither (dissatisfied nor satisfied); satisfied; and very satisfied (Weiss, et al, 1967).

The Minnesota Satisfaction Questionnaire long form consists of twenty distinct scales with the ability to determine general satisfaction. Each scale consists of five items. The questionnaire is arranged so that the items appear in blocks of twenty. The following list defines the scales and includes the satisfaction item which correlates highest with the scale score: ability utilization – the chance to do something that makes use of abilities; achievement – the feeling of accomplishment from the job; activity – the ability to keep busy; advancement – the chances for progression; authority – the chance to give direction to other people; company policy and practices – the way company policies are put into practice; compensation – the amount of pay for the amount of work done; co-workers – the way co-workers interact; creativity – the chance to different methods of doing the job; independence – the chance to work alone on the job; moral values – the ability to perform the job in ways that do not conflict with conscience; recognition – the praise received for doing a good job; responsibility – the freedom to use judgment; security – the provision of steady employment; social service – the chance to do things for other people; social status – the chance to be "somebody in the community";

supervision(human relations) – the way the boss manages the employees; supervision (technical) – the competence of the supervisor in making decisions; variety – the chance to occasionally try different things; and working conditions – the general climate of the workplace (Weiss, et al, 1967).

The Minnesota Satisfaction Questionnaire short form measures three scales: intrinsic, extrinsic, and general satisfaction. The Minnesota Satisfaction Questionnaire short form is composed of twenty different items. These items are also in the Minnesota Satisfaction Questionnaire long form. Appendix C identify the questions and numbers of the Minnesota Satisfaction Questionnaire short form with the corresponding numbers of the Minnesota Satisfaction Questionnaire long form (Weiss, et al, 1967).

There are 27 groups included in the normative data representing the following categories: Professional/technical/managerial; clerical and sales; service; bench work; miscellaneous; employed disable; and employed non-disabled. Reliability coefficients range from a low of .59 to a high .97. With 27 groups in the normative data and each group subjected to 21 scales (including general satisfaction) there were a total of 567 reliability coefficients. 83% of these reliability coefficients were .80 or higher and only 2.5% were lower than .70. The conclusion of the data suggests that the MSQ has consistent internal reliability (Weiss, et al, 1967).

Evidence of validity of the MSQ is largely a result on its ability to perform according to theoretical expectations. This is described as construct validity. Much of the proof of validity of the Minnesota Satisfaction Questionnaire long form is derived indirectly from construct validation studies of the Minnesota Importance Questionnaire that is based on the Theory of Work Adjustment (Weiss, et al, 1967).

Data Analysis

The intent of this research is to: describe the overall level of job satisfaction among secondary school principals; depict the relationship between overall job satisfaction level and various demographic variables; and explain the degree of satisfaction with each of the twenty facets of the Minnesota Satisfaction Questionnaire. The researcher used descriptive statistics to analyze data. Descriptive statistics is "the area of statistics concerned with organizing and summarizing information about a collection of actual data (Witte & Witte, 2001, p. 3)."

There are ten variables included in the demographic data sheet. The variables are age; gender; level of education; number of assistant principals; race; salary level; years of experience; years in current school district; school size; and the socio-economic level of the school. Data will be collected from responses submitted by subjects and coded and entered into the SPSS database.

A description of the population for each demographic variable will include the frequency and percentage of respondents in each category. Data from the twenty facets of the Minnesota Satisfaction Questionnaire long form will be gathered from the respondents, will be scored, and finally tabulated. The twenty facets are: ability utilization; achievement; activity; advancement; authority; school policies; compensation; coworkers; creativity; independence; moral values; recognition; responsibility; security; social science; social status; supervision (human relations); supervision (technical); variety; and working conditions.

Analysis of variance is a statistical tool used to "test whether differences exist among population means categorized by only one factor or independent variable (Witte &

Witte, 2001, p. 362)." The researcher will use analysis of variance (ANOVA) to test whether differences exist among the various variable means.

One sample t-test is a statistical tool where the "mean of a distribution of values is compared to a single fixed value (George & Mallery, 2001, p. 362)." The researcher will use a one sample t-test to see how Pennsylvania principals compare to the Minnesota Satisfaction Questionnaire national norms (white collar: professional engineers).

CHAPTER IV

Results and Analysis

The purpose of this study is to describe the overall level of job satisfaction of high school principals in Pennsylvania; illustrate the relationship between overall job satisfaction level of high school principals and the following demographic variables: age; gender; levels of education; number of assistant principals; race, salary level; years of experience; years in current school district; school socio-economic level; and school size; explain the degree of satisfaction expressed with each of the twenty sub-factors of job satisfaction as measured by the Minnesota Satisfaction Questionnaire; and show how high school principals in Pennsylvania compare to the national norms of the Minnesota Satisfaction Questionnaire (white collar: professional engineers).

The study employed a proportional stratified random survey to study the job satisfaction of high school principals in the state of Pennsylvania. According to data from the Department of Education (Pennsylvania Department of Education, 2004) there are 426 high school principals. In the 2004-05 school year there were 346 male high school principals and 80 female high school principals. This study surveyed 104 male high school principals and 35 female high school principals.

Chapter 4 discusses the findings from the analysis of the data obtained from this study. The chapter begins with the descriptive statistics of the demographic variables. Ten demographic variables were considered for this study: age; gender; levels of education; number of assistant principals; race, salary level; years of experience; years in

current school district; school socio-economic level; and school size. A correlation matrix was produced and analyzed. Chapter 4 also describes and analyzes the twenty sub-factors of job satisfaction as measured by the Minnesota Satisfaction Questionnaire; describes and analyzes the intrinsic and extrinsic scales of satisfaction; illustrates the overall level of job satisfaction of high school principals in Pennsylvania; and compares the normative data of the Minnesota Satisfaction Questionnaire white collar: professional engineers with the data from this study.

Descriptive Statistics of the Demographic Variables

Participants were asked to fill out a demographic data form (Appendix D) that included ten variables. The ten variables are: age; gender; highest levels of education obtained; race; salary; years of administrative experience; years in current school district; the number of assistant principals; school size; and the socio-economic level of the school.

Gender

Three hundred and five high school principals were surveyed for this study. The total participation of the study was 139 of which 35 (25.2%) were females and 104 (74.8%) were males.

Age

There are five categories on the demographic data form that describe the age of the participants in this study. Three hundred and five high school principals were surveyed for this study. Of the 139 high school principals who participated in this study, the least participating age group was the over 65 category with 1 (.7%) participant. The category

with the highest participation rate was the 45-55 group, with 57 respondents for a 41.0% participation rate.

Ethnicity

There are five categories on the demographic data form that describe the age of the participants in this study. Three hundred and five high school principals were surveyed for this study. Of the 139 high school principals who participated in this study there were two ethnic groups that had no participants in this study. The two groups are the American Indian/Alaskan and the Asian. The ethnic group with the largest number of participants in the study was White with 134 (96.4%). There were 4 (2.9%) Black/African American participants in the study and 1 (.7%) Hispanic.

Highest Level Degree Obtained

There are three categories on the demographic data form that describe the highest degree obtained of the participants in this study. Three hundred and five high school principals were surveyed for this study. Of the 139 high school principals who participated in this study there were only two (1.4%) principals that did not have a Master's degree or a Doctorate. One hundred and twelve (80.5%) principals had a Master's degree and 25 (18.0%) had a doctorate.

Salary

There are six categories on the demographic data form that describe the salaries of the high school principals who participated in this study. Three hundred and five high school principals were surveyed for this study. Of the 139 high school principals who participated in this study there was only one that had a salary of less than $60,000. Eight (5.8%) high school principals had salaries in the $60,000 - $69,999 range. Twenty-three

(16.5%) high school principals had salaries in the $70,000 - $79,000 range and 49 (35.3%) high school principals had salaries in the $80,000 - $89,000 range. Thirty – three (23.7%) high school principals had salaries in the $90,000 - $99,999. There were 25 (18.0%) high school principals that had salaries over $99,999.

Years of Administration Experience

There are five categories on the demographic data form that describe the years of administrative experience for the participants in this study. Three hundred and five high school principals were surveyed for this study. Of the 139 high school principals who participated in this study there were 44 (31.7%) that had seven years or less administrative experience. There were 53 (38.1%) high school principals with administrative experience between 8-13 years. There were 21 (15.1%) high school principals with administrative experience between 14 and 20 years and 14 (10.1%) high school principals with administrative experience between 21 and 27 years. Only seven (5.0%) high school principals reported administrative experience of more than 27 years.

Number of Assistant Principals

There are five categories on the demographic data form that describe the number of assistant principals for the participants in this study. Three hundred and five high school principals were surveyed for this study. Of the 139 high school principals who participated in this study there were 21 (15.1%) that had no assistant principals. Sixty-one (43.9%) high school principals had one assistant principal, while 29 (20.9%) high school principals had two assistant principals. Eighteen (12.9%) high school principals had three assistant principals. Only ten (7.2%) high school principals had more than three assistant principals.

Years in Current School District

There are five categories on the demographic data form that describe the number of years principals were in the current school district. Three hundred and five high school principals were surveyed for this study. Of the 139 high school principals who participated in this study there were 55 (39.6%) that were in the district for seven years or less. Thirty-seven (26.6%) high school principals served in the current school district for 8-13 years, while 11 (7.9%) high school principals had 14 to 20 years in the current district. Fifteen (10.8%) high school principals served in the current school district for 21-27 years. Twenty-one (15.1%) principals served in the current district for more than 27 years.

School Size

There are five categories on the demographic data form that describe the size of the school's student population where each principal works. Three hundred and five high school principals were surveyed for this study. Of the 139 high school principals who participated in this study there were no participants with school size populations of less than 250 students. Sixty-two (44.6%) of the respondents had school sizes over 1000 students. Twenty-seven (19.4%) high school principals reported school sizes between 750 and 999, while 25 (18.0%) reported school sizes between 500 and 749. Twenty-five (18.0%) high school principals reported school sizes between 250 and 499.

Socio-Economic Level of School

There are five categories on the demographic data form that describe the socio-economic level of the participant's school districts. The socio-economic level is based on the percentage of students who qualify for the free and reduced lunch program. Three

hundred and five high school principals were surveyed for this study. Of the 139 high school principals who participated in this study there were 31 (22.3%) who worked in districts where the socio-economic level was under 5%. Thirty-seven (26.6%) of the high school principals worked in school districts where the socio-economic level was between 5% and 14.9%, and 27 (19.4%) of the high school principals worked in school districts where the socio-economic level was between 15% and 24.9%. Twenty (14.4%) high school principals worked in school districts where the socio-economic level was between 25% and 34.9%, and 24 (17.3%) high school principals worked in school districts where the socio-economic level was over 35%.

Correlations of Demographic Data

To further describe the demographic data correlations were calculated. Correlations refer to the extent to which two variables are related across a group of subjects. In a positive relationship those who score high on one variable tend to score high on the other, and those who score low on one variable tend to score low on the other. Correlations do not necessarily establish a causal relationship (Witte & Witte, 2001).

There is a significant positive correlation between age and salary ($r = .337$, $p < 0.01$); age and administrative experience ($r = .561$, $p < 0.01$); and age and the number of years in the current school district ($r = .376$, $p < 0.01$). This would suggest that as principals got older they received higher compensation, had more years of experience as principal, and stayed in the same school district longer. There was a low positive correlation ($r = .245$, $p < 0.01$) between age and the number of assistant principals under the high school principal. There is a low negative correlation between ethnicity and highest level degree obtained ($r = -.231$, $p < 0.01$); ethnicity and the number of assistant

principals ($r = -.286$, $p < 0.01$); and ethnicity and the number of years in the current school district ($r = -.169$, $p < 0.05$). This would suggest that non-white principals do not have as many doctoral degrees and assistant principals as white principals. It also suggests that non-white principals are not in the current school district as long as white principals.

There is a significant positive correlation between highest level degree obtained and salary ($r = .355$, $p < 0.01$). This would suggest that principals with doctorates earn more money than those who do not have doctorates. There is a low positive correlation between highest level degree obtained and assistant principals ($r = .233$, $p < 0.01$) and highest level degree obtained and number of school size ($r = .216$, $p < 0.05$). This would suggest that principals with doctorates have more assistant principals and serve larger schools than principals who do not have doctorates.

There is a significant positive correlation between salary and years of administrative experience ($r = .469$, $p < 0.01$); salary and number of assistant principals ($r = .611$, $P < 0.01$); salary and school size population ($r = .571$, $P < 0.01$); and a low positive correlation between salary and years in current school district ($r = .211$, $p < 0.05$) There is also a significant negative correlation between salary and the socio-economic level of school ($r = -.389$, $p < 0.01$). This would suggest those principals who have more years of experience have higher salaries and more assistant principals. It also suggests that principals in larger populated schools have a higher salary. The negative correlation between salary and the socio-economic level of schools suggests those principals who have higher salaries tend to be in schools with lower percentage rates of children who are on free and reduce lunch. There is a significant positive correlation

between years of administrative experience and the number of assistant principals ($r = .297$, $p < 0.01$)); years and administrative experience and years in current school district ($r = .333$, $p < 0.01$) and years of administrative experience and school size – student population ($r = .255$, $p < 0.01$). This would suggest that principals with more years of administrative experience have more assistant principals and have stayed in their districts longer. It also suggests that principals with more years of administrative experience tend to be in larger populated schools.

There is a strong positive correlation between the number of assistant principals and school size – student population ($r = .720$, $p < 0.01$). This would suggest that schools with larger student populations have more assistant principals. Tables 1a and 1b illustrate the correlation matrix of the demographic data.

Table 1a Correlation Matrix of the Demographic Data

		Sex	Age	Ethn	Highest Degree	Salary
Sex of Respondent	Pearson Correlation	1.000	.022	-.109	-.252**	.048
	Sig. (2-tailed)		.793	.200	.003	.577
	N	139	139	139	139	139
Age of Respondent	Pearson Correlation	.022	1.000	-.122	.062	.337**
	Sig. (2-tailed)	.793		.153	.471	.000
	N	.139	139	139	139	139
Ethnicity of Respondent	Pearson Correlation	-.109	-.122	1.000	-.231**	-.133
	Sig. (2-tailed)	.200	.153		.006	.118
	N	139	139	139	139	139
Highest degree of Respondent	Pearson Correlation	-.252**	.062	-.231**	1.000	.355**
	Sig. (2-tailed)	.003	.471	.006		. 000
	N	139	139	139	139	139
Salary of Respondent	Pearson Correlation	.048	.337**	-.133	.355**	1.000
	Sig. (2-tailed)	.577	.000	.118	.000	
	N	139	139	139	139	139
YAP of Respondent	Pearson Correlation	.139	.561**	.013	.166	.469**
	Sig. (2-tailed)	.102	.000	.883	.051	.000
	N	139	139	139	139	139
NAP of Respondent	Pearson Correlation	-.020	.245**	-.286**	.233**	.611**
	Sig. (2-tailed)	.812	.004	.001	.006	.000
	N	139	139	139	139	139
YCSD of Respondent	Pearson Correlation	.049	.376**	-.169*	-.001	.211*
	Sig. (2-tailed)	.566	.000	.046	.988	.013
	N	139	139	139	139	139
School Size of Respondent	Pearson Correlation	-.047	.105	-.160	.216*	.571**
	Sig. (2-tailed)	.583	.217	.060	.011	.000
	N	139	139	139	139	139
Socio-econ of Respondent	Pearson Correlation	-.093	-.013	.075	-.163	-.389**
	Sig. (2-tailed)	.277	.881	.380	.056	.000
	N	139	139	139	139	139

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (1-tailed)

Ethn – Ethnicity
YAP – Years of administrative experience
NAP – Number of assistant principals
YCSD – Years in current school district

Table1b Correlation Matrix of the Demographic Data

		YAP	NAP	YCSD	School Size	Socio-Econ
Sex of Respondent	Pearson Correlation	.139	-.020	.049	-.047	-.093
	Sig. (2-tailed)	.102	.812	.566	.583	.277
	N	139	139	139	139	139
Age of Respondent	Pearson Correlation	.561**	.245**	.376**	.105	-.013
	Sig. (2-tailed)	.000	.004	.000	.217	.881
	N	139	139	139	139	139
Ethnicity of Respondent	Pearson Correlation	.013	-.286**	-.169*	-.160	.075
	Sig. (2-tailed)	.883	.001	.046	.060	.380
	N	139	139	139	139	139
Highest degree of Respondent	Pearson Correlation	.166	.233**	-.001	.216*	-.163
	Sig. (2-tailed)	.051	.006	.988	.011	.056
	N	139	139	139	139	139
Salary of Respondent	Pearson Correlation	.469**	.611**	.211*	.571**	-.389**
	Sig. (2-tailed)	.000	.000	.013	.000	.000
	N	139	139	139	139	139
YAP of Respondent	Pearson Correlation	1.000	.297**	.333**	.255**	-.146
	Sig. (2-tailed)		.000	.000	.002	.085
	N	139	139	139	139	139
NAP of Respondent	Pearson Correlation	.297**	1.000	.317**	.720**	-.188*
	Sig. (2-tailed)	.000		.000	.000	.027
	N	139	139	139	139	139
YCSD of Respondent	Pearson Correlation	.333**	.317**	1.000	.173*	.091
	Sig. (2-tailed)	.000	.000		.042	.284
	N	139	139	139	139	139
School Size of Respondent	Pearson Correlation	.255**	.720**	.173*	1.000	-.281**
	Sig. (2-tailed)	.002	.000	.042		.001
	N	139	139	139	139	139
Socio-econ of Respondent	Pearson Correlation	-.146	-.188*	.091	-.281**	1.000
	Sig. (2-tailed)	.085	.027	.284	.001	
	N	139	139	139	139	139

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (1-tailed)

Ethn – Ethnicity
YAP – Years of administrative experience
NAP – Number of assistant principals
YCSD – Years in current school district

Twenty Sub- Factors of Job Satisfaction

The Minnesota Satisfaction Questionnaire long form is a one hundred question survey that makes up twenty distinct scales. Each scale consists of five items. The questionnaire is arranged so that the items appear in blocks of twenty. Scoring is done by respondents checking the appropriate box to each question. Respondents may choose: 1. very dissatisfied; 2. dissatisfied; 3. neutral; 4. satisfied; or 5.very satisfied. Scoring can range from a low of five (5) to a high of twenty-five (25).

The following list defines the scales and includes the satisfaction item which correlates highest with the scale score (Weiss, et al, 1967):

1. Ability utilization – the chance to do something that makes use of abilities
2. Achievement – the feeling of accomplishment from the job
3. Activity – the ability to keep busy
4. Advancement – the chances for progression
5. Authority – the chance to give direction to other people
6. Company policy and practices – the way company policies are put into practice
7. Compensation – the amount of pay for the amount of work done
8. Co-workers – the way co-workers interact
9. Creativity – the chance to try my own methods of doing the job
10. Independence – the chance to work alone on the job
11. Moral values – the ability to perform the job in ways that do not conflict with conscience
12. Recognition– the praise received for doing a good job
13. Responsibility – the freedom to use judgment

14. Security – the provision of steady employment
15. Social service – the chance to do things for other people
16. Social status – the chance to be "somebody in the community"
17. Supervision(human relations) – the way the boss manages the employees
18. Supervision (technical) – the competence of the supervisor in making decisions
19. Variety – the chance to occasionally try different things
20. Working conditions – the general climate of the workplace

Appendix D describe the distribution of scoring for each of the twenty scales including the mean, standard deviation, range of scores, and the minimum and maximum scores for the scale. The tables also describe the frequency of the respondent's answers to each scale, the mean, and the standard deviation.

"The most meaningful scores to use in interpreting the Minnesota Satisfaction Questionnaire are the percentile scores for each scale obtained from the most appropriate norm group for the individual" (Weiss, et al, 1967, p. 4). The Minnesota Satisfaction Questionnaire is limited in the number of occupations that is included. If the occupation is not among the listed norm groups the Minnesota Satisfaction Questionnaire raw scores can be converted to percentile scores using the employed non-disabled norm (Weiss, et al, 1967). Appendix E is the percentiles for employed non-disabled individuals (Weiss, et al, 1967, p. 91).

When percentile scores are used scores of 75 or greater indicate a high degree of satisfaction; scores between 25 and 75 indicate average satisfaction; and a score of less than 25 indicates a low level of satisfaction.

Social Service 1

Three hundred and five high school principals were surveyed for this study. The total participation of the study was 139. The mean score for the social service scale of the MSQ long form was 22.8417 with a standard deviation of 2.4884. The range of scores was 14 with a minimum of 11 and a maximum 25.

The social service scale of the Minnesota Satisfaction Questionnaire long form is made up of five questions: Q1 – the chance to be of service to others; Q21 – the chance to be of service to people; Q41 – the chance to help people; Q61 – the chance to do things for other people; and Q81 – the chance to be of some small service to other people. Table 2 describes the frequency of the respondent's answers to each question of the social service scale, the mean, and the standard deviation.

Table 2
Frequency of Respondent's Answers to Social Service Scale

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
Q1	1	2	0	45	91	4.60	.64
Q21	1		3	41	93	4.61	.64
Q41	0	1	2	49	87	4.60	.56
Q61	0	1		60	77	4.53	.56
Q81	0	0	2	66	71	4.50	.53

The mean score for the social service scale is 22.8417 with a standard deviation of 2.4884. The mean scale score falls between the 75th and 80th percentile indicating that high school principals have a high degree of satisfaction with social service. Of the 139 principals responding to the study, five principals had a low degree of satisfaction with social service; 38 principals had an average degree of satisfaction with social service; and 126 principals had a high degree of satisfaction with social service.

Creativity

Three hundred and five high school principals were surveyed for this study. The total participation of the study was one hundred and thirty nine. The mean score for creativity was 20.9137 with a standard deviation of 3.1519. The range of scores was 15 with a minimum of 10 and a maximum 25.

The creativity scale of the Minnesota Satisfaction Questionnaire long form is made up of five questions: Q2 – the chance to try out some of my own ideas; Q22 – the chance to do new and original things on my own; Q42 – the chance to try something different; Q62 – the chance to develop new and better ways to do the job; and Q82 – the chance to try my own methods of doing the job. Table 3 describes the frequency of the respondent's answers to each question of the creativity scale, the mean, and the standard deviation.

Table 3
Frequency of Respondent's Answers to Creativity Scale

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
Q2	2	5	7	70	55	4.23	.82
Q22	2	8	8	84	37	4.05	.83
Q42	0	4	9	80	46	4.21	.69
Q62	0	5	7	78	49	4.23	.71
Q82	0	3	11	81	44	4.19	.67

The mean score for the creativity scale is 20.9137 with a standard deviation of 3.1519. The mean scale score falls between the 65th and 75th percentile indicating that high school principals have an average degree of satisfaction with creativity. Of the 139 principals responding to the study, ten principals had a low degree of satisfaction with the

creativity scale; 52 principals had an average degree of satisfaction with the creativity scale; and 77 principals had a high degree of satisfaction with the creativity scale.

Moral Values

Three hundred and five high school principals were surveyed for this study. The total participation of the study was 139. The mean score for moral values was 21.4317 with a standard deviation of 2.8002. The range of scores was 14 with a minimum of 11.00 and a maximum 25.00.

The moral values scale of the Minnesota Satisfaction Questionnaire long form is made up of five questions: Q3 – being able to do the job without feeling it is morally wrong; Q23 – being able to do things that don't go against my religious beliefs; Q43 – being able to do things that don't go against my conscience; Q63 – the chance to do things that don't harm people; and Q83 – the chance to do the job without feeling I am cheating anyone. Table 4 describes the frequency of the respondent's answers to each question of the morals value scale, the mean, and the standard deviation.

Table 4
Frequency of Respondent's Answers to Moral Values Scale

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
Q3	2	1	4	60	72	4.43	.72
Q23	1	2	29	53	54	4.13	.84
Q43	0	5	16	58	60	4.24	.80
Q63	0	0	9	74	56	4.34	.60
Q83	1	0	9	77	52	4.29	.65

The mean score for the moral values scale is 21.4317 with a standard deviation of 2.8002. The mean scale score falls between the 60th and 65th percentile indicating that high school principals have an average degree of satisfaction with the moral values scale.

Of the 139 principals responding to the study, 33 principals had a low degree of satisfaction with the moral values scale; 49 principals had an average degree of satisfaction with the moral values scale; and 57 principals had a high degree of satisfaction with the moral values scale.

Independence

Three hundred and five high school principals were surveyed for this study. The total participation of the study was 139. The mean score for independence was 18.5942 with a standard deviation of 3.4507. The range of scores was 15 with a minimum of 10.00 and a maximum 25.00.

The independence scale of the Minnesota Satisfaction Questionnaire long form is made up of five questions: Q4 - the chance to work by myself; Q24 - the chance to work alone on the job; Q44 – the chance to be alone on the job; Q64 – the chance to work independently of others; and Q84 – the chance to work away from others. Table 5 describes the frequency of the respondent's answers to each question of the independence scale, the mean, and the standard deviation.

Table 5
Frequency of Respondent's Answers to Independence Scale

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
Q4	0	14	34	65	25	3.73	.88
Q24	0	11	40	68	19	3.69	.81
Q44	1	8	55	59	15	3.57	.79
Q64	0	6	28	72	32	3.94	.78
Q84	0	9	47	64	18	3.66	.79

The mean score for the independence scale is 18.5942 with a standard deviation of 3.4507. The mean scale score falls between the 30th and 40th percentile indicating

that high school principals have an average degree of satisfaction with the independence scale. Of the 139 principals responding to the study, 51 principals had a low degree of satisfaction with the independence scale; 58 principals had an average degree of satisfaction with the independence scale; and 30 principals had a high degree of satisfaction with the independence scale.

Variety

Three hundred and five high school principals were surveyed for this study. The total participation of the study was 139. The mean score for variety was 21.0432 with a standard deviation of 2.6399. The range of scores was 13 with a minimum of 12.00 and a maximum 25.00.

The variety scale of the Minnesota Satisfaction Questionnaire long form is made up of five questions: Q5 – the variety in my work; Q25 – the chance to do different things from time to time; Q45 – the routine in my work; Q65 – the chance to do something different everyday; and Q85 – the chance to do many different things on the job. Table 6 describes the frequency of the respondent's answers to each question of the variety scale, the mean, and the standard deviation.

Table 6
Frequency of Respondent's Answers to Variety Scale

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
Q5	1	4	4	51	79	4.46	.75
Q25	1	2	8	77	51	4.26	.70
Q45	1	12	37	70	19	3.68	.84
Q65	0	2	7	73	57	4.33	.64
Q85	0		6	80	52	4.32	.59

The mean score for the variety scale is 21.0432 with a standard deviation of 2.6399. The mean scale score falls between the 70th and 75th percentile indicating that high school principals have an average degree of satisfaction with the variety scale. Of the 139 principals responding to the study, 19 principals had a low degree of satisfaction with the variety scale; 64 principals had an average degree of satisfaction with the variety scale; and 56 principals had a high degree of satisfaction with the variety scale.

Authority

Three hundred and five high school principals were surveyed for this study. The total participation of the study was 139. The mean score for authority was 20.2734 with a standard deviation of 2.5786. The range of scores was 13.00 with a minimum of 12.00 and a maximum 25.00.

The authority scale of the Minnesota Satisfaction Questionnaire long form is made up of five questions: Q6 – the chance to have other workers look to me for direction; Q26 – the chance to tell other workers how to do things; Q46 – the chance to supervise other people; Q66 – the chance to tell people what to do; and Q86 the chance to tell others what to do. Table 7describes the frequency of the respondent's answers to each question of the authority scale, the mean, and the standard deviation.

Table 7
Frequency of Respondent's Answers to Authority Scale

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
Q6	1	2	2	63	71	4.45	.67
Q26	0	2	17	97	23	4.01	.59
Q46	0	1	13	85	40	4.18	.62
Q66	0	3	39	77	20	3.80	.69
Q86	0	2	42	75	20	3.81	.69

The mean score for the authority scale is 20.2734 with a standard deviation of 2.5786. The mean scale score falls between the 80th and 85th percentile indicating that high school principals have an average degree of satisfaction with the authority scale. Of the 139 principals responding to the study, five principals had a low degree of satisfaction with the authority scale; 39 principals had an average degree of satisfaction with the authority scale; and 95 principals had a high degree of satisfaction with the authority scale.

Ability Utilization

Three hundred and five high school principals were surveyed for this study. The total participation of the study was 139. The mean score for ability utilization was 21.2446 with a standard deviation of 3.1389. The range of scores was 15.00 with a minimum of 10.00 and a maximum 25.00.

The ability utilization scale of the Minnesota Satisfaction Questionnaire long form is made up of five questions: Q7 – the chance to do the kind of work that I do best; Q27 – the chance to do the work that is well suited to my abilities; Q47 – the chance to make use of my best abilities; Q67 – the chance to do something that makes use of my abilities; and Q87 – the chance to make use of my abilities and skills. Table 8 describes the frequency of the respondent's answers to each question of the ability utilization scale, the mean, and the standard deviation.

Table 8
Frequency of Respondent's Answers to Ability Utilization Scale

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
Q7	1	7	13	56	62	4.23	.87
Q27	0	4	8	71	56	4.29	.70
Q47	0	7	9	75	48	4.18	.76
Q67	0	4	3	85	47	4.26	.64
Q87	0	3	7	76	53	4.29	.66

The mean score for the ability utilization scale is 21.2446 with a standard deviation of 3.1389. The mean scale score falls between the 75th and 80th percentile indicating that high school principals have a high degree of satisfaction with the ability utilization scale. Of the 139 principals responding to the study, ten principals had a low degree of satisfaction with the ability utilization scale; 53 principals had an average degree of satisfaction with the ability utilization scale; and 76 principals had a high degree of satisfaction with the ability utilization scale.

Social Status

Three hundred and five high school principals were surveyed for this study. The total participation of the study was 139. The mean score for social status was 19.5180 with a standard deviation of 3.3086. The range of scores was 15.00 with a minimum of 10.00 and a maximum 25.00.

The social status scale of the Minnesota Satisfaction Questionnaire long form is made up of five questions: Q8 – the social position in the community that goes with the job; Q28 - the chance to be "somebody" in the community; Q48 – the chance to "rub elbows" with important people; Q68 – the chance to be important in the eyes of others; and Q88 – the chance to have a definite place in the community. Table 9 describes the

frequency of the respondent's answers to each question of the social status scale, the mean, and the standard deviation.

Table 9
Frequency of Respondent's Answers to Social Status Scale

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
Q8	0	7	21	67	44	4.06	.82
Q28	1	2	38	59	39	3.96	.82
Q48	1	3	64	56	15	3.58	.74
Q68	0	1	46	56	36	3.91	.78
Q88	0	2	32	69	36	4.00	.74

The mean score for the social status scale is 19.5180 with a standard deviation of 3.3086. The mean scale score falls between the 65th and 85th percentile indicating that high school principals have an average degree of satisfaction with the social status scale. Of the 139 principals responding to the study six principals had a low degree of satisfaction with the social status scale; 65 principals had an average degree of satisfaction with the social status scale; and 68 principals had a high degree of satisfaction with the social status scale.

Policies and Procedures

Three hundred and five high school principals were surveyed for this study. The total participation of the study was 139. The mean score for policies and procedures was 17.9281 with a standard deviation of 3.9556. The range of scores was 19 with a minimum of 6.00 and a maximum 25.

The policies and procedures scale of the Minnesota Satisfaction Questionnaire long form is made up of five questions: Q9 – the policies and procedures toward employees of this company; Q29 – company policies and the way in which they are

Table 8
Frequency of Respondent's Answers to Ability Utilization Scale

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
Q7	1	7	13	56	62	4.23	.87
Q27	0	4	8	71	56	4.29	.70
Q47	0	7	9	75	48	4.18	.76
Q67	0	4	3	85	47	4.26	.64
Q87	0	3	7	76	53	4.29	.66

The mean score for the ability utilization scale is 21.2446 with a standard deviation of 3.1389. The mean scale score falls between the 75th and 80th percentile indicating that high school principals have a high degree of satisfaction with the ability utilization scale. Of the 139 principals responding to the study, ten principals had a low degree of satisfaction with the ability utilization scale; 53 principals had an average degree of satisfaction with the ability utilization scale; and 76 principals had a high degree of satisfaction with the ability utilization scale.

Social Status

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frequency of the respondent's answers to each question of the social status scale, the mean, and the standard deviation.

Table 9
Frequency of Respondent's Answers to Social Status Scale

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
Q8	0	7	21	67	44	4.06	.82
Q28		2	38	59	39	3.96	.82
Q48	1	3	64	56	15	3.58	.74
Q68	0	1	46	56	36	3.91	.78
Q88	0	2	32	69	36	4.00	.74

The mean score for the social status scale is 19.5180 with a standard deviation of 3.3086. The mean scale score falls between the 65th and 85th percentile indicating that high school principals have an average degree of satisfaction with the social status scale. Of the 139 principals responding to the study six principals had a low degree of satisfaction with the social status scale; 65 principals had an average degree of satisfaction with the social status scale; and 68 principals had a high degree of satisfaction with the social status scale.

Policies and Procedures

Three hundred and five high school principals were surveyed for this study. The total participation of the study was 139. The mean score for policies and procedures was 17.9281 with a standard deviation of 3.9556. The range of scores was 19 with a minimum of 6.00 and a maximum 25.

The policies and procedures scale of the Minnesota Satisfaction Questionnaire long form is made up of five questions: Q9 – the policies and procedures toward employees of this company; Q29 – company policies and the way in which they are

administered; Q49 – the way employees are informed about company policies; Q69 – the way company policies are put into practice; Q89 – the way the company treats its employees. Table 10 describes the frequency of the respondent's answers to each question of the policies and procedures scale, the mean, and the standard deviation.

Table 10
Frequency of Respondent's Answers to Policies and Procedures Scale

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
Q9	3	13	20	80	23	3.77	.91
Q29	4	23	30	80	23	3.46	.97
Q49	3	16	32	78	10	3.55	.87
Q69	2	26	28	67	16	3.50	.97
Q89	2	22	21	71	23	3.65	.98

The mean score for the policies and procedures scale is 17.9281 with a standard deviation of 3.9556. The mean scale score falls between the 40th and 45th percentile indicating that high school principals have an average degree of satisfaction with the policies and procedures scale. Of the one 139 principals responding to the study, 21 principals had a low degree of satisfaction with the policies and procedures scale; 61 principals had an average degree of satisfaction with the policies and procedures scale; and 57 principals had a high degree of satisfaction with the policies and procedures scale

Supervision – Human Relations

Three hundred and five high school principals were surveyed for this study. The total participation of the study was 139. The mean score for supervision –human relations was 18.5252 with a standard deviation of 5.2244. The range of scores was 20 with a minimum of 5.00 and a maximum 25.00.

Security

Three hundred and five high school principals were surveyed for this study. The total participation of the study was 139. The mean score for security was 20.8849 with a standard deviation of 2.8055. The range of scores was 15 with a minimum of 10.00 and a maximum 25.00.

The security scale of the Minnesota Satisfaction Questionnaire long form is made up of five questions: Q11 – my job security; Q31 – the way my job provides for a secure future; Q51 – the way my job provides for steady employment; Q71 – how steady my job is; and Q91 – the way layoffs and transfers are avoided in my job. Table 12 describes the frequency of the respondent's answers to each question of the security scale, the mean, and the standard deviation.

Table 12
Frequency of Respondent's Answers to Security Scale

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
Q11	0	4	10	62	63	4.32	.73
Q31	0	7	11	77	44	4.14	.76
Q51	0	2	6	67	64	4.39	.64
Q71	0	2	9	80	48	4.25	.64
Q91		2	48	63	25	3.78	.78

The mean score for the security scale is 20.8849 with a standard deviation of 2.8055. The mean scale score falls between the 55thand 65th percentiles indicating that high school principals have an average degree of satisfaction with the security scale. Of the 139 principals responding to the study, 16 principals had a low degree of satisfaction with the security; 70 principals had an average degree of satisfaction with the security; and 53 principals had a high degree of satisfaction with the security scale.

The supervision – human relations scale of the Minnesota Satisfaction Questionnaire long form is made up of five questions: Q10 – the way my supervisor and I understand each other; Q30 – the way my boss handles his/her employees; Q50 – the way my boss backs up his/her employees (with top management); Q70 – the way my boss takes care of the complaints of his/her employees; and Q90 – the personal relationship between my boss and his/her employees. Table 11 describes the frequency of the respondent's answers to each question of the supervision – human relations scale, the mean, and the standard deviation.

Table 11
Frequency of Respondent's Answers to Supervision – Human Relations Scale

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
Q10	6	13	18	52	50	3.91	1.12
Q30	8	22	20	51	38	3.64	1.20
Q50	6	17	22	53	41	3.76	1.13
Q70	7	22	28	54	28	3.53	1.13
Q90	5	19	25	57	33	3.68	1.09

The mean score for the supervision – human relations scale is 18.5252with a standard deviation of 5.2244. The mean scale score falls between the 35thand 45th percentiles indicating that high school principals have an average degree of satisfaction with the supervision – human relations scale. Of the 139 principals responding to the study 34 principals had a low degree of satisfaction with the supervision – human relations; 49 principals had an average degree of satisfaction with the supervision – human relations scale; and 56 principals had a high degree of satisfaction with the supervision – human relations scale.

Compensation

Three hundred and five high school principals were surveyed for this study. The total participation of the study was 139. The mean score for compensation was 17.5468 with a standard deviation of 4.9654. The range of scores was 19.00 with a minimum of 6.00 and a maximum 25.00.

The compensation scale of the Minnesota Satisfaction Questionnaire long form is made up of five questions: Q12 – the amount of pay for the work I do; Q32 the chance to make as much money as my friends; Q52 – how my pay compares with that for similar jobs in other communities; Q72 – my pay and the amount of work I do; Q92 – how my pay compares with that of other workers. Table 13 describes the frequency of the respondent's answers to each question of the compensation scale, the mean, and the standard deviation.

Table 13
Frequency of Respondent's Answers to Compensation Scale

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
Q12	6	29	12	65	27	3.56	1.15
Q32	2	24	38	59	16	3.45	.96
Q52	4	34	14	59	28	3.53	1.15
Q72	7	32	12	65	23	3.47	1.16
Q92	8	24	17	65	25	3.54	1.14

The mean score for the compensation scale is 17.5468 with a standard deviation of 4.9654. The mean scale score falls between the 30th and 35th percentiles indicating that high school principals have an average degree of satisfaction with the compensation scale. Of the 139 principals responding to the study, 43 principals had a low degree of satisfaction with the compensation; 32 principals had an average degree of satisfaction

with the compensation; and 64 principals had a high degree of satisfaction with the compensation scale

Working Conditions

Three hundred and five high school principals were surveyed for this study. The total participation of the study was 139. The mean score for working conditions was 20.3381 with a standard deviation of 4.1643. The range of scores was 20.00 with a minimum of 5.00 and a maximum 25.00.

The working conditions scale of the Minnesota Satisfaction Questionnaire long form is made up of five questions: Q13 – the working conditions (heating, ventilation, etc.) on this job; Q33 – the physical surroundings where I work; Q53 – the pleasantness of the working conditions; Q73 – the physical working conditions of the job; and Q93 – the working conditions. Table 14 describes the frequency of the respondent's answers to each question of the working conditions scale, the mean, and the standard deviation.

Table 14
Frequency of Respondent's Answers to Working Conditions Scale

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
Q13	2	15	8	62	52	4.06	1.0
Q33	2	10	10	69	48	4.09	.91
Q53	2	6	14	77	40	4.06	.83
Q73	2	9	14	68	46	4.06	.91
Q93	2	9	11	71	46	4.08	.89

The mean score for the working conditions scale is 20.3881 with a standard deviation of 4.1643. The mean scale score falls between the 65thand 75th percentiles indicating that high school principals have an average degree of satisfaction with the working conditions scale. Of the 139 principals responding to the study, 18 principals

had a low degree of satisfaction with the working conditions; 61 principals had an average degree of satisfaction with the working conditions; and 60 principals had a high degree of satisfaction with the working conditions scale

Advancement

Three hundred and five high school principals were surveyed for this study. The total participation of the study was 139. The mean score for advancement was 18.0288 with a standard deviation of 4.2766. The range of scores was 20.00 with a minimum of 5.00 and a maximum 25.00.

The advancement scale of the Minnesota Satisfaction Questionnaire long form is made up of five questions: Q14 – the opportunities for advancement on this job; Q34 – the chances of getting ahead on the job; Q54 – the way promotions are given out on this job; Q74 – the chances for advancement on this job; and Q94 – my chances for advancement. Table 15 describes the frequency of the respondent's answers to each question of the advancement scale, the mean, and the standard deviation.

Table 15
Frequency of Respondent's Answers to Advancement Scale

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
Q14	2	15	29	70	23	3.70	.92
Q34	2	13	37	64	23	3.67	.91
Q54	6	17	47	54	15	3.40	.98
Q74	3	14	33	70	19	3.63	.92
Q94	4	15	28	73	19	3.63	.95

The mean score for the advancement scale is 18.0288 with a standard deviation of 4.2766. The mean scale score falls between the 50thand 60th percentiles indicating that high school principals have an average degree of satisfaction with the advancement scale.

Of the 139 principals responding to the study, 16 principals had a low degree of satisfaction with the advancement; 59 principals had an average degree of satisfaction with the advancement; and 64 principals had a high degree of satisfaction with the advancement scale.

Supervision – Technical

Three hundred and five high school principals were surveyed for this study. The total participation of the study was 139. The mean score for supervision - technical was 18.8561 with a standard deviation of 4.5708. The range of scores was 20.00 with a minimum of 5.00 and a maximum 25.00.

The supervision - technical scale of the Minnesota Satisfaction Questionnaire long form is made up of five questions: Q15 – the technical "know how" of my supervisor; Q35 – the competence of my supervisor in making decisions; Q55 – the way my boss delegates work to others; Q75 – the way my boss provides help on hard problems; and Q95 – the way my boss trains his/her employees. Table 16 describes the frequency of the respondent's answers to each question of the supervision – technical scale, the mean, and the standard deviation.

Table 16
Frequency of Respondent's Answers to Supervision - Technical Scale

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
Q15	6	14	16	65	38	3.83	1.08
Q35	5	19	13	53	49	3.88	1.14
Q55	4	15	24	78	18	3.65	.94
Q75	6	14	19	58	42	3.83	1.10
Q95	3	17	29	65	25	3.66	.98

The mean score for the supervision - technical scale is 18.8561 with a standard deviation of 4.5708. The mean scale score falls between the 40th and 50th percentiles indicating that high school principals have an average degree of satisfaction with the supervision - technical scale. Of the 139 principals responding to the study, 28 principals had a low degree of satisfaction with the supervision - technical; 56 principals had an average degree of satisfaction with the supervision - technical; and 55 principals had a high degree of satisfaction with the supervision - technical scale.

Co-Workers

Three hundred and five high school principals were surveyed for this study. The total participation of the study was 139. The mean score for co-workers was 20.0000 with a standard deviation of 3.0527. The range of scores was 15.00 with a minimum of 10.00 and a maximum 25.00.

The co-workers scale of the Minnesota Satisfaction Questionnaire long form is made up of five questions: Q16 – the spirit of cooperation among my co-workers; 36 – the chance to develop close relationships with my co-workers; Q56 – the friendliness of my co-workers; Q76– the way my co-workers are easy to make friends with; and Q96 – the way my co-workers get along with each other. Table 17 describes the frequency of the respondent's answers to each question of the co-workers scale, the mean, and the standard deviation.

Table 17
Frequency of Respondent's Answers to Co-Workers Scale

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
Q16	1	8	20	75	35	3.97	.83
Q36	1	12	22	76	28	3.85	.87
Q56	0	3	4	88	44	4.24	.61
Q76	0	6	17	89	27	3.99	.70
Q96	0	12	11	88	28	3.95	.79

The mean score for the co-workers scale is 20.0000 with a standard deviation of 3.0527. The mean scale score falls at the 60th percentile indicating that high school principals have an average degree of satisfaction with the co-workers scale. Of the 139 principals responding to the study, 43 principals had a low degree of satisfaction with the co-workers; 57 principals had an average degree of satisfaction with the co-workers; and 39principals had a high degree of satisfaction with the co-workers scale

Responsibility

Three hundred and five high school principals were surveyed for this study. The total participation of the study was 139. The mean score for responsibility was 21.0719 with a standard deviation of 2.6420. The range of scores was 14.00 with a minimum of 11.00 and a maximum 25.00.

The responsibility scale of the Minnesota Satisfaction Questionnaire long form is made up of five questions: Q17 – the chance to be responsible in planning my work; Q37 - the chance to make decisions on my own; Q – 57 the chance to be responsible for the work of others; Q77 – the freedom to use my own judgment; and Q97 – the responsibility of my job. Table 18 describes the frequency of the respondent's answers to each question of the responsibility scale, the mean, and the standard deviation.

Table 18
Frequency of Respondent's Answers to Responsibility Scale

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
Q17	0	7	5	70	57	4.27	.76
Q37	1	5	8	79	46	4.18	.75
Q57	0	3	16	90	30	4.06	.65
Q77	0	8	5	85	41	4.14	.74
Q97	0	4	3	63	69	4.42	.68

The mean score for the responsibility scale is 21.0719 with a standard deviation of 2.6420. The mean scale score falls between the 75thand 80th percentiles indicating that high school principals have a high degree of satisfaction with the responsibility scale. Of the 139 principals responding to the study, 11 principals had a low degree of satisfaction with the responsibility; 52 principals had an average degree of satisfaction with the responsibility scale; and 76 principals had a high degree of satisfaction with the responsibility scale.

Recognition

Three hundred and five high school principals were surveyed for this study. The total participation of the study was 139. The mean score for recognition was 18.1367 with a standard deviation of 4.3326. The range of scores was 20 with a minimum of 5.00 and a maximum 25.00. .

The recognition scale of the Minnesota Satisfaction Questionnaire long form is made up of five questions: Q18 – the way I am notice when I do a good job; Q38 – the way I get full credit for the work I do; Q58 – the recognition I get for the work I do; Q78 – the way they usually tell me when I do my job well; and Q98 – the praise I get for

doing a good job. Table 19 describes the frequency of the respondent's answers to each question of the recognition scale, the mean, and the standard deviation.

Table 19
Frequency of Respondent's Answers to Recognition Scale

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
Q18	5	16	27	63	28	3.67	1.04
Q38	4	18	38	60	19	3.52	.98
Q58	1	11	36	68	23	3.73	.86
Q78	2	21	31	64	21	3.58	.97
Q98	1	20	31	63	24	3.64	.96

The mean score for the recognition scale is 18.1367 with a standard deviation of 4.3326. The mean scale score falls between the 35thand 45th percentiles indicating that high school principals have an average degree of satisfaction with the recognition scale. Of the 139 principals responding to the study, 38 principals had a low degree of satisfaction with the recognition; 36 principals had an average degree of satisfaction with the recognition scale; and 65 principals had a high degree of satisfaction with the recognition scale

Achievement

Three hundred and five high school principals were surveyed for this study. The total participation of the study was 139. The mean score for achievement was 21.5971 with a standard deviation of 2.6858. The range of scores was 13.00 with a minimum of 12.00 and a maximum 25.00.

The achievement scale of the Minnesota Satisfaction Questionnaire long form is made up of five questions: Q19– being able to see the results of the work I do; Q39– being able to take pride in a job well done; Q59 – being able to do something worthwhile;

Q79 – the chance to do my best at all times; and Q99 – the feeling of accomplishment I get from the job. Table 19 describes the frequency of the respondent's answers to each question of the achievement scale, the mean, and the standard deviation.

Table 19
Frequency of Respondent's Answers to Achievement Scale

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
Q19	0	6	10	81	42	4.14	.73
Q39	0	2	5	66	66	4.41	.63
Q59	0	1	3	59	76	4.51	.58
Q79	0	7	4	76	52	4.24	.74
Q99	0	5	9	66	59	4.29	.74

The mean score for the achievement scale is 21.5971 with a standard deviation of 2.6858. The mean scale score falls between the 70th and 75th percentiles indicating that high school principals have an average degree of satisfaction with the achievement scale. Of the 139 principals responding to the study, 18 principals had a low degree of satisfaction with the achievement; 64 principals had an average degree of satisfaction with the achievement scale; and 67 principals had a high degree of satisfaction with the achievement scale.

Activity

Three hundred and five high school principals were surveyed for this study. The total participation of the study was 139. The mean score for activity was 21.7194 with a standard deviation of 2.6321. The range of scores was 12.00 with a minimum of 13.00 and a maximum 25.00.

The activity scale of the Minnesota Satisfaction Questionnaire long form is made up of five questions: Q20 – the chance to be active much of the time; Q40 – being able to

do something much of the time; Q60 – being able to stay busy; Q80 – the chance to be "on the go" all the time; and Q100 – being able to keep busy all the time. Table 21 describes the frequency of the respondent's answers to each question of the activity scale, the mean, and the standard deviation.

Table 21
Frequency of Respondent's Answers to Activity Scale

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
Q20	1	5	4	70	59	4.30	.76
Q40	0	2	6	73	58	4.35	.63
Q60	0	0	7	65	67	4.43	.59
Q80	0	0	2	8	71	4.33	.65
Q100	0	3	8	71	57	4.31	.68

The mean score for the activity scale is 21.7194 with a standard deviation of 2.6321. The mean scale score falls between the 65thand 70th percentiles indicating that high school principals have an average degree of satisfaction with the activity scale. Of the 139 principals responding to the study, 13 principals had a low degree of satisfaction with the activity; 68 principals had an average degree of satisfaction with the activity scale; and 58 principals had a high degree of satisfaction with the activity scale.

Intrinsic and Extrinsic Satisfaction

The Minnesota Satisfaction Questionnaire short form measures three scales: intrinsic, extrinsic, and general satisfaction. The Minnesota Satisfaction Questionnaire short form is composed of twenty different items. These items are also in the Minnesota Satisfaction Questionnaire long form. Appendix A identifies the questions and numbers of the Minnesota Satisfaction Questionnaire short form with the corresponding numbers of the Minnesota Satisfaction Questionnaire long form (Weiss, et al, 1967).

Normative data for the short form of the Minnesota Satisfaction Questionnaire short form was collected from six groups: assemblers, clerks, engineers, janitors and maintenance men, machinists, and salesmen (Weiss, et al, 1967). For the purposes of this study the normative data for engineers will be used. Appendix F describes the normative data of engineers as developed for the Minnesota Satisfaction Questionnaire short form.

Table 22 describes the frequency distribution of the intrinsic satisfaction scale. The mean score for the intrinsic satisfaction scale is 50.0507 with a standard deviation of 5.5412. Using the normative data for engineers the mean score of 50.0507 falls between the 55^{th} and 60^{th} percentile. This would indicate that as a group high school principals in Pennsylvania have an average level of intrinsic satisfaction. Further analysis reveals that of the principals who participated in this study, 17 (12.31%) reported low levels of intrinsic satisfaction; 79 (57.25%) reported average levels of intrinsic satisfaction; and 42 (30.43%) reported high levels of intrinsic satisfaction. Appendix G describes the questions associated with intrinsic and extrinsic satisfaction.

Table 23 describes the frequency of the respondent's answers to each question of the intrinsic satisfaction scale, the mean, and the standard deviation.

Table 22
Frequency Distribution of Intrinsic Satisfaction

Intrinsic Satisfaction	n	%	Cumulative %
31.00		.7	.7
37.00	2	1.4	2.2
38.00		.7	2.9
39.00		.7	3.6
40.00		.7	4.3
41.00	2	1.4	5.8
42.00	2	1.4	7.2
43.00	2	1.4	8.7
44.00	5	3.6	12.3
45.00	6	4.3	16.7
46.00	8	5.8	22.5
47.00	15	10.9	33.3
48.00	14	10.1	43.5
49.00	8	5.8	49.3
50.00	7	5.1	54.3
51.00	9	6.5	60.9
52.00	12	8.7	69.6
53.00	8	5.8	75.4
54.00	5	3.6	79.0
55.00	3	2.2	81.2
56.00	4	2.9	84.1
57.00	5	3.6	87.7
58.00	5	3.6	91.3
59.00	5	3.6	94.9
60.00	7	5.1	100.0
Total	138	100.0	

Mean	50.0507
Standard Deviation	5.5412
Range	29.00
Minimum	31.00
Maximum	60.00

Table 23
Frequency of Responses for Intrinsic Satisfaction Questions

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
Q24	0	11	40	68	19	3.69	.81
Q25		2	8	77	51	4.26	.70
Q28	1	2	38	59	39	3.96	.82
Q43	0	5	16	58	60	4.24	.80
Q51	0	2	6	67	64	4.39	.64
Q61	0	1	1	60	77	4.53	.56
Q66	0	3	39	77	20	3.82	.69
Q67	0	4	3	85	47	4.26	.64
Q77	0	8	5	85	41	4.14	.74
Q82	0	3	11	81	44	4.19	.67
Q99	0	5	9	66	59	4.29	.74
Q100	0	3	8	71	57	4.31	.68

Table 24 describes the frequency distribution of the extrinsic satisfaction scale. The mean score for the extrinsic satisfaction scale is 21.7554 with a standard deviation of 4.3453. Using the normative data for engineers the mean score of 21.7554 falls between the 45th and 55th percentile. This would indicate that as a group high school principals in Pennsylvania have an average level of extrinsic satisfaction. Further analysis reveals that of the principals who have participated in this study, 25 (17.98%) reported low levels of extrinsic satisfaction; 60 (43.17%) reported average levels of extrinsic satisfaction; and 54 (34.85%) reported high levels of extrinsic satisfaction.

Table 25 describes the frequency of the respondent's answers to each question of the extrinsic satisfaction scale, the mean, and the standard deviation.

Table 24

Frequency Distribution of Extrinsic Satisfaction Scale

Extrinsic Satisfaction	n	%	Cumulative %
8.00	1	.7	.7
11.00	2	1.4	2.2
12.00	1	.7	2.9
13.00	2	1.4	4.3
14.00	1	.7	5.0
15.00	7	5.0	10.1
16.00	4	2.9	12.9
17.00	7	5.0	18.0
18.00	6	4.3	22.3
19.00	8	5.8	28.1
20.00	5	3.6	31.7
21.00	14	10.1	41.7
22.00	14	10.1	51.8
23.00	13	9.4	61.2
24.00	18	12.9	74.1
25.00	13	9.4	83.5
26.00	6	4.3	87.8
27.00	7	5.0	92.8
28.00	4	2.9	95.7
29.00	1	.7	96.4
30.00	5	3.6	100.0
Total	139	100.0	

Mean	21.7554
Standard Deviation	4.3453
Range	22.00
Minimum	8.00
Maximum	30.00

Table 25
Frequency of Responses for Extrinsic Satisfaction Questions

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
q30	8	22	20	51	38	3.64	1.20
q35	5	19	13	53	49	3.88	1.14
q69	2	26	28	67	16	3.50	.97
q72	7	32	12	65	23	3.47	1.16
q74	3	14	33	70	19	3.63	.92
q98		20	31	63	24	3.64	.96

General Job Satisfaction

The Minnesota Satisfaction Questionnaire long form consists of twenty distinct scales with the ability to determine general satisfaction. The general satisfaction scale uses twenty items (one item from each of the twenty scales). The scores can range from twenty to one hundred. Appendix H illustrates the questions that are associated with the general job satisfaction scale of the Minnesota Satisfaction Questionnaire long form (Weiss, et al, 1967).

Table 26 describes the frequency distribution of the general job satisfaction scale. The mean score for the general job satisfaction scale is 79.8623 with a standard deviation of 9.4569. Using the normative data for employed non-disabled the mean score of 79.8623 falls between the 55^{th} and 60^{th} percentile. This would indicate that as a group high school principals in Pennsylvania have an average level of general job satisfaction. Further analysis reveals that of the principals who participated in this study twenty-one (15.21%) reported low levels of general job satisfaction; seventy-two (52.17%) reported average levels of general job satisfaction; and forty-five (32.60%) reported high levels of general job satisfaction.

Table 26
Frequency Distribution of General Job Satisfaction Scale

General Job Satisfaction	n	%	Cumulative %
49.00	1	.7	.7
50.00	1	.7	1.4
57.00	1	.7	2.2
58.00	1	.7	2.9
63.00	1	.7	3.6
64.00	1	.7	4.3
65.00	3	2.2	6.5
66.00	1	.7	7.2
67.00	3	2.2	9.4
68.00	4	2.9	12.3
69.00	4	2.9	15.2
71.00	3	2.2	17.4
73.00	4	2.9	20.3
74.00	4	2.9	23.2
75.00	8	5.8	29.0
76.00	3	2.2	31.2
77.00	7	5.1	36.2
78.00	6	4.3	40.6
79.00	9	6.5	47.1
80.00	12	8.7	55.8
81.00	5	3.6	59.4
82.00	5	3.6	63.0
83.00	6	4.3	67.4
84.00	6	4.3	71.7
85.00	1	.7	72.5
86.00	1	.7	73.2
87.00	9	6.5	79.7
88.00	4	2.9	82.6
89.00	3	2.2	84.8
90.00	2	1.4	86.2
91.00	3	2.2	88.4
92.00	5	3.6	92.0
93.00	2	1.4	93.5
94.00	1	.7	94.2
95.00	1	.7	94.9
96.00	3	2.2	97.1
98.00	1	.7	97.8
99.00	1	.7	98.6
100.00	2	1.4	100.0
Total	138	100.0	

Mean	79.8623
Standard deviation	9.4569
Range	51.00
Minimum	49.00
Maximum	100.00

The general job satisfaction scale of the Minnesota Satisfaction Questionnaire long form is made up of twenty questions: Q24, Q25, Q28, Q30, Q35, Q43, Q51, Q61, Q66, Q67, Q72, Q74, Q77, Q82, Q93, Q96, Q98, Q99, and Q100. Table 27 describes the frequency of the respondent's answers to each question of the general job satisfaction scale, the mean, and the standard deviation.

Table 27
Frequency of Respondent's Answers to General Job Satisfaction Questions

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean	Std. Deviation
Q24	0	11	40	68	19	3.69	.81
Q25		2	8	77	51	4.26	.70
Q28	1	2	38	59	39	3.96	.92
Q30	8	22	20	51	38	3.64	1.20
Q35	5	19	13	53	49	3.88	1.14
Q43	0	5	16	58	60	4.24	.80
Q51	0	2	6	67	64	4.39	.64
Q61	0	1	1	60	77	4.53	.56
Q66	0	3	39	77	20	3.82	.69
Q67	0	4	3	85	47	4.26	.64
Q69	2	26	28	67	16	3.50	.97
Q72	7	32	12	65	23	3.47	1.16
Q74	3	14	33	70	19	3.63	.92
Q77	0	8	5	85	41	4.14	.74
Q82	0	3	11	81	44	4.19	.67
Q93	2	9	11	71	46	4.08	.89
Q96	0	12	11	88	28	3.95	.79
Q98	1	20	31	63	24	3.64	.96
Q99	0	5	9	66	59	4.29	.74
Q100	0	3	8	71	57	4.31	.68

One Sample t- Test

General satisfaction means are compared between randomly selected high school principals in Pennsylvania with the general satisfaction means of engineers. The general satisfaction mean score for high school principals is 79.8623 and the general satisfaction mean for engineers is 78.97. The appropriate t – test is a one sample t -- test. The statistical hypothesis is:

$$H0: \mu = 78.97 \qquad H1: \mu \neq 78.97$$

The decision rule is to reject H0 at the .05 level of significance if t equals or is more positive than 1.960 or if t equals or is more negative than -1.960 given df= 137.

Table 28 shows that the value of t= 1.108 with the df = 137 significant at .270 (2-tailed). The decision is to retain H0 at the .05 level of significance because t = 1.108 is less positive than 1.960. The interpretation is that there is no significant difference between the general satisfaction means of high school principals and engineers. Table 28 shows the data for the one-sample t –test.

Table 28
One Sample T – Test

	N	Mean	Std. Deviation	Std. Error Mean
General Satisfaction	138	79.8623	9.4569	.8050

Test Value= 78.97

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the difference Lower	Upper
General Satisfaction	1.108	137	.270	.8923	-.6996	2.4842

One Way ANOVA

To further describe the demographic data and the relationship to the overall general job satisfaction of high school principals one way ANOVA were performed. Table 29 presents the ANOVA for general job satisfaction and the demographic variable of gender

Table 29
ANOVA General Job Satisfaction and Gender

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.889	1	.889	.010	.921
Within Groups	12251.495	136	90.085		
Total	12252.384	137			

Does gender affect the levels of general job satisfaction of high school principals? The statistical hypothesis is H0: μ0: there are no differences in the means of Pennsylvania high school principal's general job satisfaction with regard to gender. The value of critical F is 3.92. The decision rule is to reject H0 at the .05 level of significance if F equals or is more positive than 3.92. Since F (.010) is not equal or more positive than 3.92 (critical F) the null hypothesis is accepted and there is no significant differences in mean scores of Pennsylvania high school principal's general job satisfaction with regard to gender.

Table 30
Test of Homogeneity of Variance for Gender

Levene Statistic	df1	df2	Sig.
.105		136	.746

Levine's test for homogeneity of variance with a significant value of .746 indicates that general job satisfaction scores for each gender do not differ significantly. Table 30 shows the test of Homogeneity of Variance for gender.

Table 31 presents the ANOVA for general job satisfaction and the demographic variable of age.

Table 31
ANOVA General Job Satisfaction and Age

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1161.769	4	290.442	3.483	.010
Within Groups	11090.615	133	83.388		
Total	12252.384	137			

Does age affect the levels of general job satisfaction of high school principals? The statistical hypothesis is H0: μ0: there are no differences in the means of Pennsylvania high school principal's general job satisfaction with regard to age. The value of critical F is 2.44. The decision rule is to reject H0 at the .05 level of significance if F equals or is more positive than 2.44. Since F (3.483) is more positive than 2.44 (critical F) the null hypothesis is rejected. There is sufficient evidence to reject the null hypothesis that the levels are all the same. Age has an effect on the general satisfaction of high school principals.

To see the effect size we use the squared curvilinear correlation coefficient. "The squared curvilinear correlation coefficient, eta-squared, indicates the proportion of variance in the dependent variable explained by the independent variable (Witte & Witte, 2001 p. 379)." The eta-square is .095. Cohen's rule of thumb (Witte & Witte, 2001) suggests that an eta-squared that approximates .01 has a small effect; an eta-square that approximates .06 has a medium effect; and an eta-square that approximates .14 or more has a large effect. The eta-square of .095 falls between the medium and large effect

suggesting that independent variable of age has more than a medium effect size on the dependent variable of general job satisfaction.

Table 32
Test of Homogeneity of Variance and Age

Levene Statistic	df1	df2	Sig.
.671	4	133	.613

Levine's test for homogeneity of variance with a significant value of .613 indicates that general job satisfaction scores for each age do not differ significantly. Table 32 shows the test for homogeneity of variance – age.

Table 33 presents the ANOVA for general job satisfaction and the demographic variable of ethnicity.

Table 33
ANOVA General Job Satisfaction and Ethnicity

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	175.002	2	87.501	.978	.379
Within Groups	12077.382	135	89.462		
Total	12252.384	137			

Does ethnicity affect the levels of general job satisfaction of high school principals? The statistical hypothesis is H0: μ0: there are no differences in the means of Pennsylvania high school principal's general job satisfaction with regard to ethnicity. The value of critical F is 3.07. The decision rule is to reject H0 at the .05 level of significance if F equals or is more positive than 3.07. Since F (.978) is not equal or more positive than 3.07 (critical F) the null hypothesis is accepted and there is no significant

differences in mean scores of Pennsylvania high school principals general job satisfaction with regard to ethnicity.

Table 34
Test of Homogeneity of Variance and Ethnicity

Levene Statistic	df1	df2	Sig.
3.092	2	135	.049

Levine's test for homogeneity of variance with a significant value of .049 indicates that general job satisfaction scores for each ethnic group do indeed differ significantly. However, when checking the distributions for measures of normality we find that they are skewed negatively. There were only four black/African American and one Hispanic observation in the distribution. Table 34 shows the test for homogeneity of variance – ethnicity.

Table 35 presents the ANOVA for general job satisfaction and the demographic variable of highest level of degree obtained.

Table 35
ANOVA General Job Satisfaction and Highest Level of Degree Obtained

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	74.827	2	37.413	.415	.661
Within Groups	12177.557	135	90.204		
Total	12252.384	137			

Does the highest level of degree obtained affect the levels of general job satisfaction of high school principals? The statistical hypothesis is H0: μ0: there are no differences in the means of Pennsylvania high school principal's general job satisfaction with regard to highest levels of degree obtained. The value of critical F is 3.07. The

decision rule is to reject H0 at the .05 level of significance if F equals or is more positive than 3.07. Since F (.415) is not equal or more positive than 3.07 (critical F) the null hypothesis is accepted and there is no significant difference in mean scores of Pennsylvania high school principal's general job satisfaction with regard to highest level of degree obtained.

Table 36
Test of Homogeneity of Variance for Highest Level Degree Obtained

Levene Statistic	df1	df2	Sig.
1.150	2	135	.320

Levine's test for homogeneity of variance with a significant value of .320 indicates that general job satisfaction scores for each highest level of degree obtained do not differ significantly. Table 36 shows the test of homogeneity of variance for highest level degree obtained.

Table 37 presents the ANOVA for general job satisfaction and the demographic variable of salary.

Table 37
ANOVA General Job Satisfaction and Salary

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	652.910	5	130.582	1.486	.199
Within Groups	11599.474	132	87.875		
Total	12252.384	137			

Does the salary affect the levels of general job satisfaction of high school principals? The statistical hypothesis is H0: μ0: there are no differences in the means of

Pennsylvania high school principals general job satisfaction with regard to salary. The value of critical F is 2.29. The decision rule is to reject H0 at the .05 level of significance if F equals or is more positive than 2.29. Since F (1.486) is not equal or more positive than 2.29 (critical F) the null hypothesis is accepted and there is no significant difference in mean scores of Pennsylvania high school principal's general job satisfaction with regard to salary.

Table 38
Test of Homogeneity of Variance and Salary

Levene Statistic	df1	df2	Sig.
.560	5	132	.731

Levine's test for homogeneity of variance with a significant value of .731 indicates that general job satisfaction scores for each salary obtained do not differ significantly. Table 38 shows the test for homogeneity of variance– salary.

Table 39 presents the ANOVA for general job satisfaction and the demographic variable of years of administrative experience.

Table 39
ANOVA General Job Satisfaction and Years of Administrative Experience

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	200.800	4	50.200	.554	.696
Within Groups	12051.584	133	90.613		
Total	12252.384	137			

Do the years of administrative experience affect the levels of general job satisfaction of high school principals? The statistical hypothesis is H0: $\mu 0$: there are no differences in the means of Pennsylvania high school principal's general job satisfaction

with regard to years of administrative experience. The value of critical F is 2.44. The decision rule is to reject H0 at the .05 level of significance if F equals or is more positive than 2.44. Since F (.554) is not equal or more positive than 2.44 (critical F) the null hypothesis is accepted and there is no significant difference in mean scores of Pennsylvania high school principals general job satisfaction with regard to years of administrative experience.

Table 40
Test of Homogeneity of Variance and Years of Administrative Experience

Levene Statistic	df1	df2	Sig.
1.238	4	133	.298

Levine's test for homogeneity of variance with a significant value of .298 indicates that general job satisfaction scores for each year of administrative experience obtained do not differ significantly. Table 40 shows the test of homogeneity of variance – years of administrative experience.

Table 41 presents the ANOVA for general job satisfaction and the demographic variable of number of assistant principals.

Table 41
ANOVA General Job Satisfaction and Number of Assistant Principals

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	420.113	4	105.028	1.181	.322
Within Groups	11832.271	133	88.964		
Total	12252.384	137			

Does the number of assistant principals affect the levels of general job satisfaction of high school principals? The statistical hypothesis is H0: μ0: there are no

differences in the means of Pennsylvania high school principal's general job satisfaction with regard to the number of assistant principals. The value of critical F is 2.44. The decision rule is to reject H0 at the .05 level of significance if F equals or is more positive than 2.44. Since F (1.181) is not equal or more positive than 2.44 (critical F) the null hypothesis is accepted and there is no significant difference in mean scores of Pennsylvania high school principals general job satisfaction with regard to number of assistant principals.

Table 42

Test of Homogeneity of Variance and the Number of Assistant Principals

Levene Statistic	df1	df2	Sig.
.836	4	133	.505

Levine's test for homogeneity of variance with a significant value of .505 indicates that general job satisfaction scores for each number of assistant principals obtained do not differ significantly. Table 42 shows the test of homogeneity of variance – number of assistant principals.

Table 43 presents the ANOVA for general job satisfaction and the demographic variable of years in the current school district.

Table 43

ANOVA General Job Satisfaction and Years in Current School District

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	446.520	4	111.630	1.258	.290
Within Groups	11805.865	133	88.766		
Total	12252.384	137			

Does the number of years in the current school district affect the levels of general

job satisfaction of high school principals? The statistical hypothesis is H0: μ0: there are no differences in the means of Pennsylvania high school principal's general job satisfaction with regard to the number of years in the current school district. The value of critical F is 2.44. The decision rule is to reject H0 at the .05 level of significance if F equals or is more positive than 2.44. Since F(1.258) is not equal or more positive than 2.44 (critical F) the null hypothesis is accepted and there is no significant difference in mean scores of Pennsylvania high school principals general job satisfaction with regard to years in current school district.

Table 44
Test of Homogeneity of Variance for Years in Current School District

Levene Statistic	df1	df2	Sig.
.785	4	133	.537

Levine's test for homogeneity of variance with a significant value of .537 indicates that general job satisfaction scores for each number of years in current school district obtained do not differ significantly. Table 44 shows the homogeneity of variance for years in current school district.

Table 45 presents the ANOVA for general job satisfaction and the demographic variable of school size.

Table 45
ANOVA General Job Satisfaction and School Size

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	346.688	3	115.563	1.301	.277
Within Groups	11905.696	134	88.848		
Total	12252.384	137			

Does school size affect the levels of general job satisfaction of high school principals? The statistical hypothesis is H0: μ0: there are no differences in the means of Pennsylvania high school principals general job satisfaction with regard to the school size. The value of critical F is 2.68. The decision rule is to reject H0 at the .05 level of significance if F equals or is more positive than 2.68. Since F (1.301) is not equal or more positive than 2.68 (critical F) the null hypothesis is accepted and there is no significant difference in mean scores of Pennsylvania high school principal's general job satisfaction with regard to school size.

Table 46
Test of Homogeneity of Variance for School Size

Levene Statistic	df1	df2	Sig.
.517	3	134	.672

Levine's test for homogeneity of variance with a significant value of .672 indicates that general job satisfaction scores for each number of school size obtained do not differ significantly. Table 46 shows the test for homogeneity of variance for school size.

Table 47 presents the ANOVA for general job satisfaction and the demographic variable of socio-economic level of school.

Table 47
ANOVA General Job Satisfaction and Socio-economic Level of School

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	315.452	4	78.863	.879	.479
Within Groups	11936.932	133	89.751		
Total	12252.384	137			

Does socio-economic level of the school affect the levels of general job satisfaction of high school principals? The statistical hypothesis is H0: μ0: there are no differences in the means of Pennsylvania high school principals general job satisfaction with regard to the socio-economic level of the school. The value of critical F is 2.44. The decision rule is to reject H0 at the .05 level of significance if F equals or is more positive than 2.44. Since F (.879) is not equal or more positive than 2.44 (critical F) the null hypothesis is accepted and there is no significant difference in mean scores of Pennsylvania high school principals general job satisfaction with regard to socio-economic level of the school.

Table 48
Test of Homogeneity of Variance for Socio-Economic Level

Levene Statistic	df1	df2	Sig.
1.974	4	133	.102

Levine's test for homogeneity of variance with a significant value of .102 indicates that general job satisfaction scores for each number of socio-economic levels of school obtained do not differ significantly. Table 48 shows the test of homogeneity of variance for socio-economic level of school.

CHAPTER V

Summary, Conclusions and Recommendations

The purpose of this study is to find out the overall job satisfaction of high school principals in Pennsylvania. The study determined the level of intrinsic and extrinsic satisfaction and determined the relationships of selected factors of gender; age; race; levels of education; salary level; years of experience; number of assistant principals; years in current school district; school socio-economic level; and school size. In addition the study compared the levels of job satisfaction between Pennsylvania high school principals and white collar professional engineers.

Chapter 1 presented a background for the problem and showed why this research is significant. Five research questions guided this study: 1.) What is the overall level of job satisfaction of Pennsylvania high school principals as measured by the Minnesota Satisfaction Questionnaire? 2.) What is the relationship between overall job satisfaction level of high school principals in Pennsylvania and the following demographic variables: age; gender; levels of education; number of assistant principals; race, salary level; years of experience; years in current school district; school socio-economic level; and school size? 3.) What degree of satisfaction do principals express with each of the twenty sub-factors of job satisfaction as measured by the Minnesota Satisfaction Questionnaire? 4.) How do high school principals in Pennsylvania compare to the national norms of the Minnesota Satisfaction Questionnaire white collar: professional engineers? 5.) What are the levels of intrinsic and extrinsic job satisfaction of high school principals?

Chapter 2 contains the Review of Literature where the changing and demanding role of the high school principal is explored. Theories of motivation and job satisfaction are discussed to present a theoretical framework for this study and job satisfaction studies are reviewed.

Chapter 3 discussed the research methodology used in this study. This chapter identifies the population (Pennsylvania high school principals) and the procedures used to establish participation in this research. The Minnesota Satisfaction Questionnaire long form was the instrument used to collect data and was described in this chapter. Descriptive analysis, t-tests, and ANOVA were used for the data analysis.

Chapter 4 presented the results and analysis of this research. Included in the data analysis were the descriptive statistics of the demographic variables; the distribution of scoring for each of the twenty scales including the mean, standard deviation, range of scores, and the minimum and maximum scores for the scale; results of the intrinsic and extrinsic satisfaction scores; the general job satisfaction levels of high school principals; comparison of principals and engineers. To describe the demographic data and the relationship to the overall general job satisfaction of high school principals one way ANOVA were performed.

Chapter 5 presents the summary, conclusions, and recommendations for future research.

Methodology

A total of 426 men and women work as high school principals in the Commonwealth of Pennsylvania. The population includes only those principals whose responsibilities are for students in grades 9 – 12. Proportional stratified sampling

(Krathwohl, 1998) techniques were used to determine the population of this study which was based on gender. In the 2004-05 school year there were 346 male high principals and 80 female high school principals. All female high school principals in Pennsylvania were surveyed.

Two hundred and twenty-five male high school principals were randomly selected from a male high school population of 346. The Randombots Medusa Random Sampler Generator was purchased to randomly select the male high school principal participants for this study

Surveys were mailed to the 305 Pennsylvania high school principals included in this study on June 2, 2005. Included in the mailings were a cover letter (Appendix A), the Minnesota Satisfaction Questionnaire long form), and a demographic data form (Appendix B). The cover letter described the identity of the researcher and the purpose. The demographic data form requested responses dealing with the following variables: age; gender; levels of education; number of assistant principals; ethnicity: salary level; years of experience; years in current school district; school socio-economic level; and school size. On June 24, 2005 a follow-up mailing was sent to non-respondents. A replacement survey and demographic data form was sent along with another cover letter. One hundred and two principals (33.45%) returned surveys after the first mailing. A second mailing was sent on June 24, 2005 to Pennsylvania high school principals. Thirty-nine principals (12.79%) responded to the second mailing. A total of 141 high school principals (46.23%) responded to the survey.

Description of the Demographic Data

The population for this research was high school principals in Pennsylvania. Three hundred and five principals were invited to participate in this study. The total participation of the study was one hundred and thirty nine of which thirty-five (25.2%) were females and one hundred and four (74.8%) were males.

Respondents were asked to identify their age. There were ten (7.2%) high school principals under the age of 35; 36 (25.9%) high school principals between 36 and 45; 57 (41.0%) high school principals between 46 and 55; 35 (25.2%) high school principals between the ages of 56 and 65; and one (.7%) high school principal over the age of 65.

Respondents were asked to identify their ethnicity. There were no respondents in the categories of American Indian/Alaskan and Asian. There were four (2.9%) high school principals who reported themselves as Black/African American; one (.7%) high school principal who reported himself as Hispanic; and 134 (96.4 %) high school principals who reported themselves as white.

Respondents were asked to report on the highest level degree obtained. Two (1.4%) high school principals reported that they had a bachelor's degree; 112 (80.6%) high school principals reported that they had a Masters degree; and 25 (18.0%) high school principals reported that they had doctorate degrees.

Respondents were asked to report on their salaries. Only one (.7%) high school principal reported a salary below $60,000 a year; eight (5.8%) high school principals reported incomes between $60,000 and $69,999; 23 (16.5%) high school principals reported incomes between $70,000 and $79,999; 48 (35.3%) high school principals reported incomes between $80,000 and $89,999; 33 (23.7%) high school principals

reported incomes between $90,000 and $99,000; and 25 (18.0%) high school principals reported incomes of over $99,999.

Respondents were asked to report the number of years of administrative experience. Forty-four (31.7%) high school principals reported that they had between 0 and 7 years of administrative experience; 53 (38.1%) high school principals reported that they had between 8 and 13 years of administrative experience; 21 (15.1%) high school principals reported that they had between 14 and 20 years of administrative experience; 14 (10.1%) high school principals had between 21 and 27 years of administrative experience; and seven (5.0%) high school principals had over 27 years of administrative experience.

Respondents were asked to report the number of assistant principals working with them. Twenty-one (15.1%) high school principals reported that they did not have an assistant principal; 61 (43.9%) high school principals reported that they had one assistant principal; 29 (20.9%) high school principals reported that they had two assistant principals; 18 (12.9%) high school principals reported that they had three assistant principals; and ten (7.2%) high school principals reported that they had over three assistant principals.

Respondents were asked to report the number of years that they have been in the current district. Fifty-five (39.6%) high school principals reported that they have been in their current school district between 0 and 7 years; 37 (26.6%) high school principals reported that they have been in their current school district between 8 and 13 years; 11 (7.9%) high school principals reported that they have been in their current school district between 14 and 20 years; 15 (10.8%) high school principals reported that they have been

in their current school district between 21 and 27 years; and 21 (15.1%) high school principals reported that they have been in their current school district over 27 years.

Respondents were asked to report on their school size. There were no respondents to this study with school sizes under 250 students. Twenty-five (18.0%) high school principals reported school sizes between 250 and 499 students; 25 (18.0%) high school principals reported school sizes between 500 and 749 students; 27 (19.4%) high school principals reported school sizes between 750 and 999 students; and 62 (44.6.0%) high school principals reported school sizes of over 1000 students.

Respondents were asked to report on the socio-economic condition of their school using free and reduced lunch rates. Thirty-one (22.3%) high school principals reported that their school's socio-economic level as under 5%; 37 (22.6%) high school principals reported their school's socio-economic level was between 5% and 14.9%; 27 (19.4%) high school principals reported that their school's socio-economic level was between 15% and 24.9%; 20 (14.4%) high school principals reported that their school's socio-economic level was between 25% and 34.9%; and 24 (17.3%) high school principals reported that their schools socio-economic level was over 35%.

To further describe the demographic data correlations were calculated. Tables 1a and 1b illustrate the correlation matrix of the demographic data. Correlations refer to the extent to which two variables are related across a group of subjects.

There is a significant positive correlation between age and salary ($r = .337$, $p < 0.01$); age and administrative experience ($r = .561$, $p < 0.01$); age and the number of assistant principals ($r = .245$, $p < 0.01$); and age and the number of years in the current school district ($r = .376$, $p < 0.01$). This would suggest that as principals got older they

received higher compensation, had more years of experience as principal, and stayed in the same school district longer. There was a low positive correlation ($r = .245$, $p < 0.01$) between age and the number of assistant principals under the high school principal. Stemple (2004) in his research on job satisfaction of high school principals in Virginia found a significant positive correlation ($r = .206$, $p < 0.05$) between age and salary, ($r = .479$, $p < 0.05$) age and total years as a principal, and ($r = .439$, $p < 0.05$) age and total years in school district.

There is a low negative correlation between ethnicity and highest level degree obtained ($r = -.231$, $p < 0.01$); ethnicity and the number of assistant principals ($r = -.286$, $p < 0.01$); and ethnicity and the number of years in the current school district ($r = -.169$, $p < 0.05$). This would suggest that non-white principals do not have as many doctoral degrees and assistant principals as white principals. It also suggests that non-white principals are not in the current school district as long as white principals.

There is a significant positive correlation between highest level degree obtained and salary ($r = .355$, $p < 0.01$). This would suggest that principals with doctorates earn more money than those who do not have doctorates. There is a low positive correlation between highest level degree obtained and assistant principals ($r = .233$, $p < 0.01$) and highest level degree obtained and number of school size ($r = .216$, $p < 0.05$). This would suggest that principals with doctorates have more assistant principals and serve larger schools than principals who do not have doctorates.

There is a significant positive correlation between salary and years of administrative experience ($r = .469$, $p < 0.01$); salary and number of assistant principals ($r = .611$, $P < 0.01$); salary and school size population ($r = .571$, $P < 0.01$); and a low

positive correlation between salary and years in current school district (r = .211, p < 0.05) There is also a significant negative correlation between salary and the socio-economic level of school (r = -.389, p< 0.01). This would suggest those principals who have more years of experience have higher salaries and more assistant principals. It also suggests that principals in larger populated schools have a higher salary. The negative correlation between salary and the socio-economic level of schools suggests those principals who have higher salaries tend to be in schools with lower percentage rates of children who are on free and reduced lunch. . Stemple (2004) in his research on job satisfaction of high school principals in Virginia found a significant positive correlation (r= .682, p< 0.05) between salary and school size and (r= .625, p<0.05) between salary and number of assistant principals; and salary and years of administrative experience (r=.300. p<0.05).

There is a significant positive correlation between years of administrative experience and the number of assistant principals (r = .297, p < 0.01)); years and administrative experience and years in current school district (r = .333, p < 0.01) and years of administrative experience and school size – student population (r = .255, p< 0.01). This would suggest that principals with more years of administrative have more assistant principals and have stayed in their district longer. It also suggests that principals with more years of administrative experience tend to be in larger populated schools.

There is a strong positive correlation between the number of assistant principals and school size – student population (r = .720, p< 0.01). This would suggest that schools with larger student populations have more assistant principals. Stemple (2004) in his research on job satisfaction of high school principals in Virginia found a significant

positive correlation ($r = .895$, $p < 0.05$) between number of assistant principals and school size.

Research Question 1

What is the overall level of job satisfaction of high school principals in Pennsylvania as measured by the Minnesota Satisfaction Questionnaire?

Table 25 describes the frequency distribution of the general job satisfaction scale. The mean score for the general job satisfaction scale is 79.8623 with a standard deviation of 9.4569. Using the normative data for employed non-disabled the mean score of 79.8623 falls between the 55th and 60th percentile. This would indicate that as a group high school principals in Pennsylvania have an average level of general job satisfaction. Further analysis reveals that of the principals who participated in this study 21 (15.21%) reported low levels of general job satisfaction; 72 (52.17%) reported average levels of general job satisfaction; and 45 (32.60%) reported high levels of general job satisfaction. Table 26 describes the frequency of the respondent's answers to each question of the general job satisfaction scale, the mean, and the standard deviation.

Research Question 2

What is the relationship between overall job satisfaction level of high school principals in Pennsylvania and the following demographic variables: age; gender; levels of education; number of assistant principals; race, salary level; years of experience; years in current school district; school socio-economic level; and school size?

One way ANOVA's were performed to describe the relationships between the demographic data and overall general job satisfaction of high school principals in

Pennsylvania. Tables 29 to 48 described the relationships (ANOVA) between the demographic data and the general level of job satisfaction among high school principals.

A one way ANOVA was performed to describe the relationship between general job satisfaction among high school principals with regard to gender. The results showed that there were no significant differences in mean scores of Pennsylvania high school principals general job satisfaction with regard to gender. Table 29 presented the ANOVA for general job satisfaction and the demographic variable of gender and table 30 showed the test of Homogeneity of Variance for gender.

A one way ANOVA was performed to describe the relationship between general job satisfaction among high school principals with regard to age. The results showed that there was a significant difference in mean scores of Pennsylvania high school principal's general job satisfaction with regard to age. Table 31 presented the ANOVA for general job satisfaction and the demographic variable of age and table 32 showed the test of Homogeneity of Variance for age. To see the effect size the squared curvilinear correlation coefficient was used. "The squared curvilinear correlation coefficient, eta-squared, indicates the proportion of variance in the dependent variable explained by the independent variable (Witte & Witte, 2001 p. 379)." The eta-square is .095. Cohen's rule of thumb (Witte & Witte, 2001) suggests that an eta-squared that approximates .01 has a small effect; an eta-square that approximates .06 has a medium effect; and an eta-square that approximates .14 or more has a large effect. The eta-square of .095 falls between the medium and large effect suggesting that independent variable of age has more than a medium effect size on the dependent variable of general job satisfaction.

A one way ANOVA was performed to describe the relationship between general job satisfaction among high school principals with regard to ethnicity. The results showed that there were no significant differences in mean scores of Pennsylvania high school principal's general job satisfaction with regard to ethnicity. Table 33 presented the ANOVA for general job satisfaction and the demographic variable of ethnicity and table 34 showed the test of Homogeneity of Variance for ethnicity. Levine's test for homogeneity of variance with a significant value of .049 indicates that general job satisfaction scores for each ethnic group do indeed differ significantly. However, when checking the distributions for measures of normality we find that they are skewed negatively. There were only four black/African American and one Hispanic observation in the distribution.

A one way ANOVA was performed to describe the relationship between general job satisfaction among high school principals with regard to highest levels of degree obtained. The results showed that there were no significant differences in mean scores of Pennsylvania high school principal's general job satisfaction with regard to highest levels of degree obtained. Table 35 presented the ANOVA for general job satisfaction and the demographic variable of highest levels of degree obtained and table 36 showed the test of Homogeneity of Variance for highest levels of degree obtained.

A one way ANOVA was performed to describe the relationship between general job satisfaction among high school principals with regard to salary. The results showed that there were no significant differences in mean scores of Pennsylvania high school principal's general job satisfaction with regard to salary. Table 37 presented the ANOVA

for general job satisfaction and the demographic variable of salary and table 38 showed the test of Homogeneity of Variance for salary.

A one way ANOVA was performed to describe the relationship between general job satisfaction among high school principals with regard to years of administrative experience. The results showed that there were no significant differences in mean scores of Pennsylvania high school principals general job satisfaction with regard to years of administrative experience. Table 39 presented the ANOVA for general job satisfaction and the demographic variable of years of administrative experience and table 40 showed the test of Homogeneity of Variance for years of administrative experience.

A one way ANOVA was performed to describe the relationship between general job satisfaction among high school principals with regard to number of assistant principals. The results showed that there were no significant differences in mean scores of Pennsylvania high school principals general job satisfaction with regard to number of assistant principals. Table 41 presented the ANOVA for general job satisfaction and the demographic variable of number of assistant principals and table 42 showed the test of Homogeneity of Variance for number of assistant principals.

A one way ANOVA was performed to describe the relationship between general job satisfaction among high school principals with regard to years in the current school district. The results showed that there were no significant differences in mean scores of Pennsylvania high school principals general job satisfaction with regard to years in the current school district. Table 43 presented the ANOVA for general job satisfaction and the demographic variable of years in the current school district and table 44 showed the test of Homogeneity of Variance for years in the current school district.

A one way ANOVA was performed to describe the relationship between general job satisfaction among high school principals with regard to school size. The results showed that there were no significant differences in mean scores of Pennsylvania high school principals general job satisfaction with regard to school size. Table 45 presented the ANOVA for general job satisfaction and the demographic variable of school size and table 46 showed the test of Homogeneity of Variance for school size.

A one way ANOVA was performed to describe the relationship between general job satisfaction among high school principals with regard to socio-economic level of the school. The results showed that there were no significant differences in mean scores of Pennsylvania high school principals general job satisfaction with regard to socio-economic level of the school. Table 47 presented the ANOVA for general job satisfaction and the demographic variable of socio-economic level of the school and table 48 showed the test of Homogeneity of Variance for socio-economic level of the school.

Research Question 3

What degree of satisfaction do principals express with each of the twenty sub-factors of job satisfaction as measured by the Minnesota Satisfaction Questionnaire?

Appendix D describe the distribution of scoring for each of the twenty scales including the mean, standard deviation, range of scores, and the minimum and maximum scores for the scale. The tables also describe the frequency of the respondent's answers to each scale, the mean, and the standard deviation.

When percentile scores are used scores of 75 or greater indicate a high degree of satisfaction; scores between 25 and 75 indicate average satisfaction; and a score of less than 25 indicates a low level of satisfaction.

The mean score for the social service scale is 22.8417 with a standard deviation of 2.4884. The mean scale score falls between the 75th and 80th percentile indicating that high school principals have a high degree of satisfaction with social service.

The mean score for the creativity scale is 20.9137 with a standard deviation of 3.1519. The mean scale score falls between the 65th and 75th percentile indicating that high school principals have an average degree of satisfaction with creativity.

The mean score for the moral values scale is 21.4317 with a standard deviation of 2.8002. The mean scale score falls between the 60th and 65th percentile indicating that high school principals have an average degree of satisfaction with the moral values scale.

The mean score for the independence scale is 18.5942 with a standard deviation of 3.4507. The mean scale score falls between the 30th and 40th percentile indicating that high school principals have an average degree of satisfaction with the independence scale.

The mean score for the variety scale is 21.0432 with a standard deviation of 2.6399. The mean scale score falls between the 70th and 75th percentile indicating that high school principals have an average degree of satisfaction with the variety scale.

The mean score for the authority scale is 20.2734 with a standard deviation of 2.5786. The mean scale score falls between the 80th and 85th percentile indicating that high school principals have an average degree of satisfaction with the authority scale.

The mean score for the ability utilization scale is 21.2446 with a standard deviation of 3.1389. The mean scale score falls between the 75th and 80th percentile indicating that high school principals have a high degree of satisfaction with the ability utilization scale.

The mean score for the social status scale is 19.5180 with a standard deviation of 3.3086. The mean scale score falls between the 65th and 85th percentile indicating that high school principals have a average degree of satisfaction with the social status scale.

The mean score for the policies and procedures scale is 17.9281with a standard deviation of 3.9556. The mean scale score falls between the 40th and 45th percentile indicating that high school principals have an average degree of satisfaction with the policies and procedures scale.

The mean score for the supervision – human relations scale is 18.5252 with a standard deviation of 5.2244. The mean scale score falls between the 35th and 45th percentiles indicating that high school principals have an average degree of satisfaction with the supervision – human relations scale.

The mean score for the security scale is 20.8849 with a standard deviation of 2.8055. The mean scale score falls between the 55th and 65th percentiles indicating that high school principals have an average degree of satisfaction with the security scale.

The mean score for the compensation scale is 17.5468 with a standard deviation of 4.9654. The mean scale score falls between the 30th and 35th percentiles indicating that high school principals have an average degree of satisfaction with the compensation scale.

The mean score for the working conditions scale is 20.3881 with a standard deviation of 4.1643. The mean scale score falls between the 65th and 75th percentiles indicating that high school principals have an average degree of satisfaction with the working conditions scale.

The mean score for the advancement scale is 18.0288 with a standard deviation of 4.2766. The mean scale score falls between the 50th and 60th percentiles indicating that high school principals have an average degree of satisfaction with the advancement scale.

The mean score for the supervision - technical scale is 18.8561 with a standard deviation of 4.5708. The mean scale score falls between the 40th and 50th percentiles indicating that high school principals have an average degree of satisfaction with the supervision - technical scale.

The mean score for the co-workers scale is 20.0000 with a standard deviation of 3.0527. The mean scale score falls at the 60th percentile indicating that high school principals have an average degree of satisfaction with the co-workers scale.

The mean score for the responsibility scale is 21.0719 with a standard deviation of 2.6420. The mean scale score falls between the 75th and 80th percentiles indicating that high school principals have a high degree of satisfaction with the responsibility scale.

The mean score for the recognition scale is 18.1367 with a standard deviation of 4.3326. The mean scale score falls between the 35th and 45th percentiles indicating that high school principals have an average degree of satisfaction with the recognition scale.

The mean score for the achievement scale is 21.5971 with a standard deviation of 2.6858. The mean scale score falls between the 70th and 75th percentiles indicating that high school principals have an average degree of satisfaction with the achievement scale.

The mean score for the activity scale is 21.7194 with a standard deviation of 2.6321. The mean scale score falls between the 65th and 70th percentiles indicating that high school principals have an average degree of satisfaction with the activity scale.

Research Question 4

How do high school principals in Pennsylvania compare to the national norms of the Minnesota Satisfaction Questionnaire white collar: professional engineers. General satisfaction means are compared between randomly selected high school principals in Pennsylvania with the general satisfaction means of engineers. The general satisfaction mean score for high school principals is 79.8623 and the general satisfaction mean for engineers is 78.97. The appropriate t – test is a one sample t – test. The statistical hypothesis is:

$$H0: \mu = 78.97$$

$$H1: \mu \neq 78.97$$

The decision rule is to reject H0 at the .05 level of significance if t equals or is more positive than 1.960 or if t equals or is more negative than -1.960 given df = 137.

Table 28 shows that the value of t = 1.108 with the df = 137 significant at .270 (2-tailed). The decision is to retain H0 at the .05 level of significance because t = 1.108 is less positive than 1.960. The interpretation is that there is no significant difference between the general satisfaction means of high school principals and engineers. Table 28 shows the data for the one sample t-test.

Research Question 5

What are the levels of intrinsic and extrinsic job satisfaction of high schools principals?

Table 22 describes the frequency distribution of the intrinsic satisfaction scale. The mean score for the intrinsic satisfaction scale is 50.0507 with a standard deviation of 5.5412. Using the normative data for engineers the mean score of 50.0507 falls between the 55th and 60th percentile. This would indicate that as a group high school principals in

Pennsylvania have an average level of intrinsic satisfaction. Further analysis reveals that of the principals who have participated in this study 17 (12.31%) reported low levels of intrinsic satisfaction; 79 (57.25%) reported average levels of intrinsic satisfaction; and 42 (30.43%) reported high levels of intrinsic satisfaction.

Table 24 describes the frequency distribution of the extrinsic satisfaction scale. The mean score for the extrinsic satisfaction scale is 21.7554 with a standard deviation of 4.3453. Using the normative data for engineers the mean score of 21.7554 falls between the 45th and 55th percentile. This would indicate that as a group high school principals in Pennsylvania have an average level of extrinsic satisfaction. Further analysis reveals that of the principals who have participated in this study 25 (17.98%) reported low levels of extrinsic satisfaction; 60 (43.17%) reported average levels of extrinsic satisfaction; and 54 (34.85%) reported high levels of intrinsic satisfaction.

Conclusions

Various researchers and many studies (Adams 1963; Alderfer 1972; Herzberg 1959; Lawler & Wanous 1972; Maslow 1954; McGregor 1960; O'Malley 2004; Solomon 2004;) have explored motivation and job satisfaction of workers. Various studies conclude however, that little attention has been paid to the job satisfaction of administrators (Bacharach & Mitchell 1983, Friesen, et al, 1983). This research tried to add to the knowledge base of educational leadership by exploring the job satisfaction of high school principals in Pennsylvania.

This study concluded that as a group high school principals in Pennsylvania have an average level of general job satisfaction. Similar results were found with the research of Eckman (2004) where in high school principals experienced only moderate levels of

job satisfaction. The findings of Stemple (2004) indicated that high school principals in Virginia were generally satisfied with their jobs. Malone, Sharp, and Walter (2001) found that 34% of Indiana principals rated their job satisfaction as very high while 57% rated their job satisfaction as high. Waskiewicz (1999) found high school assistant principals to be only marginally satisfied with their jobs while Sutter (1996) found assistant principals had higher levels of job satisfaction if they felt they were making accomplishments on the job. O'Malley (2004) found that the level of job satisfaction among the respondents fell at the higher end of the job satisfaction range. Johnson and Holdaway (1994) conducted a study of elementary and junior high school principals in Alberta, Canada concerning their job satisfaction and found that the principals who participated in this study expressed moderately high to high overall job satisfaction. Newby (1999) found middle school principals in Virginia to be satisfied with their jobs.

This study explored the relationship between general job satisfaction and ten demographic variables that included: age; gender; levels of education; number of assistant principals; ethnicity; salary level; years of experience; years in current school district; school socio-economic level; and school size. The study asked the question does the independent variable (demographic variable) affect the levels of the dependent variable (general job satisfaction). Analysis of variance showed that only one demographic variable (age) had an effect on the general job satisfaction levels of high school principals. Using the squared curvilinear correlation coefficient (eta-square) and employing Cohen's rule of thumb for effect size this research suggests that the independent variable of age has more than a medium effect size on the dependent variable of general job satisfaction.

This research studied the degree of satisfaction expressed by high school principals with each of the twenty sub-factors (scales) of job satisfaction as measured by the Minnesota Satisfaction Questionnaire. Percentile scores were calculated for each of the sub-factors (scales). Percentile scores of 75 or greater indicate a high degree of satisfaction; scores between 25 and 75 indicate average satisfaction; and a score of less than 25 indicates a low level of satisfaction.

Although all sub-factors (scales) had percentile scores that indicated average satisfaction or a high degree of satisfaction, high school principals reported extrinsic sub-factors (scales) as being less satisfying than intrinsic sub-factors. Six out of the seven lowest rated scales were extrinsic.

The compensation scale (the amount of pay for the amount of work I get done) had the lowest percentile score among high school principals with a score between thirty and thirty-five percent. Although this still indicates an average satisfaction with compensation as a group a large number of high school principals were not satisfied with their compensation. Nearly thirty-one percent showed a low satisfaction with pay. The recognition scale (the praise I receive for doing a good job) had a percentile score between thirty-five and forty-five percent. Nearly twenty-nine percent of the high school principals reported low satisfaction with the praise they receive for doing a good job. The supervision (human relations) scale (the way the boss manages the employees) had a percentile score between thirty-five and forty-five percent. Nearly twenty-five percent of the high school principals reported a low satisfaction in the way the boss manages the employees. The company policies and procedures scale (the way company policies are put into practice) scored between forty and forty-five percent. Over fifteen percent of

high school principals reported low satisfaction with the way company policies are put into practice. The supervision (technical) scale (the competence in the supervisor in making decisions) had a percentile score between forty and fifty percent. Over twenty percent of the high school principals reported a low satisfaction with the competence in the supervisor in making decisions. The advancement scale (the chance for progression) had a percentile score between fifty and sixty percent. Nearly twelve percent of the high school principals reported low satisfaction with the chance for advancement.

Herzberg's theory (Herzberg 1966; Herzberg, et al, 1959) suggests that hygiene factors (extrinsic factors) are related to the context or environment of the job. Hygiene factors (extrinsic factors) are related to job dissatisfaction because of a need to avoid unpleasantness. Herzberg considered hygiene issues to be company and administrative policies, supervision, salary, working conditions, and interpersonal relations. If hygiene issues are absent or mishandled they can only lead to dissatisfaction. Herzberg argues that before employee satisfaction and motivation are possible hygiene issues must first be met. This study is consistent with Herzberg's concept of hygiene factors (extrinsic factors). High school principals in Pennsylvania scored extrinsic factors lower than intrinsic factors.

High school principals reported average to high satisfaction on the intrinsic scales. The highest reported scores came from ability utilization scale (the chance to do something that makes use of my abilities) with a reported percentile score between seventy five and eighty percent; social service scale (the chance to do things for other people) with a reported percentile score between seventy five and eighty percent; responsibility scale (the freedom to use my judgment) with a reported percentile score

between seventy five and eighty percent; and authority (the chance to give direction to other people) with a reported percentile score between eighty percent and eighty five percent. The independence scale was the one intrinsic sub-factor (scale) that did not have as high a percentile score as the others. The independence scale (the chance to work alone on the job) had a percentile score between thirty and forty percent, ranking them slightly ahead of compensation. Nearly thirty seven percent of the high school principals reported a low satisfaction with the chance to work alone on the job.

Herzberg's theory (Herzberg 1966; Herzberg, et al, 1959) contends that motivators (intrinsic factors) create satisfaction by fulfilling individual needs for meaning and personal growth. Motivators (intrinsic factors) led to job satisfaction because of a need for growth and self-actualization. This study is consistent with Herzberg's concept of motivator factors (intrinsic factors). High school principals in Pennsylvania scored intrinsic factors higher than extrinsic factors.

This study compared the general job satisfaction levels of high school principals with the general job satisfaction of professional engineers. General satisfaction means were compared between the two groups. The general satisfaction mean score for high school principals is 79.8623 and the general satisfaction mean score for professional engineers was 78.97. At-test determined that there is no significant difference between the general satisfaction means of high school principals and professional engineers. Solomon (2004) used at-test to compare the means of the general job satisfaction of engineers and superintendents in affluent districts in New Jersey. His research found no statistical differences between the two groups in general job satisfaction. O'Malley (2004) used at-test to compare means of the general job satisfaction of engineers and

superintendents in Hunterdon and Somerset counties in New Jersey. His research found there was a significant difference between the two groups in general job satisfaction.

This research investigated the levels of intrinsic and extrinsic job satisfaction among high school principals in Pennsylvania. The Minnesota Satisfaction Questionnaire does not have normative data that describes intrinsic and extrinsic satisfaction levels for high school principals. Normative data for professional engineers was used. Using the normative data for engineers, high school principals in Pennsylvania have an average level of intrinsic satisfaction. Solomon (2004) reported a high level of intrinsic job satisfaction among the superintendents in affluent districts in New Jersey. O'Malley (2004) suggests that intrinsic job satisfaction for Somerset and Hunterdon County superintendents is high.

Using the normative data for professional engineers high school principals in Pennsylvania have an average level of extrinsic satisfaction. Solomon (2004) reported a very high level of extrinsic job satisfaction among the superintendents in affluent districts in New Jersey. O'Malley (2004) reported that superintendents are less satisfied with the extrinsic aspects of their jobs.

Drake and Roe (2003) wrote of the numerous reports that make today's principal the focal point in education more than in any time in history, and suggested that the principal's educational leadership ability is an important solution to bringing this country's schools to excellence. Krug (1992), Austin (1979), Sybouts and Wendel (1994, and Lazotte (1992) argue that the principal is critical for effective schools.

The studying of job satisfaction allows us to understand both the positive and negative aspects of the principal's job. It allows us to identify those variables that are

relevant to the position which bring satisfaction to the work. School boards and superintendents may find this research useful. The lack of highly qualified principals is placing a hardship on local school boards. Understanding what facets of the job provide satisfaction and dissatisfaction may lead school boards and superintendents to re-evaluate the principalship and make it more attractive to candidates.

Implications for Practice and Policy

This study determined the overall levels of general job satisfaction and intrinsic and extrinsic levels of job satisfaction of high school principals in Pennsylvania. The study also described the relationship of job satisfaction to a variety of demographic variables.

Superintendents can use this study as a starting point to explore the relationship between the superintendent and principal. The Minnesota Satisfaction Questionnaire long form provides data on the job satisfaction of principals and sub-factors of co-workers, supervision (human relations) and supervision (technical).

The co-worker's sub-factors explore the way co-workers interact. The superintendent can see reflect on his relationship with his/her principals and use it as a starting point to improve that association. The supervision (human relations) sub-factor identifies the way the superintendent manages his/her subordinates. A superintendent who is able to effectively manage subordinates may cut down on employee's turnover and absenteeism and increase productivity. The supervision (technical) describes the competence of the superintendent in making decisions. Superintendents need their principals and school community to trust in his/her decision making.

Principals can use this study to help in the identifying of their satisfactions and dissatisfactions of their jobs and then asking the question why. This type of reflective

practice will enable principals to better address their needs for personal growth and help them with establishing enriching goals.

Securing highly qualified principals to lead our country's schools to excellence will be a formidable challenge in the years to come. This study can be used by school boards as a beginning to understand the motivations behind high school principals and establishing district policies of realistic expectations and compensations for the position. Avoiding principal turnover and attracting highly qualified individuals to lead schools will be a focus of superintendents and school boards. Understanding the positive and negative aspects of the job would be beneficial in selecting the appropriate candidate.

There has been recent discussion in the state legislature of making superintendents at-will employees and removing tenure from the principalship. The state legislature needs to study this issue without regard to the political environment.

Recommendations for Further Study

1. The focus of this research was high school principals in Pennsylvania with responsibilities for students in grades nine to twelve. Further research can explore the job satisfaction of middle school principals and elementary school principals in Pennsylvania.

2. The Minnesota Satisfaction Questionnaire long form was the instrument used to collect data for this study. Questionnaires are inherently non-empathic. The Minnesota Satisfaction Questionnaire long form provides the researcher with a wealth of statistical data. However, the richness of the data lacks understanding. Qualitative studies exploring the job satisfaction of principal's can enrich the knowledge base and answer

the question why. Studies using different instruments may add insights to the job satisfaction of principals.

3. The methodology used for this study was a mailing of surveys resulting in approximately a 46.23% response rate. A study using the internet to solicit responses might improve participation rates.

4. Additional variables can be studied to expand the knowledge base. No Child Left Behind Act became law in January, 2002. A study looking at the relationship between principal job satisfaction and the variables of adequate yearly progress (AYP) and graduation rates should be studied. Principals my change school districts during there tenure as an administrator. The relationship of multiple principalships and job satisfaction can also be explored.

5. Research suggests that it is becoming more difficult to fill administrative positions with highly qualified individuals. A study focusing on why there is a lack of highly qualified individuals is needed.

6. A study of job satisfaction among other school administrators.

7. A qualitative study exploring the relationship and the interaction of the principal with assistant principals, teachers, support staff, and superintendents can add additional meaning to the knowledge base of job satisfaction.

References

Adams, J. S. (1963). Toward an understanding of inequity. *Journal of Abnormal and Social Psychology, 67,* 422-436.

Alderfer, C. P. (1972). *Existence, relatedness, and growth; Human needs in organizational settings.* New York: Free Press.

Alderfer, C. P., & Brown, L. D. (1975). *Learning from changing: Organizational diagnosis and development.* Beverly Hills: Sage Publications.

AllPsych Online. (February 21, 2005). Psychology Dictionary. In *AllPsych Online* (2004). Retrieved February 21, 2005, from Heffner Media Group, Inc. Web Site: http://allpsych.com/

Austin, G. (1979). Exemplary schools and the search for effectiveness. *Educational Leadership, 37*(1), 10-14.

Bacharach, S. B., & Mitchell, S. M (1983). The sources of dissatisfaction in educational administration: A role specific analysis. *Education Administrative Quarterly, 19*(1), 101- 128.

Berkowitz, L. (Ed.). (1965). *Advances in experimental social psychology.* New York: Academic Press.

Blackman, M. C., & Fenwick, L. T. (2000, March 29). Looking for leaders in a time of change. *Education week,* pp. 68-69.

Bolman, L. G., & Deal, T. E. (1997). *Reframing organizations* (2nd ed.). San Francisco: Jossey-Bass Publishers.

Brief, A. P. (1998). *Attitudes in and around organizations.* Thousand Oaks, CA: SAGE Publications.

Bush, G. W. (September 9, 2003). *Remarks by the President on education.* Retrieved November 24, 2004, from The White House Web Site: http://www.whitehouse.gov/news/releases/2003/09/20030909-3.html

Business Open Learning Archive. (n.d.). *Motivation, Equity, Rewards.* Retrieved December 26, 2004, from http://www.brunel.ac.uk

Castillo, J. X., & Cano, J. (2004). Factors explaining satisfaction among faculty. *Journal of Agricultural Education, 45*(3), 65-74.

Chapman, A. (2002). *Adams Equity Theory.* Retrieved December 26, 2004, from http://www.businessballs.com/adamsequitytheory.htm

Chen, K., Blendinger, J., & McGrath, V. (2000). *Job satisfaction among high school assistant principals.* Paper presented at the annual meeting of the Mid-South Educational Research Association, (Bowling Green, KY) November 15-17 2000

Cooley, V. E., & Shen, J. (2003). School accountability and professional job responsibilities: A perspective from secondary school principals. *NASSP Bulletin, 87*(634), 10-25.

Cranny, C. J., Smith, P. C., & Stone, E. F. (1992). *Job Satisfaction.* New York: Lexington Books.

Creative Research Systems. (2003). *Sample size calculator.* Retrieved February 14, 2005, from http://www.surveysystem.com/sscalc.htm

Cross, C. T., & Rice, R. C. (2000). The role of the principal as instructional leader in a standards-drive system. *NASSP Bulletin, 84*(620), 61-66.

Cunningham, J. W. (2000). Introduction to a new journal. *Ergometrika, 1,* 1-23.

Daresh, J.C. (2002). *Where are the future principals?* Paper presented at the annual meeting of the American Educational Research Association (New Orleans, LA April 1-5, 2002)

Dawis, R. V., & Lofquist, L. H. (1990). *A Psychological theory of work ad justment.* Minneapolis, MN: Vocational Psychology Research.

Derlin, R., & Schneider, G. T. (1994). Understanding job satisfaction: Principals and teachers, urban and suburban. *Urban Education, 29*(1), 63-89.

Dillman, D. A. (2000). *Mail and internet surveys: The tailored design method.* New York: John Wiley & Sons.

DiPaola, M., & Tschannen-Morgan, M. (2003). The principalship at crossroads: A study of conditions and concerns of principals. *NASSP Bulletin, 87*(634), 43-65.

Dorming, F. N., & Brown, S. E. (1982). Job satisfaction of high school assistant principals as related to their perceptions of principal's behavior as leaders. *Perceptual and Motor Skills, 55*(2), 387-390.

Dowling, W. F. (1971). An interview with Fredrick Herzberg: Managers or animal trainers. *Management Review, 60*(7), 2-16.

Drake, T. L., & Roe, W. H. (2003). *The Principalship* (6th ed.). Upper Saddle River, New Jersey: Merrill Prentice Hall.

Eckman, E.W. (2004). Similarities and differences in role conflict, role commitment, and job satisfaction for female and male high school principals. *Educational Administrative Quarterly 40*(3), 366-387.

Education Commission of the States. (2003). *Helping state leaders shape education policy*. Retrieved August 23, 2003, from http://www.ecs.org/html/issue.asp?issueid=195

Ettore, B. (1994). Give me satisfaction. *Management Review, 83*(10), 9-11.

Fansher, T. A., & Buxton, T. A. (1984). Job satisfaction profile of the secondary school principal in the United States. *NASSP Bulletin, 68*(468), 32-39.

Friesen, D., Holdaway, E. A., & Rice, A. W. (1983). Satisfaction of school principals with their work. *Educational Administrative Quarterly, 19*(4), 35-58.

Ganzach, Y. (1998). Intelligence and job satisfaction. *Academy of Management Journal, 41*(5), 526-539.

George, D., & Mallery, P. (2001). *SPSS for Windows step by step: A simple guide and reference 10.0 update* (3rd ed.). Boston: Allyn & Bacon.

Gilman, D. A., & Lanman-Givens, B. (2001). Where have all the principals gone? *Educational Leadership, 58*(8), 72-74.

Goodwin, R.H., Cunningham, M. L., & Childress, R. (2003). The changing role of the secondary principal. *NASSP Bulletin, 87*(634), 25-36.

Gruneberg, M. M. (1979). *Understanding job satisfaction*. London: Macmillan Press LTD.

Hackman, J. R. & Oldman, G.R. (1975). Development of the job diagnostic survey. *Journal of Applied Psychology, 60,* 159-170.

Herzberg, F. (1966). *Work and the nature of man*. New York: Crowell.

Herzberg, F. (1976). *The managerial choice*. Homewood, Il: Dow Jones-Irwin.

Herzberg, F., Mausner, B., & Snyderman, B. B. (1959). *The motivation to work.* New York: Wiley.

Herzberg, F., Mausner, B., Peterson, R., & Capwell, D. (1957). *Job attitudes: Review of research and opinion.* Pittsburgh: Psychological Services of Pittsburgh.

Hoppock, R. (1935). *Job satisfaction.* New York: Harper & Brothers Publishers.

Hulin, C. L., & Smith, P. C. (1964). Sex differences in job satisfaction. In M. Gruneberg (Ed.), *Job satisfaction - A reader* (pp. 175-183). New York: John Wiley & Sons.

Institute for Educational Leadership. (2004). *School leadership for the 21st century initiative*. Retrieved December 26, 2004, from http://www.iel.org/programs/21st.html

Iris, B., & Barret, G. V. (1972). Some relations between job satisfaction and job importance. *Journal of Applied Psychology, 56,* 301-344.

Ironson, G. H., Smith, P. C., Brannick, M. T., Gibson, W. M., & Paul, K. B. (1989) Constitution of a job in general scale: A comparison of global, composite, and specific measures. *Journal of Applied Psychology, 74,* 193-200.

Johnson, J. (2002). A public agenda survey: Staying ahead of the game. *Educational Leadership, 59*(8), 26-30.

Johnson, N. A., & Holdaway, E. A. (1994). Facet importance and the job satisfaction of school principals. *British Educational Research Journal, 20*(1), 17-33.

Jones, B. A. (2001). The superintendent and principal shortage: Points for policy. *Policy Today, 1*, 6.

Kalleberg, A. L. (1977). Work values and jobs rewards: A theory of job satisfaction. *American Sociological Review, 42*(1), 124-143.

Krathwohl, D. R. (1998). *Methods of Educational and Social Science Research* (2nd ed.). New York: Addison-Wesley Educational Publishers.

Krug, S. E. (1992). Instructional leadership: A constructivist perspective. *Educational Administration Quarterly, 28*(3), 430-443.

Lawler, E. E. (1973). *Motivation in Work Organizations*. Monterey, CA: Brooks/Cole.

Lawler, E. E., & Porter, L. W. (1967). The effect of performance on job satisfaction. In M. Gruneberg (Ed.), *Job satisfaction: A reader* (pp. 207-217). New York: John Wiley & Sons.

Lawler, E. E., & Wanous, J.P. (1972). Measurement and meaning of job satisfaction. *Journal of Applied Psychology, 56*(2), 95-105.

Lawler, E. E., Nadler, D., & Cammann, C. (1980). Evaluation. In Lawler, E. E., Nadler, D., & Cammann, C. (Eds.), *Organizational assessment* (pp. 321-348). New York: John Wiley and Sons.

Lazotte, L. W. (1992). Principal insights from effective schools. *Education Digest, 58*(3), 14-17.

Lindner, J. R. (1998). Understanding employee motivation. *Journal of Extension, 36*(3),.

Locke, E. A. (1965). The relation to task success to task satisfaction. *Journal of Applied Psychology, 49,* 379-385.

Locke, E. A. (1969). What is job satisfaction? *Organizational behavior and human performance, 4*(4), 309-327.

Locke, E. A. (1976). The nature and causes of job satisfaction. In M.D. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp. 1297-1349). Chicago: Rand McNally.

Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation. *American Psychologist, 57*(9), 705-716.

Locke, E. A., Latham, G. P. (1990). *A theory of goal setting & task performance.* Englewood Cliffs, N.J.: Prentice Hall.

Locke, E.A. (1984). Job Satisfaction. In M. Grueneberg and T Wall (Eds.), Social psychology and organizational behavior (pages 93-117). New York: John Wiley and Sons.

Lowry, R. J. (Ed.). (1973). *Dominance, self-esteem, self actualization: germinal papers of A.H. Maslow.* Monterey, CA: Brooks/Cole.

Malanowski, R. J. (1999). A study of job satisfaction among urban superintendents in New Jersey. Unpublished doctoral dissertation, Seton Hall University, New Jersey.

Malone, B. G., Sharp, W. L., & Thompson, J.C. (October 25-28, 2000). *Paper presented at the annual meeting of the Mid-Western Educational Research Association.* Chicago, ILL.

Malone, B. G., Sharp, W. L., & Walter, W. L. (October 24-27, 2001). *Paper presented at the annual meeting of the Mid-Western Educational Research Association.* Chicago, ILL.

Maslow, A.H. (1954). *Motivation and personality.* New York: Harper & Row.

Maslow, A.H., Stephens, D. C., & Heil, G. (1998). *Maslow on Management.* New York: John Wiley.

Maxcy, S. (1991). *Educational leadership a critical pragmatic perspective.* New York: Bergin and Garvey.

Mayo, E. (1946). *The human problems of an industrial civilization* (2nd ed.). Boston: Harvard University.

McClelland, D. C. (1985). *Human motivation.* Glenview, Ill.: Scott, Foresman.

McClelland, D. C., & Burnham, D. H. (2003). Power is the great motivator. *Harvard Business Review, 81*(1), 117-127.

McGregor, D. (1960). *The human side of enterprise.* New York: McGraw-Hill.

Metropolitan Life Insurance Company. (2003). *Survey shows disconnect in how principals, teachers, parents, and students view school leadership.* Retrieved December 15, 2004, from http://www.metlife.com

Miskel, C., Glassnapp, D., & Hatley, R. (1975). A test of the inequity theory for job satisfaction using educator's attitudes toward work motivation and work incentives. *Educational Administrative Quarterly, 11*(1), 38-54.

Muchinsky, P.M. (1977). Employee absenteeism: A review of the literature. *Journal of Vocational Behavior*, 10, 316-340.

Mumford, E. (1972). *Job Satisfaction.* London: Longman.

National Association of Secondary School Principals. (2001). *The principal shortage.* Retrieved September 28, 2003, from http://www.principals.org/advocacy/shortage.cfm

National Association of Secondary School Principals. (2003). *National Association of Secondary School Principals.* Retrieved September 28, 2003 from http://www.principals.org

Neff, W. S. (1968). *Work and human behavior.* New York: Atherton Press.

Newby, J. E. (1999). *Job satisfaction of middle school principals in Virginia.* Unpublished doctoral dissertation, Virginia Tech University, Virginia.

Ohio Center for Effective Schools. (2003). *Effective school correlates.* Retrieved October 29, 03, from http://www.effective-schools.com

O'Malley, R. J. (2004). *A study of perceived job satisfaction factors among superintendents in two New Jersey counties.* Unpublished doctoral dissertation, Seton Hall University, New Jersey.

Palmore, E. (1969). Predicting longevity: A follow-up controlling for age. *The Gerontologist, 9,* 247-250.

Pennsylvania Department of Education. (2004). *Pennsylvania Department of Education.* Retrieved February 10, 2005, from Pennsylvania Department of Education Web Site: http://www.pde.state.pa.us

Pennsylvania School Boards Association (2003). Retaining qualified teachers and administrators. *Information Legislative Service, 41*(35), 8-9.

Porter, L. W., & Lawler, E. E. (1968). *Managerial attitudes and performance.* Homewood, Illinois: Richard D. Irwin, Inc. and The Dorsey-Press.

Portin, B. S., Shen, J., & Williams, R. C. (1998). The changing principalship and its impact: Voices from principals. *NASSP Bulletin, 82*(602), 1-5.

Prelip, M. L. (2001). Job satisfaction in health education and the value of credentialing. *American Journal of Health Education, 32*(1), 26-30.

Principals.org. (n.d.). *Study confirms powerful link between the principal and school success.* Retrieved December 26, 2004, from National Association of Secondary School Principals Web Site: http://nasspcms.principals.org/s_nassp/sec_news.asp

Raosoft. (2004). *Sample size calculator*. Retrieved February 14, 2005, from http://www.raosoft.com/samplesize.hml

Rayfield, R., & Diamantes, T. (2004). Task analysis of the duties performed in secondary school administration. *Education, 124*(4), 709-713.

Richford, M. L., & Fortune, J. C. (1984). The secondary principal's job satisfaction in relation to two personality constructs. *Education, 105*(1), 17-20.

Saleh, D. D., & Otis, J. L. (1964). Age and level of job satisfaction. In M. Gruneberg (Ed.), *Job satisfaction - a Reader* (pp. 169-174). New York: John Wiley & Sons.

Schwab, D. P., & Wallace, M. J. (1974). Correlates of employee satisfaction with pay. In M. Gruneberg (Ed.), *Job satisfaction - A reader* (pp. 115-128). New York: John Wiley & Sons.

Seijts, G. H. (2001). Setting goals. *Ivey Business Journal, 65*(3), 40-45.

Sergiovanni, T. J. (1996). *Leadership for the schoolhouse*. San Francisco: Jossey-Bass.

Shen, J., & Crawford, C. S. (2003). Introduction to the special issue: Characteristics of the secondary principal. *NASSP Bulletin, 87*(634), 2-8.

Smith, P. C., Kendall, L. M., & Hulin, C. L. (1969). *The measurement of satisfaction in work and retirement*. Chicago: Rand McNally.

Solomon, G. M. (2004). *A study of perceived job satisfaction among superintendents in affluent (DFG I & J) public school districts in New Jersey*. Unpublished doctoral dissertation, Seton Hall University, New Jersey.

Spector, P. E. (1985). Measurement of human service staff satisfaction: Development of the job satisfaction survey. *American Journal of Community Psychology, 13*, 693-713.

Spector, P. E. (1997). *Job satisfaction.* Thousand Oaks, CA: Sage Publications

Stemple, J.D. (2004). *Job Satisfaction of High School Principals in Virginia. (Doctoral dissertation.* Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University, Virginia.

Stockard, J., & Lehman M, B. (2004). Influences on the satisfaction and retention of 1st year teachers. *Educational Administrative Quarterly, 40*(5), 742-771.

Stricherz, M. (2001). Despite retirements, "Baby Busters" scarce in principal's position. *Education Week, 21,* 6.

Sutter, M. R. (1996). What do we know about the job and career satisfaction of secondary school assistant principals? *NASSP Bulletin, 80*(579), 108-114.

Sybouts, W., & Wendel, F. G. (1994). *The training and development of school principals.* Westport, CT: Greenwood press.

Thompson, D. P., McNamara, J. F., & Hoyle, J. R. (1977). Job satisfaction in educational organizations: A synthesis of research findings. *Educational Administration Quarterly, 33*(1), 7-37.

Tracy, G., & Weaver, C. (2000). Aspiring leaders academy: Responding to the principal shortage. *NASSP Bulletin, 84*(618), 75-84.

United States Department of Education. (n.d.). No child left behind: A new era in education. Retrieved August 29, 2003 from United States Department of Education Web Site: http://www.ed.gov/nclb/overview/intro/presentation

Vroom, V. H. (1960). *Some personality determinants of the effects of participation.* Englewood Cliffs, New Jersey: Prentice Hall.

Vroom, V. H. (1964). *Work and motivation.* New York: John Wiley & Sons.

Vroom, V. H., & Jago, A.G. (1988). *The new leadership: Managing participation in organizations.* Englewood Cliffs: Prentice Hall.

Vroom, V. H., & Yetton, P. W. (1973). *Leadership and decision-making.* Pittsburgh: University of Pittsburgh Press.

Walker, C.R., & Guest, R.H. (1952). The man on the assembly line. In M. Gruneberg (Ed.), *Job satisfaction - A reader* (pp. 69-89). New York: John Wiley & Sons.

Waskiewicz S. P, (1999) *Variables that contribute to job satisfaction of secondary school assistant principals.* Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University, Virginia.

Weiss, D. J., Dawis, R. V., England, G. W., Lofquist, L. H. (1967). Manual for the Minnesota Satisfaction Questionnaire (Minnesota Studies in Vocational Rehabilitation, No. 22) University of Minnesota, Minneapolis.

Whitaker, K. (2001). Where are the principal candidates? Perceptions of superintendents. *NASSP Bulletin, 85*(625), 82-92.

Wikipedia. (2004). *Hawthorne studies.* Retrieved December 29, 2004, from http://www.wikipedia.com

Witte, R. S., & Witte, J. S. (2001). *Statistics* (6th ed.). Orlando: Harcourt College Publisher.

Wright, M., & Custer, R. (1998). Why they enjoy teaching: The motivation of outstanding technology teachers. *Journal of Technology Education, 9*(2), . Retrieved December 27, 04, from Digital Library and Archives Web Site: http://scholar.lib.vt.edu/ejournals/JTE/jte-v9n2/wright.html

Wooster, M. M. (1991). First principals. *Policy Review, 57,* 55-59.

Appendix A
Random Sampling Data

Population Range: [1. 345]
Numbers per set: 225
Number of Sets: 1
Seed: 9,448,108,276,922,705,100

1	2	42	62	83	124	124	189
2	3	43	65	84	126	125	190
3	4	44	66	85	127	126	191
4	7	45	67	86	128	127	192
5	9	46	68	87	129	128	193
6	10	47	71	88	130	129	195
7	12	48	73	89	131	130	196
8	13	49	74	90	132	131	197
9	14	50	75	91	135	132	199
10	16	51	78	92	139	133	200
11	18	52	79	93	140	134	201
12	20	53	80	94	142	135	202
13	22	54	82	95	143	136	204
14	23	55	84	96	146	137	205
15	24	56	85	97	148	138	207
16	25	57	86	98	149	139	208
17	26	58	87	99	151	140	211
18	27	59	89	100	153	141	212
19	28	60	90	101	154	142	218
20	31	61	92	102	155	143	223
21	32	62	93	103	156	144	224
22	33	63	94	104	158	145	225
23	34	64	96	105	159	146	229
24	35	65	97	106	161	147	230
25	36	66	98	107	163	148	231
26	39	67	99	108	164	149	234
27	40	68	100	109	166	150	235
28	41	69	101	110	167	151	236
29	42	70	102	111	168	152	238
30	45	71	108	112	170	153	239
31	46	72	109	113	171	154	240
32	47	73	111	114	173	155	241
33	48	74	112	115	174	156	242
34	51	75	113	116	177	157	243
35	53	76	114	117	178	158	246
36	54	77	116	118	179	159	247
37	55	78	117	119	182	160	248
38	56	79	118	120	183	161	249
39	57	80	119	121	184	162	250
40	60	81	120	122	185	163	253
41	61	82	123	123	186	164	254

165	255	177	274	189	289	201	306
166	256	178	275	190	290	202	307
167	257	179	276	191	291	203	308
168	258	180	277	192	292	204	309
169	260	181	279	193	293	205	311
170	261	182	280	194	298	206	312
171	263	183	281	195	299	207	313
172	264	184	282	196	301	208	315
173	265	185	283	197	302	209	319
174	269	186	284	198	303	210	320
175	272	187	285	199	304	211	322
176	273	188	287	200	305	212	323

Appendix B
Cover Letter

SETON HALL UNIVERSITY

8 5 6

Dear High School Principal:

I am a doctoral candidate in the College of Education and Human Services, Department of Educational Administration and Supervision at Seton Hall University. I am writing a doctoral dissertation entitled "A Study of Job Satisfaction Among High School Principals in Pennsylvania." I am also the high school principal for Central Columbia High School in Bloomsburg, PA.

The purpose of this research is to study the job satisfaction of high school principals in Pennsylvania and the relationship of a variety of demographic variables. The results of this study will provide information of interest to current secondary principals, superintendents, and local school boards. The study will also expand the research base in the field of education.

I am writing to ask that you participate in this study. Participation in this study includes filling out a questionnaire and a demographic data form. The two forms should take about 15 minutes to complete. The Minnesota Satisfaction Questionnaire is the survey instrument that will be used in this study. Please do not fill out page 2 of the Minnesota Satisfaction Questionnaire.

Your participation in this study is voluntary and all material that is completed will be kept confidential and secure by this researcher. Data will be stored electronically on a secure memory stick and secure home computer that is not linked to the internet. (Computer will be proprietary for the dissertation research.) Written surveys and demographic data sheets will be secured in a locked file box.

All surveys and demographic data forms will remain strictly confidential. The demographic data form is coded to identify the questionnaire for the purpose of allowing a follow-up mailing to those high school principals who did not respond to the initial mailing. Results will be discussed with my mentor. Under no circumstances will data be published which identifies the participants. There are no risks and no direct benefit for the participant.

Returning the completed survey indicates that you understand the nature of this research and voluntarily consented to participate. It is assumed that by reading this letter and completing the survey all of your questions were answered satisfactorily. If you would like to participate and do have questions you can contact me by calling 570-784-9693 or emailing me at rlombard@ccsd.cc. Questions can also be addressed by calling my mentor, Dr. Joseph Stetar, at 973-275-2730 or emailing him at stetarjo@shu.edu.

I would appreciate it if you would complete the enclosed questionnaire and demographic data form and return it in the self addressed envelope provided by June 30, 2005. Your participation is greatly appreciated and all data will be destroyed after 3 years. If you wish not to participate please disregard the survey and data form.

Thank you in advance for your time, cooperation, and support.

Sincerely,

Robert Lombardo
Doctoral candidate

APPROVED

MAY 25 2005

IRB

SETON HALL UNIVERSITY

College of Education and Human Services
Executive Ed.D. Program
Tel 973 275 2728
400 South Orange Avenue • South Orange, New Jersey 07079-2685

Appendix C
Demographic Data Form

Demographic Data Form

Please respond to each item by checking (x) the appropriate box.

Code

1. Gender:
   - ☐ Male
   - ☐ Female

2. Age on your last birthday:
   - ☐ under 35
   - ☐ 36 - 45
   - ☐ 46 - 55
   - ☐ 56 - 65
   - ☐ over 65

3. Ethnicity:
   - ☐ American Indian/Alaskan
   - ☐ Asian
   - ☐ Black/African American
   - ☐ Hispanic
   - ☐ White

4. Highest level degree obtained:
   - ☐ Bachelors
   - ☐ Masters
   - ☐ Doctorate

5. Salary level:
   - ☐ under $60,000
   - ☐ $60,000 - $69,999
   - ☐ $70,000 - $79,999
   - ☐ $80,000 - $89,999
   - ☐ $90,000 - $99,999
   - ☐ over $99,999

6. Years of administrative experience:
   - ☐ 0 - 7
   - ☐ 8 - 13
   - ☐ 14 - 20
   - ☐ 21 - 27
   - ☐ over 27

7. Number of assistant principals:
   - ☐ 0
   - ☐ 1
   - ☐ 2
   - ☐ 3
   - ☐ over 3

8. Years in current district:
   - ☐ 0 - 7
   - ☐ 8 - 13
   - ☐ 14 - 20
   - ☐ 21 - 27
   - ☐ over 27

9. School size (student population):
   - ☐ under 250
   - ☐ 250–499
   - ☐ 500 - 749
   - ☐ 750 - 999
   - ☐ over 1000

10. Socio economic level of school percentage of free and reduced lunches):
    - ☐ Under 5%
    - ☐ 5% - 14.9%
    - ☐ 15% - 24.9%
    - ☐ 25% - 34.9%
    - ☐ over 34.9%

Appendix D
Corresponding Questions and Numbers of the MSQ

Intrinsic questions

MSQ Short Form Question #	MSQ Long Form Question #	Question
	100	Being able to keep busy all the time
2	24	The chance to work alone on the job
3	25	The chance to different things from time to time
4	28	The chance to be somebody in the community
7	43	Being able to do things that don't go against my conscience
8	51	The way my job provides for steady employment
9	61	The chance to do things for other people
10	66	The chance to tell people what to do
11	67	The chance to do something that makes use of my abilities
15	77	The freedom to use my own judgment
16	82	The chance to try my own methods of doing the job
20	99	The feeling of accomplishment I get from the job

Extrinsic questions

MSQ Short Form Question#	MSQ Long Form Question#	Question
5	30	The way my boss handles his/her employees
6	35	The competence of my supervisor in making decisions
12	69	The way company policies are put into practice
13	72	My pay and the amount of work I do
14	74	The chance for advancement on this job
19	98	The praise I get for doing a good job

Appendix E
Frequency Distributions of the 20 Scales of the MSQ

Frequency Distribution of Social Service

Social Service	n	%	Cumulative %
11.00	1	.7	.7
15.00	1	.7	1.4
16.00	1	.7	2.2
17.00	1	.7	2.9
18.00	1	.7	3.6
20.00	28	20.1	23.7
21.00	10	7.2	30.9
22.00	9	6.5	37.4
23.00	13	9.4	46.8
24.00	19	13.7	60.4
25.00	55	39.6	100.0
Total	139	100.00	

Mean	22.8417
Standard Deviation	2.4884
Range	14.00
Minimum	11.00
Maximum	25.00

Frequency Distribution of Creativity

Creativity	n	%	Cumulative %
10.00	2	1.4	1.4
11.00		.7	2.2
12.00	2	1.4	3.6
14.00	3	2.2	5.8
15.00	1	.7	6.5
16.00	1	.7	7.2
17.00	5	3.6	10.8
18.00	2	1.4	12.2
19.00	9	6.5	18.7
20.00	36	25.9	44.6
21.00	21	15.1	59.7
22.00	15	10.8	70.5
23.00	11	7.9	78.4
24.00	7	5.0	83.5
25.00	23	16.5	100.00
Total	139	100.00	

Mean	20.9137
Standard Deviation	3.1519
Range	15.00
Minimum	10.00
Maximum	25.00

Frequency Distribution of Variety

Variety	n	%	Cumulative %
12.00		.7	.7
13.00	1	.7	1.4
14.00	2	1.4	2.9
15.00		.7	3.6
16.00	1	.7	4.3
17.00	5	3.6	7.9
18.00	8	5.8	13.7
19.00	11	7.9	21.6
20.00	28	20.1	41.7
21.00	25	18.0	59.7
22.00	15	10.8	70.5
23.00	11	7.9	78.4
24.00	15	10.8	89.2
25.00	15	10.8	100.0
Total	139	100.0	

Mean	21.0432
Standard Deviation	2.6399
Range	13.00
Minimum	12.00
Maximum	25.00

Frequency Distribution of Authority

Authority	n	%	Cumulative %
12.00		.7	.7
13.00		.7	1.4
14.00		.7	2.2
15.00	2	1.4	3.6
16.00	4	2.9	6.5
17.00	9	6.5	12.9
18.00	11	7.9	20.9
19.00	15	10.8	31.7
20.00	35	25.2	56.8
21.00	27	19.4	76.3
22.00	7	5.0	81.3
23.00	9	6.5	87.8
24.00	4	2.9	90.6
25.00	13	9.4	100.0
Total	139	100.0	

Mean	20.2734
Standard Deviation	2.5786
Range	13.00
Minimum	12.00
Maximum	25.00

Frequency Distribution of Ability Utilization

Ability Utilization	n	%	Cumulative %
10.00	2	1.4	1.4
12.00	2	1.4	2.9
13.00	1	.7	3.6
15.00	3	2.2	5.8
16.00	2	1.4	7.2
18.00	7	5.0	12.2
19.00	6	4.3	16.5
20.00	40	28.8	45.3
21.00	12	8.6	54.0
22.00	15	10.8	64.7
23.00	6	4.3	69.1
24.00	16	11.5	80.6
25.00	27	19.4	100.0
Total	139	100.0	

Mean	21.2446
Standard Deviation	3.1389
Range	15.00
Minimum	10.00
Maximum	25.00

Frequency Distribution of Social Status

Social Status	n	%	Cumulative %
10.00	2	1.4	1.4
13.00	1	.7	2.2
14.00	3	2.2	4.3
15.00	10	7.2	11.5
16.00	7	5.0	16.5
17.00	15	10.8	27.3
18.00	19	13.7	41.0
19.00	14	10.1	51.1
20.00	21	15.1	66.2
21.00	10	7.2	73.4
22.00	3	2.2	75.5
23.00	12	8.6	84.2
24.00	9	6.5	90.6
25.00	13	9.4	100.0
Total	139	100.0	

Mean	19.5180
Standard Deviation	3.3086
Range	15.00
Minimum	10.00
Maximum	25.00

Frequency Distribution of Policies and Procedures

Policies and Procedures	n	%	Cumulative %
6.00	2	1.4	1.4
9.00	3	2.2	3.6
10.00	3	2.2	5.8
11.00	3	2.2	7.9
12.00	5	3.6	11.5
13.00	5	3.6	15.1
14.00	5	3.6	18.7
15.00	7	5.0	23.7
16.00	11	7.9	31.7
17.00	7	5.0	36.7
18.00	11	7.9	44.6
19.00	12	8.6	53.2
20.00	38	27.3	80.6
21.00	11	7.9	88.5
22.00	5	3.6	92.1
24.00	7	5.0	97.1
25.00	4	2.9	100.0
Total	139	100.0	

Mean	17.9281
Standard Deviation	3.9556
Range	19.00
Minimum	6.00
Maximum	25.00

Frequency Distribution of Supervision – Human Relations

Supervision - Human Relations	n	%	Cumulative %
5.00	3	2.2	2.2
7.00	1	.7	2.9
8.00	1	.7	3.6
9.00	4	2.9	6.5
10.00	6	4.3	10.8
11.00	4	2.9	13.7
12.00	6	4.3	18.0
13.00	1	.7	18.7
14.00	3	2.2	20.9
15.00	5	3.6	24.5
16.00	8	5.8	30.2
17.00	10	7.2	37.4
18.00	6	4.3	41.7
19.00	8	5.8	47.5
20.00	17	12.2	59.7
21.00	12	8.6	68.3
22.00	9	6.5	74.8
23.00	7	5.0	79.9
24.00	6	4.3	84.2
25.00	22	15.8	100.0
Total	139	100.0	

Mean	18.5252
Standard Deviation	5.2244
Range	20.00
Minimum	5.00
Maximum	25.00

Frequency Distribution of Security

Security	n	%	Cumulative %
10.00		.7	.7
12.00	2	1.4	2.2
14.00		.7	2.9
15.00	2	1.4	4.3
16.00		.7	5.0
17.00	4	2.9	7.9
18.00	5	3.6	11.5
19.00	19	13.7	25.2
20.00	35	25.2	50.4
21.00	16	11.5	61.9
22.00	11	7.9	69.8
23.00	11	7.9	77.7
24.00	16	11.5	89.2
25.00	15	10.8	100.0
Total	139	100.0	

Mean	20.8849
Standard Deviation	2.8055
Range	15.00
Minimum	10.00
Maximum	25.00

Frequency Distribution of Moral Values

Moral Values	n	%	Cumulative %
11.00		.7	.7
13.00		.7	1.4
15.00	1	.7	2.2
16.00	3	2.2	4.3
17.00	5	3.6	7.9
18.00	4	2.9	10.8
19.00	13	9.4	20.1
20.00	34	24.5	44.6
21.00	10	7.2	51.8
22.00	10	7.2	59.0
23.00	19	13.7	72.7
24.00	9	6.5	79.1
25.00	29	20.9	100.0
Total	139	100.0	

Mean	21.4317
Standard Deviation	2.8002
Range	14.00
Minimum	11.00
Maximum	25.00

Frequency Distribution of Independence

Independence	n	%	Cumulative %
10.00	5	3.6	3.6
13.00	3	2.2	5.8
14.00		.7	6.5
15.00	19	13.8	20.3
16.00	14	10.1	30.4
17.00	9	6.5	37.0
18.00	12	8.7	45.7
19.00	7	5.1	50.7
20.00	38	27.5	78.3
21.00	12	8.7	87.0
22.00	2	1.4	88.4
23.00		.7	89.1
24.00	2	1.4	90.6
25.00	13	9.4	100.0
Total	138	100.0	

Mean	18.5942
Standard Deviation	3.4507
Range	15.00
Minimum	10.00
Maximum	25.00

Frequency Distribution of Compensation

Compensation	n	%	Cumulative %
6.00	2	1.4	1.4
7.00	2	1.4	2.9
8.00	2	1.4	4.3
9.00		.7	5.0
10.00	10	7.2	12.2
11.00	8	5.8	18.0
12.00	6	4.3	22.3
13.00	3	2.2	24.5
14.00	5	3.6	28.1
15.00	4	2.9	30.9
16.00	6	4.3	35.3
17.00	6	4.3	39.6
18.00	7	5.0	44.6
19.00	13	9.4	54.0
20.00	34	24.5	78.4
21.00	5	3.6	82.0
22.00	1	.7	82.7
23.00	6	4.3	87.1
24.00	7	5.0	92.1
25.00	11	7.9	100.0
Total	139	100.0	

Mean	17.5468
Standard Deviation	4.9654
Range	19.00
Minimum	6.00
Maximum	25.00

Frequency Distribution of Working Conditions

Working Conditions	n	%	Cumulative %
5.00	2	1.4	1.4
10.00	4	2.9	4.3
11.00	1	.7	5.0
12.00	2	1.4	6.5
13.00	3	2.2	8.6
14.00	3	2.2	10.8
15.00	1	.7	11.5
16.00	2	1.4	12.9
17.00	4	2.9	15.8
18.00	6	4.3	20.1
19.00	6	4.3	24.5
20.00	45	32.4	56.8
21.00	10	7.2	64.0
22.00	4	2.9	66.9
23.00	6	4.3	71.2
24.00	12	8.6	79.9
25.00	28	20.1	100.0
Total	139	100.0	

Mean	20.3881
Standard Deviation	4.1643
Range	20.00
Minimum	5.00
Maximum	25.00

Frequency Distribution of Advancement

Advancement	n	%	Cumulative %
5.00	2	1.4	1.4
7.00	1	.7	2.2
8.00	1	.7	2.9
10.00	6	4.3	7.2
11.00	4	2.9	10.1
12.00	2	1.4	11.5
14.00	7	5.0	16.5
15.00	12	8.6	25.2
16.00	10	7.2	32.4
17.00	9	6.5	38.8
18.00	13	9.4	48.2
19.00	8	5.8	54.0
20.00	35	25.2	79.1
21.00	7	5.0	84.2
22.00	4	2.9	87.1
23.00	2	1.4	88.5
24.00	5	3.6	92.1
25.00	11	7.9	100.0
Total	139.00	100.0	

Mean	18.0288
Standard Deviation	4.2766
Range	20.00
Minimum	5.00
Maximum	25.00

Frequency Distribution of Supervision – Technical

Supervision Technical	n	%	Cumulative %
5.00	2	1.4	1.4
7.00	2	1.4	2.9
8.00		.7	3.6
9.00	2	1.4	5.0
10.00	5	3.6	8.6
12.00	1	.7	9.4
13.00	3	2.2	11.5
14.00	6	4.3	15.8
15.00	6	4.3	20.1
16.00	13	9.4	29.5
17.00	4	2.9	32.4
18.00	3	2.2	34.5
19.00	10	7.2	41.7
20.00	26	18.7	60.4
21.00	12	8.6	69.1
22.00	12	8.6	77.7
23.00	14	10.1	87.8
24.00	7	5.0	92.8
25.00	10	7.2	100.0
Total	139	100.0	

Mean	18.8561
Standard Deviation	4.5708
Range	20.00
Minimum	5.00
Maximum	25.00

Frequency Distribution of Co-Workers

Co-Workers	n	%	Cumulative %
10.00	2	1.4	1.4
11.00	1	.7	2.2
13.00	2	1.4	3.6
14.00	4	2.9	6.5
15.00	2	1.4	7.9
16.00	6	4.3	12.2
17.00	7	5.0	17.3
18.00	7	5.0	22.3
19.00	12	8.6	30.9
20.00	41	29.5	60.4
21.00	16	11.5	71.9
22.00	11	7.9	79.9
23.00	12	8.6	88.5
24.00	6	4.3	92.8
25.00	10	7.2	100.0
Total	139	100.0	

Mean	20.0000
Standard Deviation	3.0527
Range	15.00
Minimum	10.00
Maximum	25.00

Frequency Distribution of Responsibility

Responsibility	n	%	Cumulative %
11.00		.7	.7
13.00		.7	1.4
14.00		.7	2.2
15.00	2	1.4	3.6
16.00	3	2.2	5.8
17.00	3	2.2	7.9
18.00	7	5.0	12.9
19.00	4	2.9	15.8
20.00	41	29.5	45.3
21.00	18	12.9	58.3
22.00	16	11.5	69.8
23.00	14	10.1	79.9
24.00	12	8.6	88.5
25.00	16	11.5	100.0
Total	139	100.0	

Mean	21.0719
Standard Deviation	2.6420
Range	14.00
Minimum	11.00
Maximum	25.00

Frequency Distribution of Recognition

Recognition	n	%	Cumulative %
5.00	1	.7	.7
8.00	2	1.4	2.2
9.00	1	.7	2.9
10.00	5	3.6	6.5
11.00	3	2.2	8.6
12.00	6	4.3	12.9
13.00	3	2.2	15.1
14.00	5	3.6	18.7
15.00	12	8.6	27.3
16.00	8	5.8	33.1
17.00	5	3.6	36.7
18.00	12	8.6	45.3
19.00	11	7.9	53.2
20.00	33	23.7	77.0
21.00	7	5.0	82.0
22.00	3	2.2	84.2
23.00	5	3.6	87.8
24.00	4	2.9	90.6
25.00	13	9.4	100.0
Total	139	100.0	

Mean	18.1367
Standard Deviation	4.3326
Range	20.00
Minimum	5.00
Maximum	25.00

Frequency Distribution of Achievement

Achievement	n	%	Cumulative %
12.00		.7	.7
14.00	2	1.4	2.2
15.00	2	1.4	3.6
16.00	2	1.4	5.0
17.00	4	2.9	7.9
18.00	2	1.4	9.4
19.00	5	3.6	12.9
20.00	29	20.9	33.8
21.00	25	18.0	51.8
22.00	11	7.9	59.7
23.00	14	10.1	69.8
24.00	18	12.9	82.7
25.00	24	17.3	100.0
Total	139	100.0	

Mean	21.5971
Standard Deviation	2.6858
Range	13.00
Minimum	12.00
Maximum	25.00

Frequency Distribution of Activity

Activity	n	%	Cumulative %
13.00		.7	.7
14.00	1	.7	1.4
15.00	2	1.4	2.9
16.00		.7	3.6
17.00	1	.7	4.3
18.00	7	5.0	9.4
19.00	6	4.3	13.7
20.00	34	24.5	38.1
21.00	16	11.5	49.6
22.00	12	8.6	58.3
23.00	14	10.1	68.3
24.00	13	9.4	77.7
25.00	31	22.3	100.0
Total	139	100.0	

Mean	21.7194
Standard Deviation	2.6321
Range	12.00
Minimum	13.00
Maximum	25.00

Appendix F
Percentiles for Employed Non-Disabled Individuals

Percentiles Employed Non Disabled

			19	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	99
Ability Utilization	9	11	14	16	17	18	19							20		21	22	23	24		25
Achievement	10	15	17	18	19							20			21	22	23		24		25
Activity	11	16	18			19							20	21	22		23	24			25
Advancement	5	8	9	10	12	13	14		15	17	18		19					20	21	23	25
Authority	8	14			15		16	17		18		19					20	21	22	24	25
Company policies and procedures	5	9	10	12	13	14	15	16	17	18		19					20	21	22	24	25
Compensation	8	10	12	14	15	16	17	18		19						20	21	22	23	24	25
Co-workers	10	15	17	18	19								20		21		22	23	24		25
Creativity	9	11	14	15	16	17		18	19					20		21	22	23	24		25
Independence	10	14	15	16	17		18		19						20		21	22	23	24	25
Moral Values	14	17	18	19					20				21	22		23		24			25
Recognition	8	10	14		15	16	17	18		19						20	21	22	23	24	25
Responsibility	10	14	16	17		18			19					20		21	22		23	24	25
Security	9	13	15	17	18		19					20		21		22	23		24		25
Social Service	9	14	16	17	18	19							20		21	22	23	24			25
Social Status	10	13	14			15		16	17		18			19				20	21	22	25
Supervision – Human relations	6	9	12	14	15	16	17	18		19					20	21	22	23	24		25
Supervision - technical	7	10	13	14	15	16	17	18		19					20	21		22	23	24	25
Variety	9	12	16	17	18			19					20		21	22		23		24	25
Working Conditions	6	10	12	14	16	17	18	19						20		21	22	23	24		25

Appendix G
Normative Data for Engineers

Percentiles	Intrinsic	Extrinsic
1	16	8
5	36	13
10	40	14
15	42	16
20	44	17
25	45	18
30	46	19
35	47	20
40	48	
45		21
50	49	
55	50	22
60	51	
65		23
70	52	
75	53	24
80	54	
85		25
90	55	26
95	58	27
99	60	29

Intrinsic Mean 48.53 Standard Deviation 7.54
Extrinsic Mean 21.32 Standard Deviation 4.38

Appendix H
Intrinsic and Extrinsic Satisfaction Questions

Intrinsic questions

MSQ Long Form Question #	Question
24	The chance to work alone on the job
25	The chance to different things from time to time
28	The chance to be somebody in the community
43	Being able to do things that don't go against my conscience
51	The way my job provides for steady employment
61	The chance to do things for other people
66	The chance to tell people what to do
67	The chance to do something that makes use of my abilities
77	The freedom to use my own judgment
82	The chance to try my own methods of doing the job
99	The feeling of accomplishment I get from the job
100	Being able to keep busy all the time

Extrinsicquestions

MSQ Long Form Question #	Question
30	The way my boss handles his/her employees
35	The competence of my supervisor in making decisions
69	The way company policies are put into practice
72	My pay and the amount of work I do
74	The chance for advancement on this job
98	The praise I get for doing a good job

Appendix I
General Job Satisfaction Questions

General Job Satisfaction Questions

MSQ Long Form Question#	Question
q24	The chance to work alone on the job
q25	The chance to do different things from time to time
q28	The chance to be "somebody" in the community
q30	The way my boss handles his/her employees
q35	The competence of my supervisor in making decisions
q43	Being able to do things that don't go against my conscience
q51	The way my job provides for steady employment
q61	The chance to do things for other people
q66	The chance to tell people what to do
q67	The chance to do something that makes use of my abilities
q69	The way company policies are put in to practice
q72	My pay and the amount of work I do
q74	The chances for advancement on this job
q77	The freedom to use my own judgment
q82	The chance to try my own methods of doing the job
q93	The working conditions
q96	The way my co-workers get along with each other
q98	The praise I get for doing a good job
q99	The feeling of accomplishment I get from the job
q100	Being able to keep busy all the time