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Measuring Job Satisfaction Among Kentucky Head Principals Using the Rasch Rating Scale Model

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MEASURING JOB SATISFACTION AMONG KENTUCKY HEAD PRINCIPALS USING THE RASCH RATING SCALE MODEL

DISSERTATION

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Education in the College of Education
at the University of Kentucky

By

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ABSTRACT OF DISSERTATION

MEASURING JOB SATISFACTION AMONG KENTUCKY HEAD PRINCIPALS USING THE RASCH RATING SCALE MODEL

The continued expansion of principals' responsibilities is having a detrimental effect on their job satisfaction; therefore, it is increasingly challenging to retain these important leaders. Effective principals can impact student learning and other vital outcomes; thus, it is important to be able to retain effective school leaders. Examining the perceived sources of principals' satisfaction and dissatisfaction with their work has strong implications for policies and practices that can be implemented to increase principal retention.

The purpose of this study was to measure the job satisfaction of head principals in Kentucky. The research conducted was an exploratory study using survey research methods. The study sought to obtain a census sample of all head principals throughout Kentucky's 174 public school districts (*N*=1,158). A total of 478 responses were collected providing a response rate of 41%. A profile of the demographic and personal characteristics of Kentucky principals was constructed, and principals' satisfaction with specified job facets was measured using the Rasch Rating Scale Model (RRSM).

Findings determined that economic job attributes were not significant sources of dissatisfaction for principals in this sample. Principals were also found to be satisfied with psychological job attributes with the exception of the effect of their job on their personal life. Data in this study indicated that head principals in Kentucky were: (a) highly dissatisfied with the amount of hours they work; (b) highly dissatisfied with the amount of time spent on tasks that have nothing to do with their primary responsibility of improving student outcomes; and (c) highly dissatisfied with the lack of time they are able to spend on tasks that are directly related to improving student outcomes. A primary implication of this research was that Kentucky policy makers and superintendents could simultaneously increase principal retention and student outcomes by eliminating managerial job tasks not directly tied to instruction from the principalship so that principals can focus solely on instructional leadership.

KEYWORDS: job satisfaction, principals, retention, Kentucky, Rasch

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CHAPTER 1: INTRODUCTION

From 1960 to the present, education and the role of the school principal have drastically changed due to an increase in societal, political, and economic demands to improve student achievement (Aberli, 2010; Council of Chief State School Officers, 1996; Murphy & Hallinger, 1992). The shift towards accountability for student outcomes spurred what is often referred to as "effective schools research" which focuses on principals and how their role impacts the success of students (Hallinger & Heck, 1996; Heck & Hallinger, 1999; Leithwood, 1994). Researchers have consistently found that while the effects of school leadership on students are largely indirect, the principal is the key to an effective school and student success (Educational Research Service, 2000; Hallinger & Heck, 1996; Heck & Hallinger, 1999; Institute for Educational Leadership, 2000; Leithwood, 1994; Leithwood, Harris, Day, Sammons, & Hopkins, 2007; Leithwood & Jantzi, 2000; Prestine & Nelson, 2005; Waters, Marzano, & McNulty, 2003). These findings helped establish common agreement among educational practitioners, researchers, and policy makers that principals are an integral part of the success of schools and student learning. As school leaders, principals are in a position to shape the goals, direction and structure of schools. Consequently, their decisions and actions influence various school policies, procedures and practices that ultimately impact student outcomes.

Statement of the Problem

While it has become clear the principal impacts student achievement and the success of schools, superintendents across the nation as well as professional principal organizations such as the National Association of Elementary School Principals

(NAESP), the National Middle School Association (NMSA), and the National Association of Secondary School Principals (NASSP) have reported that retaining principals is more difficult now than at any other time (Chapman, 2005; Drake & Roe, 2003; Educational Research Service, 2000). These organizations along with numerous educational researchers have pointed to the need for local, state and federal government, universities, leadership institutes, and professional education associations to develop strategies and policies to retain school principals (Chapman, 2005; Davis, Darling-Hammond, LaPointe, & Meyerson, 2005; Johnson, 2005; Norton, 2003; Rinehart, Winter, Keedy, & Bjork, 2002). Although retention rates vary by state, school type and other factors, a major concern is declining retention rates, and that those retained now serve much shorter tenures before retiring (Jacobson, 2005).

The National Center for Education Statistics recently examined results from the 2008-2009 *Principal Follow-up Survey* and found that retention rates fell 12-15% during the 2007-2008 school year (Battle & Gruber, 2010). The Illinois Education Research Council examined principal retention and found that rates had decreased an average of 8.4% from 2001 to 2008. While lower than some other states, this 8.4% was nearly double the rate found when examining state data from 1987 to 2000 (DeAngelis & White, 2011). Research indicates it takes an average of five years for a school principal to have a substantial impact on student outcomes, thus the problem of retention is further exacerbated in states like Texas and others where only 30% of principals will remain in the same school for five or more years (Fullan & Stiegelberger, 1991; Fuller & Young, 2009). The recent downturn in retention comes at a time when principals are needed the most as these individuals greatly impact student achievement and the success of schools

as organizations (Branch, Hanushek, & Rivkin, 2009; DeAngelis & White, 2011; Wheeler, 2006).

Retention and the Changing Role of the Principal

In many ways, the challenge of retaining principals can be attributed to the role of the school principal having become ill-defined to the point where one single person cannot meet the expectations of the position (Drake & Roe, 2003; Winter & Morganthal, 2001). Over the past several decades, the expectations of principals have become increasingly influenced by legislative and school district mandates, adding incrementally to the job responsibilities without reducing other duties (Rayfield & Diametes, 2004; Winter, Rinehart, Keedy, & Bjork, 2007). Prior to the 1950s, the measure of a good principal was determined by his or her ability to successfully manage day-to-day operations of the school, and the emphasis was accountability for the use of monetary and human resources (Beck & Murphy, 1993). During this time, a successful manager was also viewed as a good leader (Markley, 2008). Now, the role of the principalship has shifted from just being a manager to that of a multifaceted leader. Contem-porary principals must navigate numerous levels of bureaucracy arising from new federal and state legislation, while also acting as instructional and transformational leaders held accountable for student outcomes (Andreyko, 2010). A report conducted by the Educational Research Service (ERS) at the request of the National Association of Elementary School Principals (NAESP) and the National Association of Secondary School Principals (NASSP) supports this depiction of the evolving and challenging role of the principalship:

> Some characterize the position as one that takes a superman or superwoman to do. There is a sense of multiple, often conflicting priorities, and the feeling that not

> everything can be done well. Time is fragmented; principals speak of the intense effort needed to find time to focus on important issues when there are a myriad of administrative tasks that must be done. Often, the leadership aspect of the job is shortchanged (Educational Research Service, 2000, p. 33).

Retention and the Job Satisfaction of the Principal

It has been said, "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 a source of great satisfaction; for others it is the source of great grief" (Herzberg, Mausner, & Snyderman, 1959, p. 3). Job satisfaction is a critical determinate of an individual's decision to stay with an organization, including principals. While the principalship has always included managerial tasks, the complexity and number of tasks required has increased significantly. The principal's role as manager has become a full-time job of creating and enforcing policy, ensuring a safe environment, overseeing discipline, completing necessary paperwork, ensuring compliance with policies and laws, responding to e-mails, and supervising extracurricular activities (DiPaola & Tschannen-Moran, 2003; Winter & Morganthal, 2002). While necessary, these tasks detract from the ability of principals to engage in activities they associate with personal fulfillment and subsequent job satisfaction such as having a positive impact on students, faculty, and community (Metlife, 2001). Furthermore, because litigation or termination of employment can result from mismanagement, principals often have to prioritize management tasks (which in many cases have little or no relationship to improving student achievement) over those they identify as being personally fulfilling (Markley, 2008).

Given the vital role principals have on the success of schools and students, it is important to identify and address the factors that contribute to their job satisfaction.

While there are numerous studies on principal job satisfaction, there are very few large scale studies regarding job satisfaction among school principals in the state of Kentucky (see Aberli, 2010; Riley, 2006; Winter, Rinehart, Keedy, & Bjork, 2001). Specific to Kentucky, educational reforms and initiatives such as the Kentucky Education Reform Act (1990), the State Action for Educational Leadership Policy program (2001), and Senate Bill 1 (2009) have uniquely impacted the principalship and the educational landscape of Kentucky.

The implementation of KERA (1990) led to major organizational changes and produced a "school restructuring web" in Kentucky (Steffy, 1993, p. 10). This restructuring directly impacted the Kentucky principalship due to the development of state-wide performance assessments, increased measurement of student outcomes, greater principal accountability for student performance, the creation of local school councils (Site-Based Decision Making Councils), and mandatory professional development (Riley, 2006). Essentially, Kentucky underwent several of the reforms mandated in the national No Child Left Behind Act (2002) a decade prior to its passage.

The Kentucky principalship has also been uniquely influenced by the State Action for Educational Leadership Policy program (2001), also referred to as SAELP, which was funded by The Wallace Foundation. As stated by The Wallace Foundation (2001):

> States are central players in setting policies and creating conditions necessary for successful leadership, and for preparing future leaders to perform effectively in schools and districts. Yet very few states have a comprehensive plan for improving district and school leadership. Sometimes, state policies may actually limit those efforts (p. 1).

To aid states in the development of strategies and policies to strengthen school leadership, The Wallace Foundation created a national consortium led by the Council of

Chief State School Officers (CCSSO), and included stakeholders such as the National Governor's Association (NGA), the National Conference of State Legislators (NCSL), the National Association of State Boards of Education (NASBE), and the Education Commission of the States (ECS). The Wallace Foundation provided a grant totaling $8.9 million to fund SAELP, and the 15 states selected to participate in the program. Kentucky, as one of these 15 states, was called upon to: (a) establish new requirements for licensing and preparation of school leaders; (b) provide incentives for recruitment and fellowships; and (c) promote creative, effective working dynamics between local leaders and the governing boards that result in better student performance (The Wallace Foundation, 2001, p. 1). To achieve these stated criteria, Kentucky and other members concentrated on activity and knowledge building in six key areas (The Wallace Foundation, 2001, p. 1):

1. Priorities and ways of doing business – assuring that states give high priority to support leadership;

2. The candidate pool – developing state strategies to increase and diversify the pool of candidates for school and district leadership;

3. Education and professional learning – modifying state policies to improve pre-service and professional development programs;

4. Licensure, certification and program accreditation – using state policies to promote better licensing and certification processes for leaders, and improving the accreditation process for higher education-based leadership training programs;

5. Conditions of professional practice – designing and implementing strategies to improve contracting and bargaining practices, salary and compensation programs, performance review processes, and incentive programs for strong leaders;

6. Governance structures – devising state policies and practices to improve the political and governance settings that affect the climate for education leaders.

More recently, educational reform in Kentucky, such as Senate Bill 1 (2009), has

led to the implementation of several educational initiatives designed to impact college readiness and degree completion. Included in these initiatives was a mandate for the Kentucky Council on Postsecondary Education (CPE), the Kentucky Board of Education (KBE), and the Kentucky Department of Education (KDE) to "develop a unified strategy to reduce college remediation rates of recent high school graduates by at least fifty percent by 2014 from the rates in 2010" (Kentucky Department of Education, 2009, p. 1). An example of one of these strategies directly impacting principals in Kentucky includes requiring all schools to offer transitional courses or monitored interventions for any student not meeting stated benchmarks in English and mathematics (Kentucky Department of Education, 2009). Pressure and strict accountability to meet the demands of Senate Bill 1 further add to the demanding role and nature of principals' work and, thus, the challenge of retaining quality principals in Kentucky.

As education continues to rapidly move through various stages of reform (and thus change the role of the principal), there is a need to continually evaluate the effect of these changes on the job satisfaction and retention of principals. Considering the current state of educational reform underway in Kentucky, coupled with upcoming national reform efforts that will alter or replace NCLB (2002) by 2014, further investigation of the job satisfaction of principals in Kentucky is warranted and needed. Such data can provide useful insights into the specific demands of the Kentucky principalship. Without understanding and addressing the perceived sources of principals' satisfaction and dissatisfaction with their work, policy makers, superintendents, and school boards will be unable to retain effective principals (Institute for Educational Leadership, 2000; Sodoma & Else, 2009).

Purpose and Significance

The purpose of this study was to measure job satisfaction of head principals in Kentucky. Effective principals can impact student learning and other vital outcomes; thus, it is important to be able to retain effective school leaders. Examining the perceived sources of principals' satisfaction and dissatisfaction with their work has strong implications for policies and practices that can be implemented to increase principal retention. As such, the research questions of this study seek to uncover sources of satisfaction and dissatisfaction in the principalship.

Objectives and Research Questions

The study constructed a profile of the demographic and personal characteristics of Kentucky principals, and used the Rasch Rating Scale Model (RRSM) to measure participants' satisfaction with specified job facets.

The following research questions were used to guide the study:

1) To what degree are head principals in Kentucky satisfied with economic attributes of their job?
2) To what degree are head principals in Kentucky satisfied with psychological attributes of their job?
3) To what degree are head principals in Kentucky satisfied with tasks and responsibilities associated with their job?

Study Type and Data Analysis

The research conducted was an exploratory study using survey research methods. Rasch measurement analyses (Rasch, 1960) were used to investigate principal's satisfaction with various aspects of their positions. The study surveyed all head

principals (approximately *N*=1,158) throughout Kentucky's 174 public school districts.

Data collection consisted of three phases. First, descriptive statistics were obtained to provide insights regarding those who completed the survey. Second, the psychometric properties of the instrument were evaluated and reported (survey validation). Third, inferences were made using the job satisfaction framework employed for this study and findings from the Rasch analysis.

Framework

The framework employed was grounded in the situational occurrences theory of job satisfaction developed by Quarstein, McAfee, and Glassman (1992). This theory posits that job satisfaction is influenced by two factors: (1) situational characteristics and (2) situational occurrences. As such, the researcher investigated variables of principal job satisfaction categorized as either situational characteristics or situational occurrences. The framework examined three dimensions of principals' job satisfaction: (1) satisfaction with situational characteristics specific to economic variables/benefits associated with the position; (2) satisfaction with situational occurrences specific to psychological needs; and (3) satisfaction with situational occurrences representative of the actual work context, including the tasks and responsibilities performed (See Appendix D).

Assumptions and Limitations

The study used an internet web-based survey instrument to measure the job satisfaction of principals in Kentucky. As such, there were several assumptions to acknowledge. First, the survey instrument was delivered and completed electronically. The researcher assumed all participants had a valid e-mail address, internet access, and would be able to access the survey through the provided link without any compatibility or

technical issues. Because the survey is a self-reporting instrument, it was also assumed persons completing the survey were answering for themselves, and were answering truthfully. Furthermore, it was assumed that principals were willing to voluntarily report their level of job satisfaction to the researcher.

The study also had several potential limitations. First, results were limited to public elementary, middle, and high school principals in Kentucky who were willing to participate in the survey, and excluded principals of private, parochial, vocational, and alternative schools. Next, to the researcher's knowledge, no studies of principal job satisfaction have employed Rasch methods to analyze data. This presented a potential limitation due to an inability to methodologically compare this study with existing studies. While there were some limitations for comparing methodologies, the results and findings from this study can still be used to make comparisons with existing research.

Basic Terms and Definitions

Attrition and Retention - Principal attrition refers to the amount of principals leaving their positions in a given sample, while retention refers to the amount of principals who were retained. This study did not seek to gather data on attrition or retention rates of Kentucky principals. Instead, the purpose of this study was to examine the perceived sources of principals' satisfaction and dissatisfaction with their work, as such data has strong implications for policies and practices that could be implemented to increase principal retention.

Job satisfaction - Hoppock (1935) provided one of the earliest and still widely accepted definitions of job satisfaction describing it as "any combination of psychological, physiological, and environmental circumstances that causes a person

truthfully to say, 'I am satisfied with my job'" (p. 47).

Measurement - "The location of objects along a single dimension on the basis of observations which add together" (Bond & Fox, 2007, p. 312).

Principal - For the purpose of this study, a principal was defined as the person currently serving in the capacity of head building principal in a Kentucky public school. (This criterion excluded head principals of private, parochial, vocational, and alternative schools).

Psychometrics - For the purpose of this study, psychometrics was defined as "the discipline concerned with the quantification and analysis of human differences. This involves both the construction of procedures for measuring psychological constructs and the analysis of data consisting of the measurements made" (Browne, 2000, p. 661).

Rasch measurement - "Rasch measurement converts dichotomous and rating scale observations into linear measures. It links qualitative analysis to quantitative methods. Rasch scaling is often classified under item response theory, IRT, or logit-linear models. Rasch specifies how persons, probes, prompts, raters, test items, tasks, etc. must interact statistically through probabilistic measurement models for linear measures to be constructed from ordinal observations. Rasch analysis requires the investigation and quantification of accuracy, precision, reliability, construct validity, quality-control fit statistics, statistical information, linearity, local dependency and unidimensionality. Rasch implements stochastic Guttman ordering, conjoint additivity, Campbell concatenation, sufficiency and infinite divisibility" (Linacre, 2011, Winsteps.org).

Contributions of the Study

The study provided several needed and unique contributions to the existing

literature base on principal job satisfaction. First, this study had unique implications for the current status of job satisfaction experienced by Kentucky's school leaders, and possibly leaders in other states. Second, building on the work of others, this study provided a new perspective on existing conceptual frameworks (situational models of job satisfaction) and offered a new survey instrument consisting of variables specific to the job of principals. Many principal job satisfaction studies have utilized the Minnesota Satisfaction Questionnaire (MSQ), Job Description Index (JDI), and Job Diagnostics Survey (JDS) (see Appendix G). While these instruments have yielded useful data, a potential limitation is that these instruments only investigate broad dimensions of worker satisfaction, and are not specific to any single job. As such, when using these instruments to investigate the job satisfaction of principals, findings can potentially be misleading. For example, if a researcher used the MSQ with principals, and a majority of the sample responded that they are satisfied with "the responsibility of my job", then what can truly be inferred? If asked to rate their satisfaction with "the responsibility to address complaints of angry parents" would respondents have provided a different response? Items specific to the principalship are needed to more accurately determine which responsibilities of the job are sources of satisfaction or dissatisfaction. To address this need, the instrument for this study (Appendix A) investigated job responsibilities and characteristics specific to the principalship.

Next, this study presented a methodological approach that to the researcher's knowledge had not been used in previous research on principal job satisfaction. Quantitative principal job satisfaction studies have almost exclusively relied on traditional statistical techniques reporting descriptive statistics and traditional inferential

statistics (e.g., regression, factor analysis). In contrast, this study employed the Rasch methodology which many measurement researchers consider to be a more theoretically sound alternative to traditional statistical methods when analyzing rating scale data. While Rasch models have multiple uses, they have become increasingly popular due to their ability to convert ordinal rating scale survey responses into meaningful linear measures by means of logarithmic values of odds (logits) (Bond & Fox, 2007; Royal, 2011). These logits become the interval level units of measure for calibrating items and measuring persons. As such, Rasch models allow researchers to meaningfully assess the quality of a rating scale, the usefulness of each item for measuring the construct, and develop an item hierarchy of the construct. Furthermore, patterns and abnormalities in responses can be used to provide unique insights into the items and persons within the sample. The application of this method has implications for future studies and secondary analysis of data from previous studies, while also serving to further validate or refute previous research on job satisfaction of principals.

Summary

This chapter presented a brief overview of the challenges policy makers and superintendents face in retaining principals and why there is a need to examine the job satisfaction of these individuals. The purpose of the study, the study's objectives, research questions, design, framework, assumptions, limitations, and contributions were presented. Chapter Two will discuss literature vital to the present study. A general historical perspective of job satisfaction literature is presented first, followed by an examination of prominent job satisfaction theories. Next, a synthesis of existing principal job satisfaction literature will be presented. The chapter concludes with a discussion of

the need for a measurement approach to survey research, as well as essential descriptive information on the methodology and theoretical framework employed to investigate principal job satisfaction.

CHAPTER 2: LITERATURE REVIEW

Job satisfaction has been examined by scholars for well over a century to determine factors related to job retention and worker productivity. During this time, thousands of studies on job satisfaction have been conducted making job satisfaction one of the most studied constructs by organizational researchers (Spector, 1997). The large volume of job satisfaction research suggests the functioning of an organization, and ultimately, whether or not it meets stated goals can in part be dependent on the satisfaction of its workforce. Research on job satisfaction supports this belief indicating relationships between job satisfaction and employee absenteeism, burnout, stress, motivation and productivity, organizational commitment, and turnover (Glisson & Durick, 1988; Lawler & Porter, 1967; Locke, 1984; Muchinsky, 1977; Vroom, 1964).

A Historical Perspective of Job Satisfaction

At the turn of the 20th century, the first systematic studies of human service organizations were conducted to investigate how to improve worker productivity and efficiency. In 1911, Frederick Taylor, a mechanical engineer interested in improving industrial efficiency, published *The Principles of Scientific Management*, which revolutionized organizational management (Gruneberg, 1979). In short, Taylor proposed that industrial efficiency could be improved by using the scientific method to evaluate and refine how tasks are carried out in organizations. By scientifically determining the fastest and most efficient ways to complete tasks, and training workers to use these methods, Taylor suggested that organizations could ensure higher productivity from every action and minute spent by workers (Bolman & Deal, 2003).

Building on Taylor's principles of scientific management, in 1924, Elton Mayo

conducted what later become known as the Hawthorne studies, which examined how factory employees' social relationships, motivation, and satisfaction influenced productivity (Gruneberg, 1979). Mayo worked with the Western Electric Company in Chicago, Illinois, to set up experiments at their Hawthorne plant. Initially, the study attempted to establish a relationship between worker productivity and illumination. Control groups worked under regular lighting while the lighting of the experimental groups was steadily decreased (Mayo, 1949). Mayo observed that the productivity of both groups increased. It was not until there was almost no lighting that the experimental group began to show a decline in productivity. The experiment determined that lighting did not significantly affect productivity, leaving Mayo to conclude there had to be other factors of more importance, thus leading to further studies (Mayo, 1949). Mayo next looked to physical factors causing fatigue and the extent to which rest breaks influenced productivity, but again found that these variables did not explain the increase in productivity among control and experimental groups. Through continued study with similar results, Mayo and his colleagues then suggested one reason for the increase in productivity of both the control and experimental groups may have been due to improved personal relations between management and workers (Wickstrom & Bendix, 2000).

Taylor and Mayo's work (among others) provided human service organizations and researchers with theoretical foundations to investigate how contextual factors of the organization correlate to worker outcomes. Subsequent studies of worker productivity and management relationships led to the creation of human resource management, marking a dramatic shift in organizational thinking. "Not until the early 1930s 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). Furthermore, instead of continuing to view workers as simply a supply of interchangeable parts to be used and discarded, organizations began to evaluate workers in terms of their fit to the work and organization (Gruneberg, 1979). Researchers had come to a general understanding that relationships among workers and management were related to worker behaviors that, in turn, affected organizational function. From there, researchers such as Hoppock (1935), Herzberg (1966), and Maslow (1954) shifted from the investigation of predicting variables of worker behaviors, to the personal needs of workers and their emotional reactions to their work, or job satisfaction. These investigations led to the development of the most well-known job satisfaction theories and theorists which are presented in the next section.

Theoretical Perspectives on Job Satisfaction

Before delving into a discussion of prominent job satisfaction theories, it is important to first examine definitions of job satisfaction. Widely accepted and cited definitions from the literature include those developed by Hoppock (1935), Locke (1976), Hackman and Oldham (1980), and Vroom (1982). While each definition is different, the common focal point among all is that job satisfaction is conceptualized as an emotional reaction to one's work.

Hoppock (1935) provided one of the earliest and still widely used definitions of job satisfaction describing it as "any combination of psychological, physiological, and environmental circumstances that causes a person truthfully to say, 'I am satisfied with my job'" (p. 47). Locke (1976) defined and described job satisfaction as "a pleasurable

or positive emotional state resulting from the appraisal of one's job or job experiences" (p. 1300). Hackman and Oldham (1980) examined job satisfaction in general terms seeing it as a measure of how content individuals are with their current status which correlates to his or her likelihood of leaving an organization. Vroom (1982) defined job satisfaction as "affective orientations on the part of individuals toward work roles which they are presently occupying" (p. 99).

While numerous theories have been developed and tested by scholars to explain job satisfaction, three prominent theoretical frameworks emerged: (1) content theories of job satisfaction; (2) process theories of job satisfaction; and (3) situational models of job satisfaction (Thompson et al., 1997). The next section will highlight the main theories and associated theorists for each of these frameworks (see Figure 2.1).

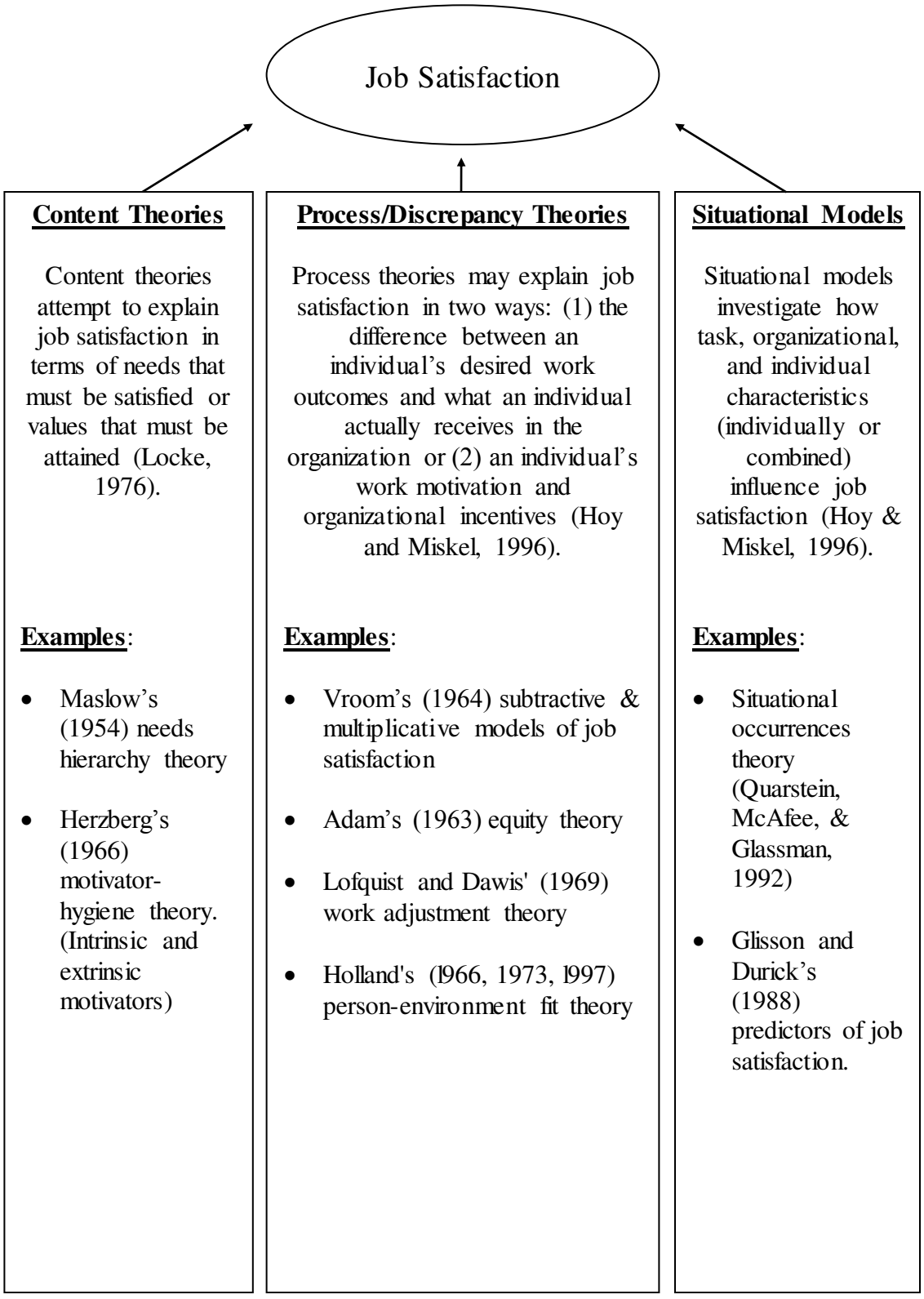

Figure 2.1 Prominent theoretical frameworks of job satisfaction and associated theorists

Content Theories of Job Satisfaction

Content theories attempt to explain job satisfaction in terms of needs that must be satisfied or values that must be attained (Locke, 1976). Humans have needs and values, and the degree to which these are fulfilled influences performance and motivation. Examples of content theories include Maslow's (1954) needs hierarchy theory and Herzberg's (1966) motivator-hygiene theory.

Maslow's needs hierarchy (1954) suggests job satisfaction is a product of how well an individual's needs are met by a job and its environment. In Maslow's hierarchy, there are five categories of needs organized in an ascending order of importance: (1) physiological; (2) safety; (3) belongingness and love; (4) esteem; and (5) self actualization. Lower level needs in the hierarchy include physiological, safety, and belongingness and love, while higher level needs include esteem and self actualization. Job satisfaction can be attributed to an individual's fundamental level of need at a given point in time. Individuals are influenced by the presence or absence of need; therefore, when lower level needs are fulfilled, a new and higher level need is sought. Likewise, when a lower level need ceases to be met, the individual descends down the hierarchy to that level of need, unable to move back up until it is again fulfilled (Maslow, 1954).

Frederick Herzberg's two factor theory of motivation (1966) is also applicable to content theories of job satisfaction. In Herzberg's theory, the primary focus and determinate of job satisfaction is found by examining the work itself. Within the work itself, Herzberg's theory conceptualizes job satisfaction in two dimensions: (1) intrinsic and (2) extrinsic. Intrinsic factors (also called motivators) of the job content include perceptions of fulfillment such as achievement, recognition, responsibility, advancement,

and learning. These intrinsic motivators are strong determinates of job satisfaction as "they are effective in motivating the individuals to superior performance and effort" (Herzberg, 1966, p. 74). Extrinsic factors, also referred to as hygiene or maintenance factors, exist in the environment or context of the work. These factors influence job satisfaction and include policies, administration, supervision, salary, interpersonal relations, and working conditions of an organization.

Process Theories of Job Satisfaction

While content theories look to understand "what" motivates people in relation to individual needs and goals, process theories instead focus on "how" individuals are motivated, or the actual processes by which motivation occurs. Process theories examine how categories of variables (i.e., expectations, values, needs) interact or combine to impact job satisfaction (Locke, 1976). Process theories may explain job satisfaction in two ways: (1) the difference between an individual's desired work outcomes and what an individual actually receives in the organization (Locke, 1976), or (2) an individual's work motivation and organizational incentives (Hoy & Miskel, 1996). Examples of this framework include Vroom's (1964) subtractive and multiplicative models of job satisfaction, Adam's (1963) equity theory, Lofquist and Dawis' (1969) work adjustment theory, and Holland's (l966, 1973, l997) theory of person-environment fit.

Vroom (1964) posits that personal expectations of workers interact with workplace variables to determine job satisfaction. Rewards derived from one's job influence job satisfaction. When a worker performs well, he or she expects this will lead to compensation. When compensated as expected the worker is satisfied. When a discrepancy exists between a worker's expectation and an actual outcome, it leads to

dissatisfaction. The relationship between a worker's expectations and the actual outcomes ultimately determines job satisfaction or dissatisfaction.

Vroom (1964) furthers this theory to include the individual as a personal decision maker. Workers make decisions to do or not do tasks based on their perceived ability to successfully complete the tasks, as well as by evaluating the compensation they intend to receive. To empirically explain this decision making process, Vroom derived an equation with three variables: (1) expectancy, (2) instrumentality, and (3) valence. Expectancy refers to how well an individual feels he or she can successfully complete a task. Instrumentality refers to the degree which the individual believes he or she will be adequately compensated for the task. Valence is an assessment by the worker as to the value of the expected reward. Stated differently, a worker makes a decision about completing a task based on a perception of how successful he or she can complete a task, be adequately compensated, and value the reward. To empirically predict job satisfaction, each variable in Vroom's equation is given a probability value. Simply put, higher values result in a higher probability of job satisfaction and motivation, and lower values result in a lower probability of job satisfaction and motivation.

Similar to Vroom, Adam's equity theory (1963) also looks at the individual as a personal decision maker. Adam's equity theory posits that individuals are motivated by how equitable rewards are provided within an organization. Individuals therefore derive satisfaction when it is perceived that the distribution of rewards is equitable among peers or others with similar status. This theory also suggests that workers evaluate rewards in relationship to worker inputs (Adams, 1963). In other words, while all workers contribute to an organization, the level of contribution is not always equal, and

individuals derive satisfaction based on how equitable rewards are provided in relation to contributions.

Another example of a process theory includes Lofquist and Dawis' (1969) work adjustment theory. This theory examines how an individual is motivated to adjust to his or her work context. Lofquist and Dawis (1969) suggest that work is an environment an individual interacts with and relates to and, as such, workers need to feel a sense of connection with their work. Satisfaction or dissatisfaction is therefore determined by the level of fulfillment an individual experiences with his or her work environment. Stated differently, individuals react or adjust to a work environment based on how consistently the work environment provides desired outcomes. Lofquist and Dawis (1969) summarize the theory of work adjustment well through the following statements:

1. Work is conceptualized as an interaction between an individual and a work environment.

2. The work environment requires certain tasks to be performed, and the individual brings skills to perform the tasks.

3. In exchange, the individual requires compensation for work performance and certain preferred conditions, such as a safe and comfortable place to work.

4. The environment and the individual must continue to meet each other's requirements for the interaction to be maintained. The degree to which the requirements of both are met may be called correspondence.

5. Work adjustment is the process of achieving and maintaining correspondence. Work adjustment is indicated by the satisfaction of the individual with the work environment and by the satisfaction of the work environment with the individual.

Holland's (l966, 1973, l997) theory of person-environment fit provides an additional process perspective. As suggested by Lofquist and Dawis (1969) in the previous section, work is conceptualized as an interaction between an individual and a

work environment. The extent to which these interactions lead to satisfaction or dissatisfaction is essentially a matter of how well the work environment matches the personality traits, values, abilities, and other attributes of the individual (Dawis & Lofquist, 1984). Holland's (1966, 1973, 1997) theory of person-environment fit further explains that individuals usually have one of six types of personalities (Realistic, Investigative, Artistic, Social, Enterprising, Conventional) and "The greater the discrepancy between people's personality patterns and environmental patterns, the more dissatisfying, uncomfortable, and destructive these interactions become" (Spokane, Meir & Catalano, 2000, p. 142). In other words, the fit between the personality of the individual and his or her work environment determines the outcome of person-environment interactions.

Situational Models of Job Satisfaction

Situational models of job satisfaction are used to investigate how task, organizational, and characteristics of the individual influence job satisfaction (Hoy & Miskel, 1996). Job satisfaction in these models is a result of an individual's reaction to the work context. Examples of situational models include the situational occurrences theory of job satisfaction (Quarstein, McAfee, & Glassman, 1992) and Glisson and Durick's (1988) predictors of job satisfaction.

Quarstein et al., (1992) developed the situational occurrences theory of job satisfaction. This theory posits that job satisfaction is influenced by two factors referred to as situational characteristics and situational occurrences. Situational characteristics include pay, working conditions, promotional opportunities, supervision, and company policies. Quarstein et al., (1992) suggest situational characteristics are usually evaluated

by a candidate prior to accepting a position and are rather finite and stable aspects of the work environment/organization.

In contrast, situational occurrences change rapidly and are those aspects of the actual tasks and work context that cannot be evaluated until after a position is taken. Tasks and organizational attributes within the work context may or may not be tangible and can result in positive or negative experiences. For example, a candidate may be told prior to taking a job a subordinate/assistant will be provided; however, until he or she actually works with the subordinate it is unknown whether there will be a positive or negative working relationship.

Furthermore, Quarstein et al., (1992) posed and confirmed the hypothesis that overall job satisfaction is influenced by both situational characteristics and occurrences. They also concluded that a combination of both situational characteristics and occurrences are stronger predictors of job satisfaction than each factor alone.

Glisson and Durick's (1988) predictors of job satisfaction are useful in exploring and understanding the situational model from a multidimensional perspective. Variables of job satisfaction are clustered and classified into three categories: (1) characteristics of job tasks such as autonomy, salary, benefits, level of challenge, and role tensions; (2) characteristics of the organization such as supervision, feedback, organizational culture, type of organization, centralization; and (3) characteristics of the employee/individual such as his or her level of education, gender, age, motivation, and ability. Collectively, Glisson and Durick (1988) determined these three categories of variables can be used to predict job satisfaction and organizational commitment. Specifically, the researchers found characteristics of job tasks were excellent predictors of satisfaction, characteristics

of the organization were moderate predictors of job satisfaction, and characteristics of individuals/workers were poor predictors of job satisfaction.

Job Satisfaction and the Principalship

The National Association of School Boards suggests that effective principals function as "linchpins" of school improvement and are therefore the "gatekeepers" of effective school reform (Calwelti, 1999). Effective schools research has provided evidence to support this belief, consistently finding principals to be the most influential variable impacting effective schools and student success (Educational Research Service, 2000; Hallinger & Heck, 1996; Heck & Hallinger, 1999; IEL, 2000; Leithwood, 1994; Leithwood, Harris, Day, Sammons, & Hopkins, 2007; Leithwood & Jantzi, 2000; Prestine & Nelson, 2005; Waters, Marzano, & McNulty, 2003).

However, retaining quality principals has become a serious challenge (Institute for Educational Research, 2000). Principals attribute the decline in retention to the intensity and overwhelming challenges of the principalship (Ryans, 2009). Specifically, principals cite a perceived lack of support, stressful political environments, undesirable working conditions, and unrealistic expectations for student accountability (Adams, 1999). The University Council for Education Administration (UCEA) asserts that "in order to build programs that support leadership for learning we must rethink and revise our practice in several areas" (Young & Kochan, 2004, p. 121). Understanding how the role of school principals has changed over time, in conjunction with research on the perceived sources of principals' satisfaction and dissatisfaction with their work, provides one of the strongest sources of data for understanding how to go about rethinking and revising practice in order to retain these important individuals.

Historical Perspective of Principal Job Satisfaction

The study of industry workers in the early 20th century provided useful data on job productivity, motivation, and satisfaction, but as Hoppock (1935) suggested, generalizing these findings across occupations may be misleading. As such, researchers began investigating the job satisfaction of other occupations and derived new instruments to measure components of job satisfaction specific to these populations. Education is one of these occupations, and by the 1960s and 1970s, educational researchers began examining the job satisfaction of workers in various educational positions, including the principalship (see Appendix E). The following sections will highlight major changes in the principalship from 1950 to present, and how these changes influenced the investigation of principal job satisfaction. Figure 2.2 provides an organizational outline for these sections.

1950-1979	1980-1999	2000-2012
The principalship in an era of dramatic societal and political change	*The principalship enters an age of accountability*	*The principalship in an era of high stakes accountability*
Role: Manager and leader	**Role**: Manager and instructional leader	**Role**: Manager, instructional leader, and transformative leader
Major political and social catalysts for change: • *Brown vs. Topeka Board of Education (1954)* • *Sputnik (1957)* • *NDEA (1958)* • *Civil Rights Act (1964)* • *ESEA (1965)* • *Title IX (1972)*	**Major political and social catalysts for change**: • *A Nation at Risk (1983)* • *Effective Schools Research ('80s)* • *KERA (1990)* • *ESEA Reauthorized IASA Goals2000 (1994)* • *CCSSO and ISLLC Standards (1996)*	**Major political and social catalysts for change**: • *"Principal Shortages" (2000)* • *Globalization (2000)* • *NCLB (2002)* • *Senate Bill 1 – KY – (2009)* • *Race to the Top (2009)*
Basic Foci and Findings:	**Basic Foci and Findings**:	**Basic Foci and Findings**:
Primarily intrinsic variables (4 Studies)	Intrinsic and extrinsic variables (8 Studies)	Intrinsic and extrinsic variables specific to the principalship (26 Studies)
Principals generally satisfied, motivated by intrinsic variables such as achievement, recognition, personal interest, advancement, and professional role (Iannone, 1973; Miskel, Glasnapp, & Hatley, 1975; Schmidt, 1976; Trusty & Sergiovanni, 1966).	Principals experienced decreased levels of satisfaction with some intrinsic and extrinsic variables. Increased managerial tasks and responsibility for accountability eroded the autonomy, authority, and self efficacy of principals (Bacharach & Mitchell, 1983; Friesen, Holdaway, & Rice, 1983; Mercer, 1993; Richford & Fortune, 1984).	Increased demands upon principals = increased levels of stress, longer hours = decreased job satisfaction = decreased retention (DiPaola & Tschannen-Moran, 2003; Rinehart, Winter, Keedy, & Bjork, 2002; Wilson, 2009; Wong, Cheuk, & Rosen, 2001).

Figure 2.2 Major political and social influences that changed the leadership role of principals, and resulting job satisfaction research foci and findings.

The principalship in an era of dramatic societal and political change. Prior to 1950, principals were seen as administrative managers primarily accountable for facility operations and use of resources (Beck & Murphy, 1993). However, this role drastically changed and was continually redefined from 1950 to 1970 in response to increased political and social pressure. To determine the effect these changes had on principals, school systems and researchers began to examine the job satisfaction of principals (Iannone, 1973).

Public support and confidence in local school boards and schools began to wane during the 1950s (Kirst & Wirt, 2009). Furthering the lack of confidence in state-run education was the launch of the first satellite, Sputnik, by the Soviets in 1957 creating an atmosphere of fear that the Soviets were technologically and educationally surpassing Americans (Kirst & Wirt, 2009). Public and political pressure dictated a response to Sputnik, and in that same year, the National Defense Education Act (NDEA) was enacted to improve educational funding in science, math and foreign language (Ellis, 2007). Socially, America also underwent significant changes from 1950 to 1970 with regard to equity. As a result, in addition to traditional expectations, the role of principals changed to include the implementation of new federal programs and legislation intended to provide equitable educational opportunities for all students regardless of race, gender, or disabilities (Kirst & Wirt, 2009; Yell, 1998). Components of these federal programs also provided economically disadvantaged students interventions to include proper nutrition, literacy, drop-out prevention, and other supports (Reyes, Wagstaff, & Fusarelli, 1999). The increased political and social demands leading to such programs significantly changed the mission of public education and, thus, the role and expectations of school

principals.

The various job satisfaction theories already developed by researchers in other areas of the social sciences such as psychology (Herzberg, 1966; Hoppock, 1935; Locke, 1976; Maslow, 1954; Vroom, 1964) seamlessly integrated into education and proved vital to the investigation of job satisfaction in the principalship. While few in number, early principal job satisfaction research in the 1960s and 1970s primarily investigated moderating variables of job satisfaction such as needs, motivation, incentives, primary life interests, and demographics (Iannone, 1973; Miskel, Glasnapp, & Hatley, 1975; Schmidt, 1976; Trusty & Sergiovanni, 1966). While principals were found to be generally satisfied with their positions, these studies established that there were several intrinsic variables such as achievement, recognition, personal interest, advancement, and professional role/responsibility that contributed to their job satisfaction. These results are consistent with Herzberg's two factor motivator-hygiene theory wherein intrinsic motivators are seen as being strong determinates of job satisfaction because "they are effective in motivating the individuals to superior performance and effort" (Herzberg, 1966, p. 74). These findings are also in line with other content theories such as Maslow's needs hierarchy (1954), which suggests that job satisfaction is a product of how well a job and its environment meet the needs of an individual.

The study of principal job satisfaction during this era had an overwhelming focus on the principal as an individual and the use of content theories of job satisfaction. However, this early research did not reflect equal investigation of the second part of Herzberg's theory to include the extrinsic or hygiene factors within the environment or context of the work. These hygiene factors include policies, organizational structure,

assigned duties, salary, interpersonal relationships, and working conditions. Given the dramatic "extrinsic" changes to the principalship from 1950 to 1970, it is interesting that research focused on the satisfaction of principals in relation to personal needs without also examining other moderators of satisfaction, such as specific changes to the work environment and context.

The principalship enters an age of accountability. As the role of the principal continued to change throughout the 1980s and 1990s in response to the demands of the accountability era, so too did the direction of research on the job satisfaction of principals. Research from 1960 to 1980 primarily centered on investigating the extent to which principals derived intrinsic fulfillment from their jobs. Research during the 1980s and 1990s continued to build upon this work, while also examining moderators of job satisfaction that expanded beyond the principal as an individual to include attributes of the organizational environment and context of the work. This shift in focus was largely due to dramatic changes to extrinsic factors in the principalship (e.g., school policy, administration, supervision, interpersonal relations, working conditions), the lack of existing research on such variables, and the emergence of new job satisfaction theories.

During the 1980s and 1990s, education and the role of the school principal expanded to include accountability for improved student achievement (Aberli, 2010; Council of Chief State School Officers, 1996; Murphy & Hallinger, 1992). In 1983, the National Commission on Excellence in Education prepared a report titled, *A Nation at Risk: The Imperative for Educational Reform*, outlining how American prosperity, security, and civility were at risk due to the failures of its schools. This report prompted a shift towards accountability for student outcomes and spurred what is often referred to

as "effective schools research", which focuses on principals and how their role impacts the success of students (Hallinger & Heck, 1996; Heck & Hallinger, 1999; Leithwood, 1994).

The age of accountability during the 1980s and 1990s demanded a new type of leader: one capable of navigating the numerous levels of bureaucracy arising from the latest federal and state legislation, while also acting as an instructional and transformational leader held accountable for student outcomes (Andreyko, 2010). Research on effective schools had determined that instructional leadership was "pivotal to initiating and sustaining effectiveness in the management of the instructional program" (Brogan, Mathews, & Neill, 2005, p. 48). As a result, principals were expected to further adapt to become instructional leaders engaging in a multitude of new responsibilities, including, but not limited to three broad dimensions: (1) defining the school's mission; (2) managing the instructional program; and (3) promoting a positive school-learning climate (Hallinger, 2003).

Operating as instructional leaders within these three broad dimensions proved challenging as principals juggled regular duties with new roles and responsibilities that many had not been properly trained for including: (a) framing and communicating the goals of the school; (b) supervising and evaluating instruction; (c) coordinating the curriculum; (d) monitoring student progress; (e) promoting professional development; and (f) motivating teachers (Hallinger, 2003). Principals soon found that providing instructional leadership necessitated a comprehensive knowledge of leadership, organizations, curriculum, instruction, and assessment. Furthermore, principals also realized they needed to possess the personal skills to articulate and facilitate this

knowledge if they wanted to improve teaching practice and student achievement (Blase & Blase, 1999).

School principals also play a pivotal role as transformational leaders and must be astute in facilitating change in a rapidly evolving educational system (Fullan & Stiegelberger, 1991). However, many school leaders found it challenging to promote change among workers who may have "social-psychological fear of change, and a lack of technical know-how or skills to make change work" (Fullan, 2001, p. 41). The extraordinary complex human as well as organizational barriers to being an instructional and transformational leader required principals to be resolutely committed, hard working, and willing to exert significant time and energy (Senge et al., 2000).

The dramatic changes during the 1980s and 1990s left many principals feeling that their roles had become so overwhelming and ill-defined they could not be expected to meet the expectations of the position (Drake & Roe, 2003; Winter & Morganthal, 2002). In 1996, the Council of Chief State School Officers (CCSSO) recognized the need to unify standards for principal excellence, and in an effort to address competency standards and expectations for the practice of the principalship, they created the Interstate School Leaders Licensure Consortium (ISLLC). ISLLC sought to collaboratively develop a "common core of knowledge, dispositions, and performances that will help link leadership more forcefully to productive schools and enhanced educational outcomes" (CCSSO, 1996, p. iii). These efforts led to the development of the ISLLC standards which characterize the school administrator as an educational leader who promotes the success of all students by (CCSSO, 1996, pp. 10-20):

> 1. Facilitating the development, articulation, implementation, and stewardship of a vision of learning that is shared and supported by the school and community;

2. Advocating, nurturing, and sustaining a school culture and instructional program conducive to student learning and staff professional growth;

3. Ensuring management of the organization, operations, and resources for a safe, efficient, and effective learning environment;

4. Collaborating with families and community members, responding to diverse community interests and needs, and mobilizing community resources;

5. Acting with integrity, fairness, and in an ethical manner; and

6. Understanding, responding to, and influencing larger political, social, economic, legal, and cultural context.

While the ISLLC standards provided a consistent unifying structure for the practices of current principals and the training of future principal candidates, it did not eliminate the underlying problem of legislative and school district mandates, coupled with societal demands, adding incrementally to the job responsibilities of the principal without reducing other duties (Rayfield & Diametes, 2004). Principals during the 1980s and 1990s desired relief from the stressful political environment and undesirable working conditions caused by changes to principalship and unrealistic expectations for student accountability (Adams, 1999; Bacharach & Mitchell, 1983; Gunn & Holdaway, 1986; Mercer, 1997). Due to a perceived lack of support and personal ability to meet the demands of the position, many principals left their jobs and some of those who stayed characterized the position as an impossible, stressful, thankless, and underpaid endeavor (Adams, 1999; Lashway, 2002; Mercer, 1997; Sutter, 1996).

Similar to researchers of the 1960s and 1970s, researchers in the 1980s and 1990s also reported intrinsic variables such as achievement, recognition, personal interest, advancement, and professional role/responsibility as being potential moderators of job satisfaction (Friesen, Holdaway, & Rice, 1983; Gunn & Holdaway, 1986; Mercer, 1996).

Building from previous findings, researchers were able to identify additional intrinsic variables such as autonomy, interpersonal relationships, and self efficacy (Bogotch & Riedlinger, 1993; Hill, 1994; Sutter, 1996). Interestingly, while these variables were found to have the potential to positively impact job satisfaction, research during the 1980s and 1990s suggested that some principals experienced decreased levels of satisfaction with these intrinsic variables (Bacharach & Mitchell, 1983; Friesen, Holdaway, & Rice, 1983; Mercer, 1993; Richford & Fortune, 1984). Essentially, an increase in managerial tasks and responsibility for accountability during the 1980s and 1990s eroded the autonomy, authority, and self efficacy of principals. As a result, many principals indicated they could not successfully complete tasks, be adequately compensated, or derive personal value/satisfaction from their work.

The principalship in an era of high stakes accountability. The age of accountability did not end in the 1980s and 1990s; if anything, it became more cumbersome with the passage of the No Child Left Behind Act (NCLB) of 2002. NCLB was signed into law by President George W. Bush and served as the largest education reform in American history (Sunderman & Kim, 2007). As policy, NCLB held true to traditional allocations of monetary assistance to support equity, but emphasis was also placed on closing gaps in student achievement. Furthermore, for the first time, under NCLB, states were accountable for equity and achievement and risked sanctions or withholding of financial resources if they failed to make adequate yearly progress (AYP) (DeBray-Pelot & McGuinn, 2009). Policy makers saw NCLB as a means to reinvent American education by holding schools accountable for all children reaching proficiency in math and science by 2014, particularly those who have traditionally been underserved

(Cronin, Dahlin, Adkins, & Kingsbury, 2007).

A cornerstone of NCLB became the requirement "that states build assessment systems that track the achievement of all students against a common set of high instructional standards" (Jorgensen, 2003, p. 6). Through the development of high standards and meaningful sanctions, policy makers believed they could change the "business as usual" status quo in schooling (Hess & Petrelli, 2006). Schools and districts failing to meet AYP under NCLB are subject to incrementally stiffer penalties. Failure to meet AYP for two consecutive years affords students the right to free after-school services as well as the ability to switch to "better" schools at the expense of the previous school. In this new era of high stakes accountability, continued failure to meet AYP can result in schools potentially facing reorganization, state takeover, or closing (Diehl, 2006).

Several principal job satisfaction studies from 2000 to 2011 suggest that mandates such as NCLB and additional state regulations negatively impact job satisfaction, especially in low performing schools where their leadership is needed the most (Chapman, 2005; DeAngelis & White, 2011; Goodwin, Cunningham, & Childress, 2003; Papa, 2007; White, Brown, Hunt & Klosterman, 2011). As gleaned from these and other studies, the contemporary principal faces role expansion and greater accountability under NCLB while also having less autonomy to get the job accomplished (Beaudin, Thompson, & Jacobson, 2002; Haines, 2007; Markley, 2008; Ryans, 2009). As such, retaining school principals since the implementation of NCLB has been more difficult than at any other time (Chapman, 2005; Drake & Roe, 2003).

Due to the increased demands upon principals, not only does the turnover rate

continue at a high level but fewer individuals are being attracted to the principalship position (Andreyko, 2010; Haines, 2007; Norton, 2003). Contemporary principals and would-be principal candidates both point to the high levels of stress, long work hours, and inadequate compensation of the principalship as main reasons for this phenomenon (DiPaola & Tschannen-Moran, 2003; Pounder & Merill, 2001; Rinehart, Winter, Keedy, & Bjork, 2002; Sigrest, 2010; Wilson, 2009; Wong, Cheuk, & Rosen, 2001).

While stress is an expected part of most any job and can be induced by numerous factors, a more contemporary source for principals is the constant pressure related to educational mandates and reforms (Pijanowski et al., 2009). In Haines' (2007) study of principals, 58% of those surveyed reported they had less job satisfaction since the initiation of NCLB, 79% reported having increased stress levels, and 86% reported an increased workload. Additional studies conducted from 2000 to 2011 consistently support that increased stress and workloads are the top deterrents of the principalship and primary reasons principals leave the position (Chapman, 2005; DeAngelis & White, 2011; DiPaola & Tschannen-Moran, 2003; Educational Research Service, 2000; Gadja & Militello, 2008; Goodwin, Cunningham, & Childress, 2003; Papa, 2007; Pounder & Merill, 2001; Rinehart, Winter, Keedy, & Bjork, 2002; White, Brown, Hunt, & Klosterman, 2011).

As the roles and responsibilities of the principalship continue to change and grow, so too do the amount of hours principals work. Principals can expect to work on both evenings and weekends with average workweeks between 54-80 hours (Educational Research Service, 2000; Yerkes & Guaglianone, 1998). In a recent study of Illinois secondary head principals, respondents indicated they worked an average of 61.9 hours

per week, with 39.1% indicating dissatisfaction with these long hours (White, Brown, Hunt, & Klosterman, 2011). Reasons for these extended hours include the second curriculum which encompasses any extracurricular or after school activity requiring supervision or attendance after regular hours (Murphy & Beck, 1994).

Dissatisfaction as a result of long hours has been linked to principal turnover, especially at the secondary level (Barker, 1997; Battle & Gruber, 2010; Brogan, Mathews, & Neill, 2005; DeAngelis & White, 2011; Read, 2000; White, Brown, Hunt & Klosterman, 2011). Studies examining perceptions of principal candidates have also found long hours to be a significant concern and obstacle in their desire to take on the principalship (Copland, 2001; Fenwick & Pierce, 2000; Pounder & Merrill, 2001; Rinehart, Winter, Keedy, & Bjork, 2002). This perception by potential candidates is affirmed by practicing principals who also cited long work hours as significantly contributing to dissatisfaction in the principalship (Andreyko, 2010; Bowles, 1990; DiPaola & Tschannen-Moran, 2003; Educational Research Service, 1998; Rinehart, Winter, Keedy, & Bjork, 2002; Winter & Morgenthal, 2002).

Adequate salary and benefits also represent strong predictors of job desirability and retention (Pounder & Merrill, 2001). However, principals' salaries have not been commensurate with the uptrend in workload and are not in line with professionals in similar levels of responsibility and education (Educational Research Service, 2000). Dissatisfaction with salary is a reoccurring theme across many studies on principal job satisfaction (see Bowles, 1990; DeAngelis & White, 2011; DiPaola &Tschannen-Moran, 2003; Educational Research Service, 1998; Educational Research Service, 2000; Hancock & Bird, 2008; McAdams, 1998; Newton, Giesen, Freeman, Bishop, & Zeiton,

2003; Pounder & Merrill, 2001; White, Brown, Hunt & Klosterman, 2011). The issue of salary/compensation is further exacerbated considering that "the salary difference between a teacher who works 45 hours per week for 38 weeks and a principal who works 55 hours per week for 48 weeks is $10,000. The principal earns $6.50 for each of the 930 additional hours worked" (Newton, et al., 2003, p. 7).

Although numerous studies indicate that salary is a significant source of dissatisfaction in the principalship, a comprehensive review of the literature also reveals that there are studies that point to the contrary. Wilson (2009) found no significant relationship between financial compensation and intrinsic, extrinsic, or general job satisfaction. In follow-up interviews, Wilson asked respondents to comment on the quantitative findings. In relation to compensation, participants agreed that "money was not a primary motivator to them or for their job satisfaction" (p.97). Participants' comments included, "I never got into this to make money" and "Money won't solve the problems or make the issues easier to deal with" (p.98). Furthermore, principals shared that while they would like to make more money, their current salaries did not have a negative effect on their level of job satisfaction (Wilson, 2009). Similar to Wilson, Haines (2007) also found that principals rated compensation as a low level moderator of satisfaction. While few in number, such studies challenge the significance of the perceived relationship between salary and job satisfaction as presented by many quantitative studies.

The Need for a Measurement Approach

While survey research on principal job satisfaction has provided considerable contributions to the literature, much of this research has been limited to traditional

statistical methods. Commonly, these researchers administered some form of rating scale instrument to a given sample to measure levels of job satisfaction. Once data were collected, it was typically summed and averaged and the subsequent results were presented as descriptive and/or inferential statistics. However, drawing inferences from counts and percents can potentially be misleading (Royal & Bradley, 2008).

Rating scales are ordinal, and applying interval level statistical techniques to ordinal data is a statistical violation (Wright & Linacre, 1989). Ordinal raw score data only indicate that one response option is more or less than another response option. These numbers and ranks are not measures. For such numbers or ranks to become measures, they must be converted into a linear continuum that possesses equal distances between each of the units (Bond & Fox, 2007). Until data have been linearized on a calibrated 'ruler' or 'scale' to conduct measurements, any assertions made about the results may be based on problematic methodological assumptions and, consequently, may be invalid.

The following 5-point Likert response scale is a good example to demonstrate how ordinal scales are often treated as interval: (1) *Strongly Disagree, (2) Disagree, (3) Neutral, (4) Agree, and (5) Strongly Agree*. When presented with this 5-point Likert response scale, many will assume that the distance between the first response option "Strongly Disagree" and the second response option "Disagree" is the same, and likewise that the distance remains equal in measures of a single unit as one moves up the scale. As is illustrated in Figure 2.3, this is not necessarily true.

SD	D	N	A	SA

Figure 2.3 Perceived Functioning of Ordinal Likert Scale

Researchers and respondents treat this type of scale as if the distance between each answer choice represents equidistant units. While such assumptions appear logical, they are not, because the actual distance between responses can vary considerably depending on the context of the survey, the way items are phrased or ordered, and the sensitivity of items (Green, 1996; Royal, 2010; Royal & Bradley, 2008). So, in reality, the same scale may actually look more like:

SD	D	N	A	SA

Figure 2.4 Potential Real Functioning of Ordinal Likert Scale

Many measurement researchers consider Rasch models to be a more theoretically sound alternative to traditional statistical methods. While Rasch models have multiple uses, they have become increasingly popular due to their ability to convert ordinal rating scale survey responses into meaningful linear measures by means of logarithmic values of odds (logits) (Bond & Fox, 2007; Royal, 2011). These logits become the interval level units of measure for calibrating items and measuring persons.

A Rasch model specifically designed for rating scale data is the 'Rasch Rating Scale Model' developed by Andrich (1978). This model is appropriate for Likert-scale data because it relates the amount of a person's latent trait (e.g., one's tendency to agree with a statement) to the probability of an item response on a single scale. In other words, individuals with greater amounts of a latent trait are more likely to agree with, or endorse, a statement/item than individuals possessing less of the latent trait. It is only when these two elements are placed on the same scale and compared that truly meaningful inferences about person and item interactions can be made. According to the model (Andrich, 1978), the probability of a person *n* responding in category *x* to item *i*, is given by:

$$P_{xni} = \frac{\exp \sum_{j=0}^{x} [\beta_n - (\delta_i + \tau_j)]}{\sum_{k=0}^{m} \exp \sum_{j=0}^{k} [\beta_n - (\delta_i + \tau_j)]} \qquad x = 0,1,...,m$$

where $\tau_o = 0$ so that $\exp \sum_{j=0}^{0} [\beta_n - (\delta_i + \tau_j)] = 1$ β_n is the person's position on the variable, δ_i is the scale value (difficulty to endorse) estimated for each item i and $\tau_1, \tau_2, \ldots, \tau_m$ are the *m*

response thresholds estimated for the $m + 1$ rating categories.

Beyond the ability to produce interval measures, Rasch models are very desirable because they possess the property of invariance. Producing good measures should yield invariant scores. Invariance can be thought of as the scope by which a measure is useable. A speedometer in a car provides a measure of speed in miles per hour. The measures of 'speed' produced are invariant. Regardless of the speedometer used, one is still measuring speed in miles per hour. Furthermore, upon establishing a set unit of measurement (speed) one can then measure the speed of other moving objects (e.g., cars, motorcycles, baseball pitch).

Invariance in the context of survey research means the latent trait is independent of the specific items or set of items from which it is measured. In other words, a measure becomes independent of what is being measured and vice versa. Traditional methods do not possess this property and, as such, they are sample dependent. Rasch models do not necessitate representative samples and are, therefore, sample-free. For example, as long as a single, predominant dimension is detectable and is shared among individuals in the sample (such as happiness), then it can be measured regardless of the different person attributes within the sample (e.g., age, gender, race, ethnicity).

Estimations of measurement error are also an essential component of survey

research. The manner in which error is handled can significantly impact perceived relationships and correlations between variables. Traditional statistical methods assume measurement errors are normally and uniformly distributed across all persons in a sample and are uncorrelated to all other variables (Embretson, 1999). However, considering the qualitative differences between respondents, as well as survey items, researchers should not treat persons and items as equally important.

In contrast, Rasch models do not require data to be normally distributed and produce a standard error for every person and item. As such, Rasch models can derive more meaningful information about the validity and reliability of measures. Specifically, Rasch models enable a researcher to meaningfully assess the quality of a rating scale, the usefulness of each item for measuring the construct, and develop an item hierarchy of the construct. Additionally, patterns and abnormalities in responses can be used to provide unique insights into the items and persons within the sample. Furthermore, if one desired to test for systematic validity or (construct stability) then DIF (differential item functioning) could be performed on the various subpopulations to ensure the hierarchy is the same across samples. While traditional methods are useful for some purposes, Rasch models arguably provide a more thorough and methodologically sound approach to survey research.

Application of Theories to the Study

Major findings from prominent job satisfaction theories and associated theorists suggest several potential frameworks or lenses by which job satisfaction can be examined. While findings from these theories provide a holistic examination of what has previously been done, more importantly, such results provide implications for how these

frameworks (or parts thereof) can be used to inform a framework specific to the investigation of the proposed research questions of this study. The next section briefly integrates key findings from relevant educational literature to further contextualize and support the framework used for this study.

Thompson, McNamara, and Hoyle (1997) conducted a meta-analysis of job satisfaction studies from the first 26 volumes of *Educational Administration Quarterly*. Part of this analysis included noting which, if any, theories were used by researchers examining job satisfaction and the effect sizes of the variables investigated. Thompson et al., (1997) determined predictors of job satisfaction spanned multiple categories of variables and, as such, researchers can best contribute new knowledge by investigating how categories of variables relate to, or combine to, predict job satisfaction.

Additional findings from effect sizes support that a hierarchy of variable categories exists. Characteristics of job tasks were more significant predictors of job satisfaction than characteristics of the organization, and characteristics of the individual/workers were found to have the least impact on job satisfaction. These findings are consistent with situational model theorists such as Quarstein et al., (1992) and Glisson and Durick (1988) who posit job satisfaction is a product of multiple categories of variables. Such findings do not discredit results from studies examining a single category of variables; however, it does suggest that a deeper understanding of job satisfaction can be obtained by examining how characteristics of workers interact with those of the work itself and the organizational context in which the work is done. The next section will highlight the framework that will be used to investigate these various categories of variables.

Theoretical Framework

Estimates are the foundations of systems we use to develop more advanced systems of measuring attributes as is done in the physical sciences (e.g., weight, height, temperature). Such attributes are not possible to measure until a single dimension and instrument is operationalized and accepted. Therefore, the framework addressed the multidimensional construct of job satisfaction in much the same way that has been done in the physical sciences, which is to split abstractions of a multidimensional construct into unidimensional variables that can become acceptable measures (Linacre, 2009).

Specifically, the framework employed for this study utilized the situational occurrences theory of job satisfaction as proposed by Quarstein et al., (1992). This theory posits that job satisfaction is influenced by two factors referred to as situational characteristics and situational occurrences. As such, the researcher investigated single dimensions of principal job satisfaction categorized as either situational characteristics or situational occurrences. Table 2.1 illustrates how each of the research questions aligned with the framework, as well as the job satisfaction variables that were investigated within three dimensions of principals' job satisfaction: (1) satisfaction with situational characteristics specific to economic variables/benefits associated with the position; (2) satisfaction with situational occurrences specific to psychological needs; and (3) satisfaction with situational occurrences representative of the actual work context including the tasks and responsibilities performed.

Table 2.1

Research Questions Aligned to Framework and Variables of Job Satisfaction

Research question	Variables of job satisfaction
1. To what degree are head principals in Kentucky satisfied with economic attributes of the job? (Satisfaction with situational characteristics specific to economic variables/benefits associated with the position)	1. Current salary 2. Health/medical benefits 3. Retirement benefits 4. Leave time 5. Vacation time 6. Opportunities for professional learning 7. Technology resources of school 8. Condition of school facility 9. Technology perks (provided with paid technology devices) 10. Coverage of expenses incurred while performing role
2. To what degree are head principals in Kentucky satisfied with psychological attributes of their job? (Satisfaction with situational occurrences specific to psychological needs)	11. Effect job has on personal life 12. Impact I am having on students 13. Feeling that what I am doing is making a difference 14. Recognition of my efforts by others 15. Support from superintendent 16. Support from central office 17. Support from teachers 18. Support from the community

Table 2.1 (Continued)

Research Questions Aligned to Framework and Variables of Job Satisfaction

Research question	Variables of job satisfaction
	19. Amount of autonomy I have as the school leader
	20. Job security of current position
3. To what degree are head principals in Kentucky satisfied with tasks and responsibilities associated with their job?	21. The extent to which my job duties are clear
	22. Amount of managerial tasks
	23. Amount of hours worked per week
	24. Amount of time spent dealing with student discipline
(Satisfaction with situational occurrences representative of the actual work context including the tasks and responsibilities performed)	25. Amount of time spent supervising school-related activities that extend beyond the school da
	26. Amount of time I have to observe classes
	27. Amount of time I am able to focus on tasks I find personally fulfilling
	28. Amount of responsibility for compliance to regulations relating to students with special needs
	29. Amount of responsibility associated with leading the Site-Based Decision Making Council
	30. Amount of responsibility to address issues started out of school via social networking sites

Summary

While job satisfaction has been examined by scholars for well over a century to determine factors related to job retention and worker productivity, the study of job satisfaction in the principalship did not occur until the 1960s. As the role of the principal drastically changed from 1950 to the present in order to adapt to political and societal demands, so too did the moderators and levels of satisfaction experienced by principals as evidenced by numerous studies. The number of principal job satisfaction studies sharply increased from 2000 to the present in response to decreasing rates of retention in the principalship. With decreased principal retention and fewer candidates seeking the position due to its challenging nature, there is a need to better understand the job satisfaction of principals and how such data could be used to retain effective principals. This chapter presented literature vital to the present study followed by essential descriptive information on the methodology and theoretical framework. Chapter Three presents the research methods and includes the purpose of the study, the study's objectives, research questions, design, instrumentation, and framework.

CHAPTER 3: RESEARCH METHODS

Purpose and Significance

The purpose of this study was to measure job satisfaction of head principals in Kentucky. Effective principals can impact student learning and other vital outcomes; thus, it is important to be able to retain effective school leaders. Examining the perceived sources of principal's satisfaction and dissatisfaction with their work has strong implications for policies and practices that can be implemented to increase principal retention (Institute for Educational Leadership, 2000; Sodoma & Else, 2009). As such, the research questions of this study seek to uncover sources of satisfaction and dissatisfaction in the principalship.

Objectives and Research Questions

The study constructed a profile of the demographic and personal characteristics of Kentucky principals, and used the Rasch Rating Scale Model (RRSM) to measure participants' satisfaction with specified job facets.

The following research questions guided the study:

1) To what degree are head principals in Kentucky satisfied with economic attributes of their job?
2) To what degree are head principals in Kentucky satisfied with psychological attributes of their job?
3) To what degree are head principals in Kentucky satisfied with tasks and responsibilities associated with their job?

Study Type and Data Analysis

The research conducted was an exploratory study using survey research methods.

Rasch measurement analyses (Rasch, 1960) were used to investigate principals' satisfaction with various aspects of their positions. The study surveyed all head principals (approximately *N*=1,158) throughout Kentucky's 174 public school districts.

Data collection consisted of three phases. First, descriptive statistics were obtained to provide insights regarding those who completed the survey. Second, the psychometric properties of the instrument were evaluated and reported (survey validation). Third, inferences were made using the job satisfaction framework employed for this study and findings from the Rasch analysis.

Sample Frame

The study utilized a census sampling approach (McMillan & Schumacher, 2010) to survey all head principals (approximately *N*=1,158) throughout Kentucky's 174 public school districts. A head principal was defined as the person serving as building principal in a public school housing pre-school to 12th grade students. This criterion excluded head principals of private, parochial, vocational, and alternative schools. These individuals, and their contact information, was located and affirmed using the Kentucky Department of Education website as well as individual school district websites.

Instrument

The Principal Job Satisfaction Survey (Appendix A) was developed by the researcher and administered via e-mail to participants using the Qualtrics survey program. The approximate time for completion of the survey was 5-10 minutes. The survey required an identification number to be entered in the title screen, and included a total of 30 questions divided into three main sections (followed by a final section of 11 demographic questions).

Section one included 10 questions measuring principal job satisfaction with situational characteristics specific to economic variables/benefits associated with the position. Sections two and three examined the impact of situational occurrences. Section two included 10 questions measuring principal job satisfaction in relation to psychological needs. Section three included 10 questions measuring principal job satisfaction with attributes representative of the actual work context including the tasks and responsibilities performed.

Section four contained 11 demographic items. These items included questions about both the participant (e.g., gender, race, age, education, years of experience as a professional educator, years of experience as a head principal, and time elapsed since graduating from a principal preparation program) and his or her school (e.g., student population, percent free/reduced lunch, racial minority, and special needs population).

Each question was measured using a 5-point Likert-type-scale. Participants rated their level of satisfaction with each item using a semantic differential scale. The scale ranges on a satisfaction continuum from 1-5, with 1 being "Very Dissatisfied" and 5 being "Very Satisfied".

Instrument Pilot Test. The survey instrument was tested with 25 individuals similar to the proposed sample frame. The instrument test yielded a total of 14/25 responses for a 56% response rate. The focus of the test was to examine the quality of the instrument and identify any potential issues prior to its actual use for the proposed study. No major issues were found with the instrument and revisions consisted of only minor modifications in the wording and ordering of questions.

The researcher employed a systematic sampling method (McMillan &

Schumacher, 2010) to select the 25 participants. Using an alphabetical listing of all 120 Kentucky counties, the researcher selected every 10th county for a total of 12 counties. Participants' contact information was obtained from the Kentucky Department of Education website. A spreadsheet was created and each individual was assigned an identification number in increments of five starting with the first person. Next, each respondent was contacted individually via e-mail so the message was not mistaken as a mass mailing and, also, to ensure anonymity of respondents. The content of the subject line and e-mail was copied from a previously created cover letter (Appendix B) so every respondent received the same message. At the end of the message, an assigned identification number was included along with a link to the survey (Dillman, Smyth, & Christian, 2009).

The survey was left open for two weeks and by the closing date a total of 14/25 responses had been collected for a 56% response rate. All respondents were Caucasian/White and of these respondents, 8 were male and 5 were female with 31% ranging in age from 35-44 (*n*=4), 38% 45-54 (*n*=5), and 31% 55-64 (*n*=4). Participants varied in their experience as administrators with 15% (*n*=2) indicating 6-10 years, 54% (*n*=7) 11-15 years, and 8% (*n*=1) 21-25 years of experience.

The researcher exported responses into an Excel spreadsheet and created a control file that was used in Winsteps measurement software (Linacre, 2011) to test data-to-model fit, examine person and item measure quality, rating scale functioning, score reproducibility, and illustrate the construct hierarchy by way of item maps. Test of data-to-model fit, as well as person and item measure quality, was conducted for each of the three subscales used to measure principal job satisfaction. Parameters for acceptable

measures, as outlined by Bond and Fox (2007), were used to determine whether results fell within satisfactory ranges. In each case, data-to-model fit was very good (INFIT and OUTFIT mean square estimates of .98-1.02), with person and item measures also demonstrating acceptable variability. All response categories were utilized by survey participants indicating respondents did not find items to be too easy/difficult to endorse.

Cronbach's alpha was determined for each of the subscales. The first subscale produced high reliability for person responses (.89), and item reliability was at an acceptable range (.74). The second subscale produced high reliability for person responses (.92) and item reliability was also within an acceptable range (.72). The third subscale produced high reliability for person responses (.93), while item reliability was less than ideal (.66). A limitation to acknowledge in the reported reliability statistics is the small number of participant responses; however, closer examination of the pilot data and a follow-up expert panel review/cognitive test determined that the instrument functioned well for participants and for measurement of the desired constructs.

Procedures

All head principals in Kentucky's 174 school districts were contacted via e-mail (using addresses/the directory of principals provided on the Kentucky Department of Education website). This e-mail included a short message (Appendix B) indicating the purpose of the survey, a statement of significance, a request for their participation, a statement regarding how their responses will be kept confidential, instructions for completing the survey, and lastly, a statement thanking them for their participation (Dillman, Smyth, & Christian, 2009).

Follow-up e-mails were sent to participants who had not responded within one

week requesting their participation and stressing the importance of their responses. One week later, remaining participants were sent another reminder e-mail. After a third week had passed without response, one final reminder was sent to non-responders indicating this was the last opportunity to participate. Participants who had already completed the survey were removed from the re-sampling frame, thus ensuring only non-responders from the initial survey administration received a follow-up invitation (Dillman, Smyth, & Christian, 2009). A total of three reminders were sent.

Survey data were collected during the spring term of the 2011-2012 academic school-year. Proper timing of survey administration was critical to obtain an optimal response rate. Given the emphasis on state accountability testing, all testing windows were avoided. All data remained confidential by using encryption on any storage devices. Storage devices were kept under lock and key. Raw data responses were not shared with other persons, researchers or organizations, and results appeared only in aggregate form.

Data Analysis

While survey research on principal job satisfaction has provided considerable contributions to the literature, much of this research has been limited to traditional statistical methods. In contrast, the researcher employed a Rasch measurement model specifically designed for survey rating scales, namely the Rasch Rating Scale Model (RRSM) (Andrich, 1978). This model is appropriate for Likert-scale data because it relates the amount of a person's latent trait (e.g., one's tendency to agree with a statement) to the probability of an item response on a single scale. It is only when these two elements are placed on the same scale and compared that truly meaningful inferences

about person and item interactions can be made. Furthermore, the Rasch analysis utilized Winsteps measurement software to test data-to-model fit, examine person and item measure quality, rating scale functioning, score reproducibility, and illustrate the construct hierarchy by way of item maps.

Researcher Bias

The researcher came into the study with the bias of being a certified but non-practicing principal, and had biases about potential attributes that contributed to principal dissatisfaction. To protect against such bias, the researcher relied on objective, empirical measures to determine results. Any subjective judgments or inferences made were based on the results and supported by objective data. The literature review included a thorough and non-partisan presentation of existing literature and studies as to include all perspectives.

Summary

This chapter presented the research methods that were used to conduct the study. Detailed information on the purpose of the study, as well as the study's objectives, research questions, design, instrumentation, and framework were provided. Specific information regarding the procedures for data collection and data analysis was also presented. Chapter Four presents the results of the study.

CHAPTER 4: ANALYSIS AND RESULTS

Effective principals are vital to the success of schools and students. However, the continued expansion of principals' responsibilities is having a detrimental effect on their job satisfaction; therefore, it is increasingly challenging to retain these important leaders (Chapman, 2005; Drake & Roe, 2003; Educational Research Service, 2000). This chapter presents results from the survey instrument used to measure the job satisfaction of head principals in Kentucky. First, descriptive statistics are presented to provide insights about the demographic characteristics of the survey sample. Next, the psychometric properties of the instrument are evaluated and reported (survey validation), followed by a discussion of construct validity. Lastly, findings from the Rasch analysis are presented in relation to the research questions of the study:

1) To what degree are head principals in Kentucky satisfied with economic attributes of their job?
2) To what degree are head principals in Kentucky satisfied with psychological attributes of their job?
3) To what degree are head principals in Kentucky satisfied with tasks and responsibilities associated with their job?

Characteristics of Respondents

The study population (N=1,158) consisted of a census sample of all head principals throughout Kentucky's 174 public school districts. A total of 478 responses were collected providing a response rate of 41%. Basic highlights of the descriptive statistics of survey respondents are provided next.

Principals surveyed were 54% male and 46% female. The majority were

White/Caucasian (96%) and between the ages of 35 and 54 (77%). Many were Rank I educators (83%) and had 10 or more years of experience as professional educators (94%). Most graduated from a leadership preparation program within the past 15 years (89%), had been a head principal for 10 years or less (77%), and supervised student populations between 250 and 749 (79%).

Table 4.1

Descriptive Statistics of Survey Respondents

Variable	n	%
Gender		
Male	248	54
Female	212	46
Age		
25-34	33	7
35-44	177	38
45-54	181	39
55-64	65	14
65 or above	6	1
Race		
White/Caucasian	442	96
African American	17	4
Hispanic	2	-
Asian	0	0
Native American	1	-
Asian	0	0
Education		
Master's	59	13
Rank I	381	83
Doctorate	21	5

Table 4.1 (Continued)

Descriptive Statistics of Survey Respondents

Variable	n	%
Years of experience as a professional educator		
0-5	0	0
6-10	30	6
11-15	94	20
16-20	122	26
21-25	101	22
26 or more	115	25
Years of experience as a head principal		
0-5	201	44
6-10	153	33
11-15	75	16
16-20	14	3
21-25	9	2
26 or more	9	2
Years since graduating from a leadership preparation program		
0-5	125	27
6-10	190	41
11-15	97	21
16-20	30	6
21-25	15	3
26 or more	5	1
Size of student population		
0-249	22	5
250-499	191	41
500-749	154	33
750-999	53	11
1000 or more	42	9

Psychometric Properties of the Instrument

An important step in conducting survey research is to evaluate the quality of the instrument as it pertains to the sample, and the extent to which the data and instrument interact to produce sound and reproducible results. In this section, the psychometric properties of the instrument are evaluated and reported (survey validation). Specifically, the psychometric properties of dimensionality, reliability, rating scale effectiveness, person measure quality, item measure quality, item hierarchy, and construct validity are examined. Royal and Elahi (2011) introduced an effective way to evaluate construct validity in the Rasch context by way of Messick's (1995) framework for construct validity. The present study follows the format of Royal and Elahi as inferences about construct validity in the Rasch context are evaluated.

Dimensionality

Winsteps measurement software was used to perform a principal components analysis of standardized residual correlations to investigate dimensionality. A total of 44.8% of the primary Rasch dimension was explained. The largest secondary dimension explained 5.7% of the variance. Variance explained by the items totaled 27.1%. This is over five times the variance from the first contrast, which had an eigenvalue of 3.1. Eigenvalues of 2.0 or above indicate potential for additional dimensions. However, the 3.1 eigenvalue of the first contrast suggested at best, it had the strength of about 3 items (out of the 30 total). Considering this evidence, the Rasch dimension was both sufficient in magnitude and detection to be discernible as the primary dimension, thus meeting the requirement for unidimensionality.

Reliability

Reliability and separation measures estimate the extent to which scores are reproducible. Table 4.2 provides the "Real" and "Model" reliability and separation measures. *Real* can be thought of as "worst case estimates" and *model* as "best case estimates" with true reliability falling somewhere in-between (Edkins & Royal, 2011). Person reliability in the sample ranged from .92 to .94, indicating high internal consistency. Item reliability estimates were stable at .99, indicating high item reliability. Separation measures provide a ratio for sample deviation, corrected for error, to the average estimation error (Linacre, 2011). Rasch models place items and persons on a single scale along a continuum, and when lower values of separation are present (less than 1.0), it suggests redundancy in items and less variability between persons in relation to the measured trait (Green, 1996). Separation estimates for persons in the sample ranged from 3.46 to 3.48, thus indicating sufficient spread. Items also indicated sufficient spread with separation measures from 10.40 to 10.86.

Table 4.2

Reliability and Separation Measures

Category	Real reliability	Model reliability	Real separation	Model separation
Persons	.92	.94	3.46	3.88
Items	.99	.99	10.40	10.86

Subscale Reliability

Table 4.2 provided the "Real" and "Model" reliability and separation measures for the instrument as a whole. Subscales exist within the survey instrument, which divide the

instrument into three sections. Each section included 10 items designed to measure principals' job satisfaction in relation to a specific research question. Section one (items 1-10) measured principals' job satisfaction with economic attributes of their job. Section two (items 11-20) measured principals' job satisfaction with psychological attributes of their job. Section three (items 21-30) measured principals' job satisfaction with tasks and responsibilities associated with their job. Table 4.3 provides the "Real" and "Model" reliability and separation measures for each of these subscales.

Table 4.3

Reliability and Separation Measures for Subscales

Subscale	Category	Real reliability	Model reliability	Real separation	Model separation
Economic	Persons	.82	.86	2.15	2.45
	Items	.97	.97	5.87	6.08
Psychological	Persons	.84	.87	2.31	2.62
	Items	.99	.99	10.26	10.70
Tasks and responsibilities	Persons	.85	.88	2.42	2.75
	Items	.99	.99	10.02	10.37

Subscale #1, economic attributes. Person reliability ranged from .82 to .86, indicating fairly high internal consistency. Item reliability estimates were stable at .97, indicating high item reliability. Separation estimates for persons in the sample ranged from 2.15 to 2.45, thus indicating sufficient spread. Items also indicated sufficient spread with separation measures from 5.87 to 6.08.

Subscale #2, psychological attributes. Person reliability ranged from .84 to .87, indicating fairly high internal consistency. Item reliability estimates were stable at .99,

indicating high item reliability. Separation estimates for persons in the sample ranged from 2.31 to 2.62, thus indicating sufficient spread. Items also indicated sufficient spread with separation measures from 10.26 to 10.70.

Subscale #3, tasks and responsibilities. Person reliability ranged from .85 to .88, indicating fairly high internal consistency. Item reliability estimates were stable at .99, indicating high item reliability. Separation estimates for persons in the sample ranged from 2.42 to 2.75, thus indicating sufficient spread. Items also indicated sufficient spread with separation measures from 10.02 to 10.37.

Rating Scale Effectiveness

The quality of a rating scale can be determined by the extent to which response options were appropriate, the categories functioned as intended, and the consistency of interpretation of items by participants (Linacre, 2002). Table 4.4 displays the rating scale diagnostics produced. Counts and percents indicated the extent to which respondents utilized the five rating scale response options. Results supported that respondents fully utilized each of the rating scale response options. The extent to which each of the response options fit the structure of the rating scale can be determined by looking at the INFIT and OUTFIT mean-square values. INFIT and OUTFIT mean-square ranges that are reasonably productive for rating scale measurement should fall between 0.6-1.4 (Wright & Linacre, 1994). The INFIT and OUTFIT mean-square values for each of the response options were well within these ranges, indicating good fit to the structure of the rating scale. Structure calibrations and category measures (also known as step calibrations), should increase in ascending order (Linacre, 2002). Structure calibrations and category measures ascended from smallest to largest in the results, thus, indicating

respondents were able to appropriately and consistently distinguish the ordinal pattern of response options.

Table 4.4

Summary of Rating Scale Diagnostics

Rating category	*n*	%	INFIT mean square	OUTFIT mean square	Structure calibration	Category measure
(1) Very dissatisfied	868	6	1.14	1.22	NONE	-2.83
(2)	2102	15	.96	.98	-1.48	-1.25
(3)	3625	26	.95	.94	-.62	-.12
(4)	4942	35	.95	.93	.20	1.20
(5) Very satisfied	2532	18	1.00	1.00	1.90	3.12

Person Measure Quality

Person measure quality was assessed by examining the stability of measures, size of standard errors, and fit statistics (see Table 4.5). Person measures were acceptable, with an average standard error of .23. Using Wright and Linacre's (1994) criteria for reasonable INFIT and OUTFIT mean square values (0.6 to 1.4), fit statistics for person measures were evaluated. Approximately n=100, or 21% of persons were identified as potentially misfitting and qualified as candidates for removal. While 21% appears to be a large portion, upon further examination it was found that 50% of these principals did not exceeded fit values of 2.0, or below .5; therefore, these values did not distort or degrade measurement. Considering these findings, a more approximate percentage of sample mistfit was 10%. Without removing any misfitting persons, the full data set still provided

INFIT and OUTFIT values of 1.01, indicating nearly perfect overall data-to-model fit. As such, the researcher chose to retain all respondents.

Table 4.5

Overall Data to Model Fit Statistics

	Measure	Model error	INFIT MNSQ	OUTFIT MNSQ
Persons				
M	.54	.23	1.01	1.01
SD	.94	.05	.50	.49
Items				
M	.00	.06	1.00	1.01
SD	.60	.00	.23	.25

Item Measure Quality

Item functioning and the usefulness of a measure can be determined by examining item measures, error, and fit values. Table 4.6 displays the item statistics for each of the 30 survey items. A difficulty measure is provided (D_i) for each item, along with a standard error estimate. INFIT and OUTFIT mean-square fit statistics were also included to demonstrate data to model fit, and support content validity. Item difficulty calibrations ranged from -1.01 to 1.08 logits, indicating adequate discrimination for data analyzed using the RRSM. Standard error estimates for each item were small and rather stable, ranging between .05 and .06. As mentioned previously, INFIT and OUTFIT mean-square ranges that are productive for rating scale measurement should fall between 0.6-1.4; however, values do not distort or degrade measurement until they exceed 2.0, or

produce misleadingly good reliabilities and separations until they are less than .5 (Wright & Linacre, 1994). Only two items in the present data set stood out as potentially problematic. Question *7, satisfaction with condition of school, and Q9, satisfaction with technology perks*, slightly misfitted the model's expectations. However, further qualitative investigation of these items would be needed before considering their removal from the survey.

Table 4.6

Item Quality Indicators

Item (level of satisfaction with...)		D_i	SE	INFIT MNSQ	OUTFIT MNSQ
Q1	Current salary	-.13	.05	1.13	1.13
Q2	Health/medical benefits	-.16	.05	1.13	1.24
Q3	Retirement benefits	-.83	.06	.91	.91
Q4	Leave time	-.31	.06	.82	.80
Q5	Opportunities for professional learning	-.68	.06	.96	.95
Q6	Technology resources of school	-.19	.05	1.27	1.24
Q7	Condition of school	-.39	.06	1.49	1.53
Q8	Vacation time	-.01	.05	1.09	1.14
Q9	Technology perks	.31	.05	1.47	1.61
Q10	Coverage of expenses while performing role	.16	.05	1.00	.99
Q11	Effect job has on personal life	.95	.05	.83	.88
Q12	Impact I am having on students	-.97	.06	.71	.71
Q13	Feeling that what I am doing is making a difference	1.1	.06	.78	.80
Q14	Recognition of my efforts by others	.25	.05	.82	.81
Q15	Support from superintendent	-.39	.06	1.40	1.34
Q16	Support from central office	-.13	.06	1.35	1.37

Table 4.6 (Continued)

Item Quality Indicators

Item (level of satisfaction with...)		D_i	SE	INFIT MNSQ	OUTFIT MNSQ
Q17	Support from teachers	-.78	.06	.89	.88
Q18	Support from the community	-.42	.06	.96	.96
Q19	Amount of autonomy I have as the school leader	-.26	.06	.80	.77
Q20	Job security of current position	-.47	.06	1.06	1.03
Q21	The extent to which my job duties are clear	-.63	.05	.65	.64
Q22	Amount of managerial tasks	.86	.05	.82	.83
Q23	Amount of hours worked per week	.91	.05	.75	.76
Q24	Amount of time spent dealing with student discipline	.49	.05	1.02	1.03
Q25	Amount of time spent supervising school-related activities that extend beyond the school day	.47	.05	.86	.85
Q26	Amount of time I have to observe classes	.71	.05	1.07	1.09
Q27	Amount of time I am able to focus on tasks I find personally fulfilling	.78	.05	.61	.62
Q28	Amount of responsibility for compliance to regulations relating to students with special needs	.72	.05	.97	.99
Q29	Amount of responsibility associated with leading the Site-Based Decision Making Council	.06	.05	.96	.98
Q30	Amount of responsibility to address issues started outside of school via social networking sites	1.08	.05	1.30	1.34

Item Hierarchy

The ability to identify items on an interval scale enhances one's capability to understand a construct and recognize potential inadequacies in a given scale (Green, 1996). The item map presented in Figure 4.1 illustrates the construct hierarchy for job

satisfaction among head principals in Kentucky. When principals responded to items, they indicated their level of satisfaction using an ordinal rating scale. Using the Rasch Rating Scale Model, these raw ordinal data responses were converted to their natural logarithm, thereby producing interval level measures, or logits. Similar to a ruler, which uses inches to represent equidistant interval level units of measure, item maps use logits. A logit scale (descending vertically from 5 to -2) can be seen on the far left side of the item map.

Next, the map is displayed in two distinct halves, with persons appearing on the left, and survey items on the right. Each ascend and descend along the same logit scale. Person respondents or principals, are symbolized as # (*n*=4) or "." (*n*=1 to 3). The center or the map includes the symbols, M, S, and T, which indicate the mean, standard deviation, and two standard deviation marks for distributions of people and items. The *M* for principals is about .5 logits, with a significant majority within two standard deviations of the mean. The item *M* is 0 logits, with all items falling within two standard deviations from the mean. Items provided good distribution for the sample with the exception of some extreme respondents. Principals with the highest logit values (closest to the top of the map) were more likely to express satisfaction with items than individuals with the lowest logit values (closest to the bottom of the map). The most difficult items for principals to express satisfaction with were items at the top of the map (*Q11, Q30*). The least difficult items for principals to express satisfaction with were items at the bottom of the map (*Q12, Q13*).

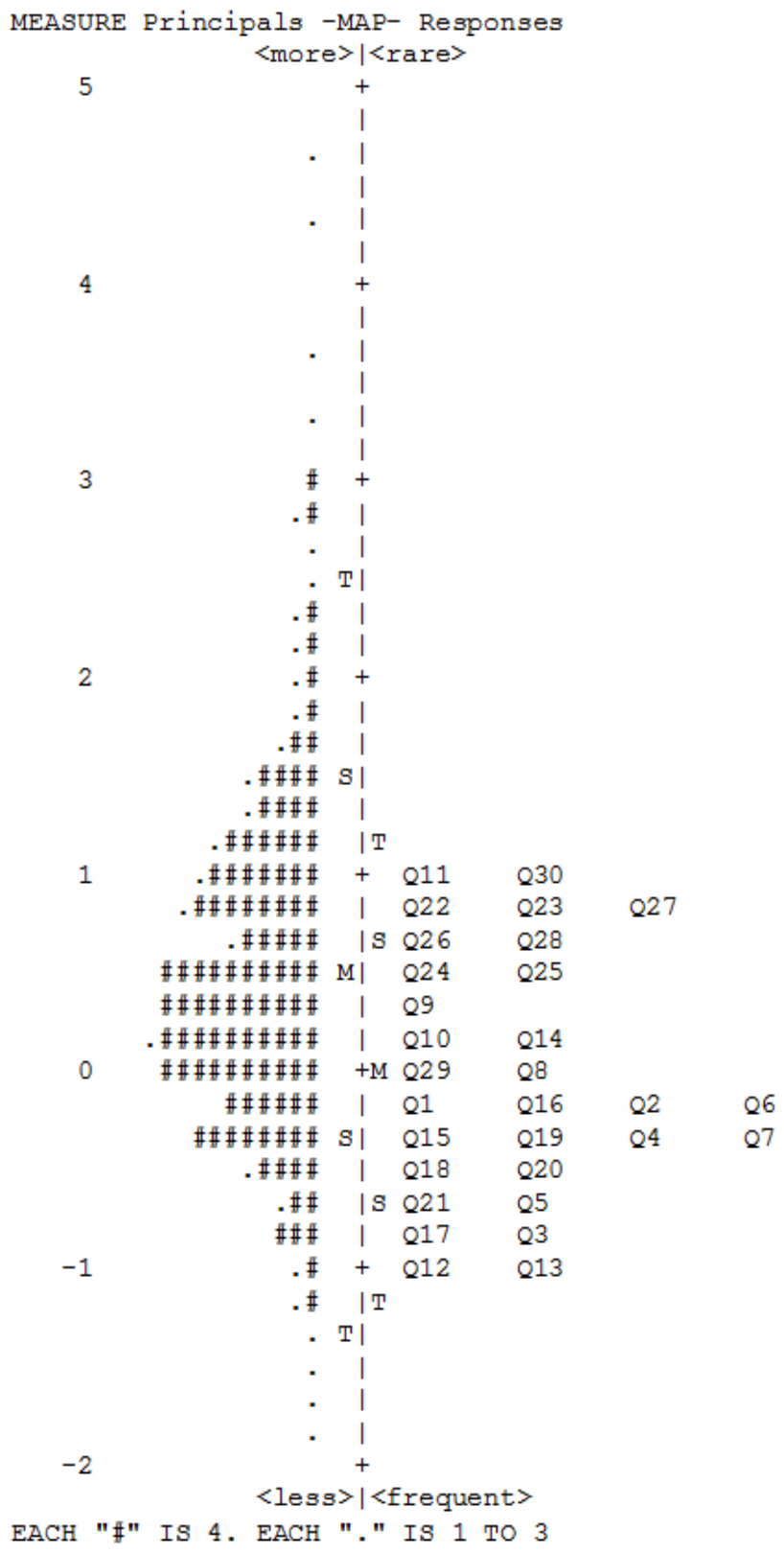

Figure 4.1 Person and Item Hierarchy Map

Construct Validity

Using suggestions by Wolfe and Smith, Jr. (2007), Royal and Elahi (2011) demonstrated an effective way to evaluate construct validity in the Rasch context by way of Messick's (1995) framework for construct validity. As outlined by Royal and Elahi (2011), Messick's (1995) framework contains six components of construct validity: substantive, structural, content, generalizability, external, and consequential. The present study followed the format of Royal and Elahi as inferences about the various aspects of construct validity in the Rasch context were evaluated.

Construct validity is the examination and integration of any evidence which may influence the interpretation or meaning of a score (Messick, 1995). First, a principal components analysis of standardized residual correlations determined the Rasch dimension was both sufficient in magnitude and detection to be discernible as the primary dimension, thus meeting the requirement for unidimensionality. These findings provided support for the aspect of substantive validity. Structural validity was evidenced by respondents' full use of the rating scale, along with structure calibrations and category measures supporting that respondents were able to appropriately and consistently distinguish the ordinal pattern of the response options. Acceptable INFIT and OUTFIT mean-square measures and small standard errors for items supported content validity. With the exception of two items that slightly misfitted the model's expectations, all other item measures conformed to Wright and Linacre's (1994) recommended range of 0.6-1.4, and standard error estimates were small and rather stable, ranging between .05 and .06. Next, reliability estimates for persons (.92) and items (.99) were exceptional, thus supporting the generalizability component of validity. External validity is not examined

in the present study. Systematic validity can be evaluated by performing Differential Item Functioning (DIF) analyses. The present study did not investigate systematic validity; however, future studies will investigate this topic. No evidence of consequential validity was presented as outcomes of score interpretations are unknown at this time. All evidence presented supports construct validity, making findings from the study likely to be both accurate and reliable.

Findings from the Rasch Analysis Relating to the Research Questions

Before determining the implications of results to the research questions posed in this study, the validity of these results was established. A thorough analysis of the psychometric properties of the survey instrument was provided in the previous section. The results of this evaluation and an examination of construct validity found the instrument and data to be valid and reliable. In this section, findings from the Rasch analysis are presented to address the following research questions:

1) To what degree are head principals in Kentucky satisfied with economic attributes of their job?
2) To what degree are head principals in Kentucky satisfied with psychological attributes of their job?
3) To what degree are head principals in Kentucky satisfied with tasks and responsibilities associated with their job?

The survey included a total of 30 questions divided into three sections. Each section included 10 items designed to measure principals' job satisfaction in relation to a specific research question (see Appendix D). Section one (items 1-10) corresponds to research question one, and measured principals' job satisfaction with economic attributes

of their job. Section two (items 11-20) corresponds to research question two, and measured principals' job satisfaction with psychological attributes of their job. Section three (items 21-30) corresponds to research question three, and measured principals' job satisfaction with tasks and responsibilities associated with their job. These sections are also aligned to the theoretical framework outlined in Chapter 2, which was used to investigate the research questions of this study.

The next sections present findings for each of the research questions. In each section, item maps illustrate the hierarchy among all 30 job satisfaction survey items. First, the 10 items used to measure the research question are underlined and in bold to visually articulate the relationship of these items along the entire satisfaction continuum. In this way, results can be presented relative to the entire survey instrument and sample. Next, tables are presented demonstrating the hierarchy among each of the ten items. This enabled comparisons to be made among the ten items.

Research Question #1

Research question 1 investigated Kentucky head principals' satisfaction with economic attributes of their jobs. Principals at or below the person *M* in the sample did not have difficulty endorsing any of the items measuring economic attributes. In other words, these principals expressed moderate to high levels of satisfaction with economic job attributes. As such, none of the 10 economic items investigated were found to be significant sources of job dissatisfaction for principals in this sample.

These results are supported by examining the hierarchy of survey items *Q1-Q10* on the item map. Figure 4.2 shows these ten items (underlined and bold) along the construct hierarchy for job satisfaction among Kentucky head principals. As can be seen

in Figure 4.2, all items measuring economic job satisfaction were below the person *M* for this sample, and only three items (*Q8, Q9,* and *Q10*) were at or above the item *M*. While none of these items were significant sources of dissatisfaction when compared to other types of survey items, an examination of the hierarchy among these attributes (see Table 4.7) illustrates how these items functioned in relation to one another. These findings provide a rich context for understanding this set of variables which will be discussed in Chapter 5.

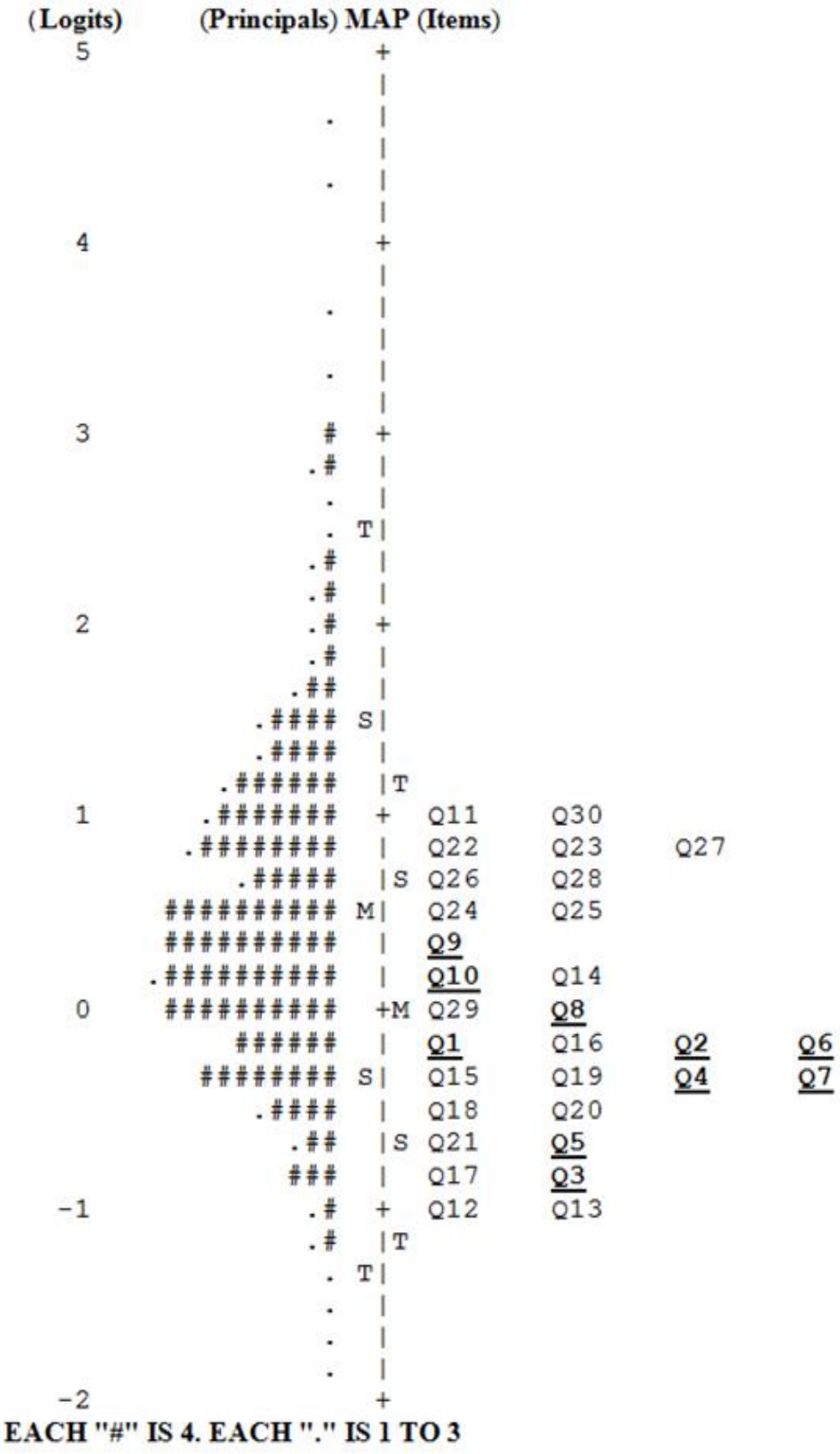

Figure 4.2 Person and Item Hierarchy Map for Economic Attributes

Table 4.7

Hierarchal Order of Economic Job Satisfaction Variables

Research Question	Variables of job satisfaction (least to most satisfied)
1. To what degree are head principals in Kentucky satisfied with economic attributes of their job?	Q9 Technology perks (provided with paid technology devices)
	Q10 Coverage of expenses incurred while performing role
	Q8 Condition of school facility
	Q1 Current salary
	Q2 Health/medical benefits
	Q6 Opportunities for professional learning
	Q4 Leave time
	Q7 Technology resources of school
	Q5 Vacation time
	Q3 Retirement benefits

Research Question #2

Research question 2 investigated Kentucky head principals' satisfaction with psychological attributes of their jobs. With the exception of *Q11* (*satisfaction with the effect job has on personal life*), principals at or below the person *M* in the sample did not have difficulty endorsing items measuring psychological job attributes. In other words, besides *Q11*, these principals expressed moderate to high levels of satisfaction with psychological job attributes. This data suggests that principals in this sample were generally satisfied with psychological attributes of their job; however, the effect of the

job on their personal lives was a strong source of dissatisfaction compared to the other survey items.

These results are supported by examining the hierarchy of items *Q11-Q20* on the item map (see Figure 4.3). All psychological items except *Q11* are located below the *M* for persons, and the only other item above the item *M* was *Q14, recognition of my efforts by others*. Chapter 5 will discuss additional findings relating to the construct hierarchy for psychological variables (Table 4.8) which includes that principals also experienced intrinsic satisfaction from their jobs.

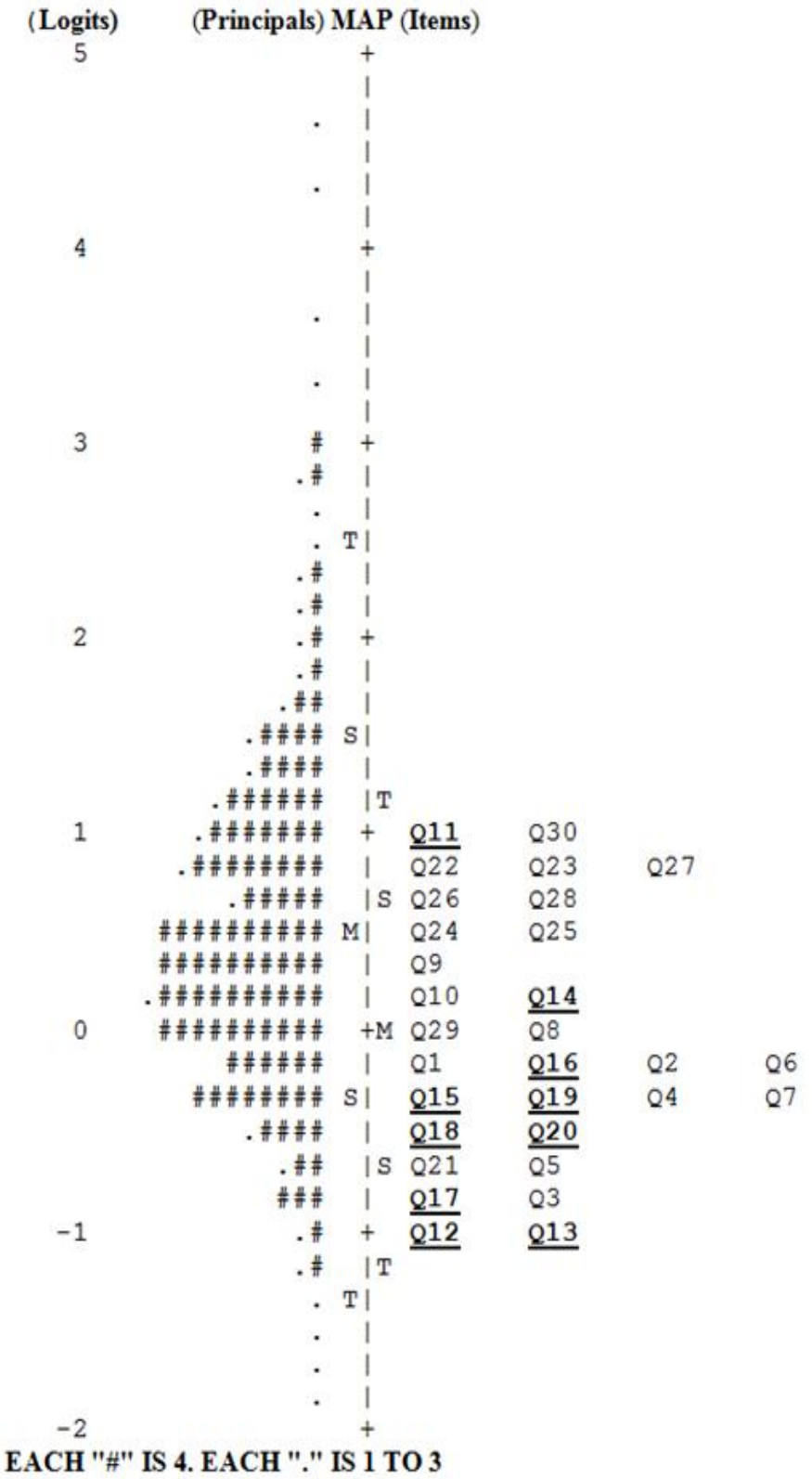

Figure 4.3 Person and Item Hierarchy Map for Psychological Attributes

Table 4.8

Hierarchal Order of Psychological Job Satisfaction Variables

Research Question	Variables of job satisfaction (least to most satisfied)
2. To what degree are head principals in Kentucky satisfied with psychological attributes of their job?	Q11 Effect job has on personal life Q14 Recognition of my efforts by others Q16 Support from central office Q15 Support from superintendent Q19 Amount of autonomy I have as the school leader Q18 Support from the community Q20 Job security of current position Q17 Support from teachers Q12 Impact I am having on students Q13 Feeling that what I am doing is making a difference

Research Question #3

Research question 3 investigated Kentucky head principals' satisfaction with tasks and responsibilities of their jobs. While items spanned up to two standard deviations away from the item mean, almost all items were above the person and item *M* for this sample (See Figure 4.4). As such, with the exception of *Q29* and *Q21*, principals at or below the person *M* in the sample had difficulty expressing satisfaction with task and responsibility job attributes. Eight of the 10 items were found to be strong sources of dissatisfaction for principals in this sample. These included: (a) *Q30 amount of responsibility to address issues started out of school via social networking sites*; (b) *Q22*

amount of managerial tasks; (c) *Q23 amount of hours worked per week*; (d) *Q27 amount of time I am able to focus on tasks I find personally fulfilling*; (e) *Q26 amount of time I have to observe classes*; (f) *Q28 amount of responsibility for compliance to regulations relating to students with special needs*; (g) *Q24 amount of time spent dealing with student discipline*; and (h) *Q25 amount of time spent supervising school-related activities that extend beyond the school day*. Chapter 5 will discuss additional findings relating to the construct hierarchy for task and responsibility variables presented in Table 4.9.

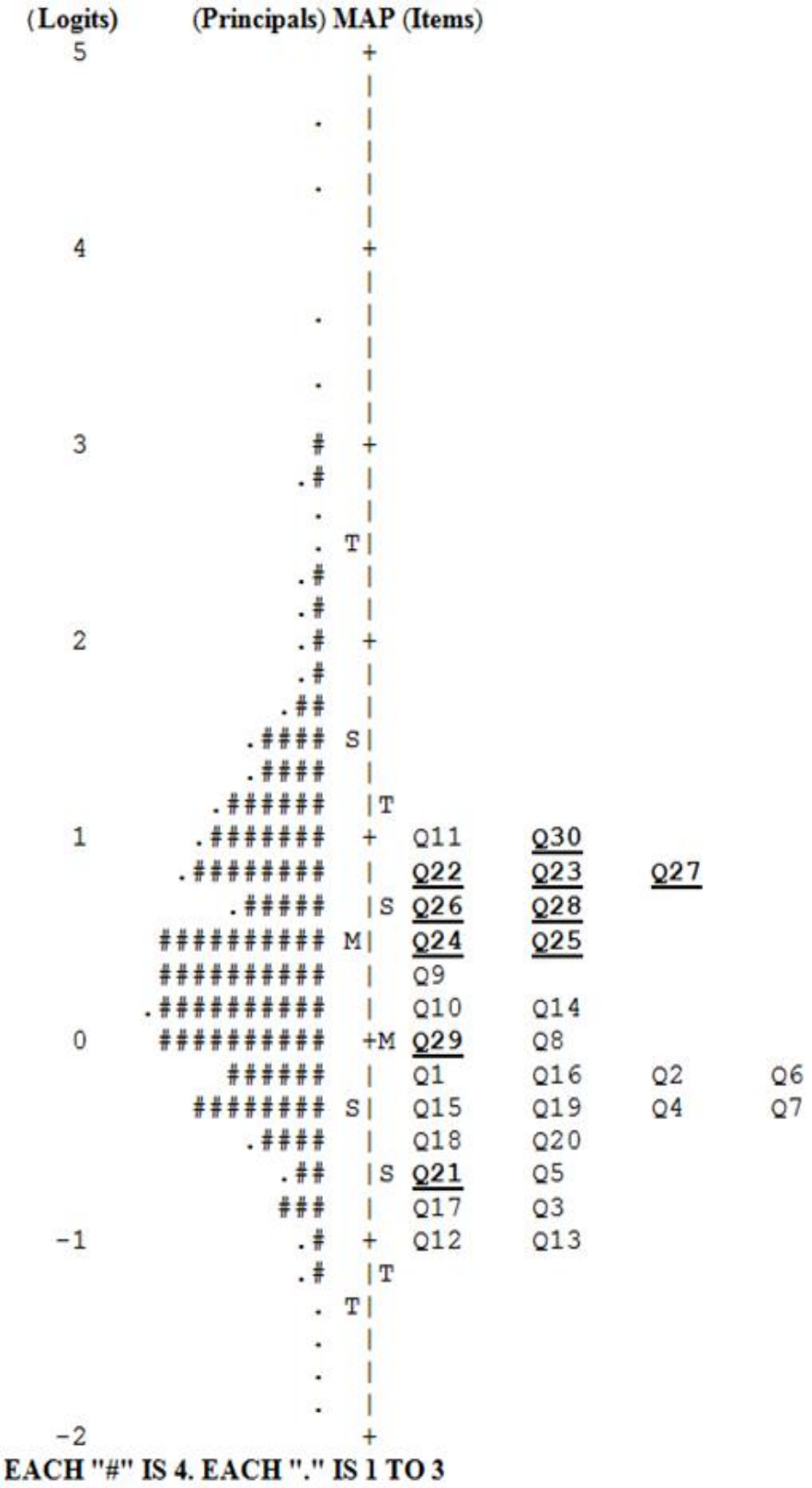

Figure 4.4 Person and Item Hierarchy Map for Tasks and Responsibilities

Table 4.9

Hierarchal Order of Task and Responsibility Job Satisfaction Variables

Research Question	Variables of job satisfaction (least to most satisfied)
3. To what degree are head principals in Kentucky satisfied with tasks and responsibilities associated with their job?	Q30 Amount of responsibility to address issues started out of school via social networking sites
	Q22 Amount of managerial tasks
	Q23 Amount of hours worked per week
	Q27 Amount of time I am able to focus on tasks I find personally fulfilling
	Q26 Amount of time I have to observe classes
	Q28 Amount of responsibility for compliance to regulations relating to students with special needs
	Q24 Amount of time spent dealing with student discipline
	Q25 Amount of time spent supervising school-related activities that extend beyond the school day
	Q29 Amount of responsibility associated with leading the Site-Based Decision Making Council
	Q21 The extent to which my job duties are clear

Summary

This chapter presented results from the survey instrument used in this study to measure the job satisfaction of head principals in Kentucky. A total of 478 responses were collected providing a response rate of 41%. Descriptive statistics provided insights

about the demographic characteristics of the survey sample (detailed in Table 4.1). Before presenting results, the psychometric properties of the instrument were evaluated and reported (survey validation). Specifically, the psychometric properties of dimensionality, reliability, rating scale effectiveness, person measure quality, item measure quality, item hierarchy, and construct validity were examined. The results of this evaluation and an examination of construct validity found the instrument and data to be valid and reliable.

In the last section, findings from the Rasch analysis were presented in relation to the research questions of the study. Research question 1 examined principals' satisfaction with economic job attributes. None of the economic job attributes investigated in this study were found to be strong sources of job dissatisfaction for Kentucky head principals in the sample. Research question 2 investigated principals' satisfaction with psychological attributes of their job. Principals in this sample were generally satisfied with psychological attributes of their job; however, the effect of the job on their personal lives was a strong source of dissatisfaction compared to the other survey items. Research question 3 investigated principals' satisfaction with their job tasks and responsibilities. Eight of the 10 task and responsibility variables were found to have a strong impact on principals' job satisfaction.

CHAPTER 5: SUMMARY AND DISCUSSION

This final chapter restates the research problem, the need for the study, and the methods used to investigate the research questions of the study. Next, a general summary of the results is presented followed by a discussion of these results. Specifically, the discussion provides an interpretation of the findings in conjunction with appropriate research, implications for practice, limitations of the study, and suggestions for additional research.

Superintendents across the nation and professional principal organizations such as the National Association of Elementary School Principals (NAESP), the National Middle School Association (NMSA), and the National Association of Secondary School Principals (NASSP) have reported that retaining principals is more difficult now than at any other time (Chapman, 2005; Drake & Roe, 2003; Educational Research Service, 2000). The continued expansion of principals' responsibilities is having a detrimental effect on their job satisfaction; therefore, it is increasingly challenging to retain these important leaders. Effective principals can impact student learning and other vital outcomes; thus, it is important to be able to retain effective school leaders. Examining the perceived sources of principals' satisfaction and dissatisfaction with their work has strong implications for policies and practices that can be implemented to increase principal retention.

The purpose of this study was to measure the job satisfaction of head principals in Kentucky. The research conducted was an exploratory study using survey research methods. The study sought to obtain a census sample of all head principals throughout Kentucky's 174 public school districts (N=1,158). A profile of the demographic and

personal characteristics of Kentucky principals was constructed, and principals' satisfaction with specified job facets was measured using the Rasch Rating Scale Model (RRSM). The research questions used to guide the study were:

1) To what degree are head principals in Kentucky satisfied with economic attributes of their job?
2) To what degree are head principals in Kentucky satisfied with psychological attributes of their job?
3) To what degree are head principals in Kentucky satisfied with tasks and responsibilities associated with their job?

Summary of Results

Survey Sample

A total of 478 responses were collected providing a response rate of 41%. Principals surveyed were 54% male and 46% female. The majority were White/Caucasian (96%) and between the ages of 35 and 54 (77%). A significant portion held the status of Rank I educators (83%), and had 10 or more years of experience as professional educators (94%). Most respondents graduated from a leadership preparation program within the past 15 years (89%), had been a head principal for 10 years or less (77%), and supervised student populations between 250 and 749 (79%).

Psychometric Properties of the Instrument

An important step in conducting survey research is to evaluate the quality of the instrument as it pertains to the sample, and the extent to which the data and instrument interact to produce sound and reproducible results. In Chapter 4 of this study, the psychometric properties of the instrument were evaluated and reported in detail (survey

validation). Specifically, the psychometric properties of dimensionality, reliability, rating scale effectiveness, person measure quality, item measure quality, and item hierarchy as aspects of construct validity were examined. A summary of these findings is presented next.

A principal components analysis of standardized residual correlations determined the Rasch dimension was both sufficient in magnitude and detection to be discernible as the primary dimension, thus meeting the requirement for unidimensionality. These findings provided support for the aspect of substantive validity. Structural validity was evidenced by respondents full use of the rating scale, along with structure calibrations and category measures supporting that respondents were able to appropriately and consistently distinguish the ordinal pattern of the response options. Acceptable INFIT and OUTFIT mean-square measures and small standard errors for items supported content validity. With the exception of two items that slightly misfitted the model's expectations (*Q7* and *Q15*), all other item measures conformed to Wright and Linacre's (1994) recommended range of 0.6-1.4, and standard error estimates were small and rather stable, ranging between .05 and .06.

Next, reliability estimates for persons (.92) and items (.99) were very high, thus supporting the generalizability component of validity. External validity is not examined in the present study. Systematic validity can be evaluated by performing Differential Item Functioning (DIF) analyses. The study did not investigate systematic validity; however, future studies will investigate this topic. No evidence of consequential validity was presented, as future uses of score interpretations are unknown at the present time. Plenty of evidence was available to support construct validity, thus making the findings

from the study very likely to be both accurate and reproducible.

Organization of Survey Instrument

The survey included a total of 30 questions divided into three sections. Each section included 10 items designed to measure principals' job satisfaction in relation to a specific research question (see Appendix D). Section one (items 1-10) corresponds to research question one, and measured principals' job satisfaction with economic attributes of their job. Section two (items 11-20) corresponds to research question two, and measured principals' job satisfaction with psychological attributes of their job. Section three (items 21-30) corresponds to research question three, and measured principals' job satisfaction with tasks and responsibilities associated with their job. These sections were also aligned to the theoretical framework outlined in Chapter 2, which was used to investigate the research questions of this study.

Results

The next paragraphs summarize results for each of the research questions. Figure 5.1 provides a visual representation of the results for each research question using item maps. The 10 items used to measure each research question are underlined and in bold to illustrate the relationship of these items along the entire satisfaction continuum.

When principals responded to items, they indicated their level of satisfaction using an ordinal rating scale. However, the ability to identify items on an interval scale enhances one's capability to understand a construct and recognize potential inadequacies in a given scale (Green, 1996). Using the Rasch Rating Scale Model, principals' raw ordinal data responses were converted to their natural logarithm, thereby producing interval level measures, or logits.

Research question 1 investigated Kentucky head principals' satisfaction with economic attributes of their jobs. Survey items *Q1-Q10* were used to measure these attributes. Within this construct the most difficult item to endorse was *Q9*, *satisfaction with technology perks (provided with paid technology devices),* and the least difficult economic variable to endorse was *Q3*, *satisfaction with retirement benefits*. As can be seen in Figure 5.1, all items measuring economic job satisfaction were below the person *M* for this sample, and only three items (*Q8, Q9,* and *Q10*) were at or above the item *M*. This data indicated that principals at or below the person *M* in the sample did not have difficulty endorsing any of these items, or in other words, expressing satisfaction with economic job attributes. As such, none of the 10 economic items investigated was found to be significant sources of job dissatisfaction for principals in this sample.

Research question 2 investigated Kentucky head principals' satisfaction with psychological attributes of their jobs. Survey items *Q11-Q20* measured these attributes (see Figure 5.1). The most difficult psychological item for principals to endorse was *Q11*, *satisfaction with the effect job has on personal life*. This item was also one of the most difficult items to endorse on the entire survey. The least difficult psychological variables included *Q12*, *satisfaction with impact I am having on students*, and item 13, *satisfaction with feeling that what I am doing is making a difference*. With the exception of *Q11*, principals at or below the person *M* in the sample did not have difficulty endorsing items measuring psychological job attributes. In other words, besides *Q11*, these principals expressed moderate to high levels of satisfaction with psychological job attributes.

Research Question 1:
To what degree are head principals in Kentucky satisfied with economic attributes of their job?

Section I (Items 1-10)

Research Question 2:
To what degree are head principals in Kentucky satisfied with psychological attributes of their job?

Section II (Items 11-20)

Research Question 3:
To what degree are head principals in Kentucky satisfied with tasks and responsibilities associated with their job?

Section III (Items 21-30)

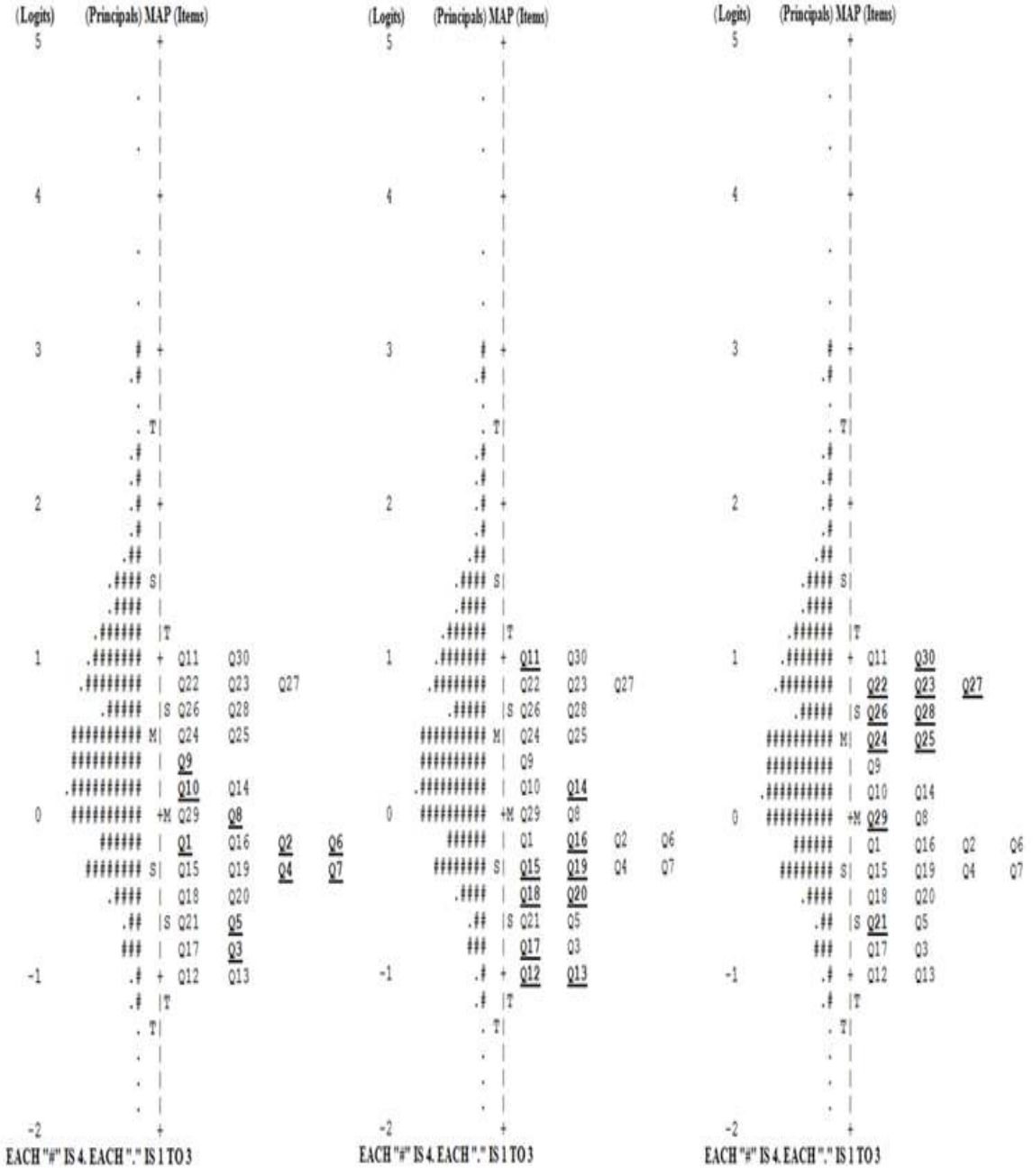

Figure 5.1 Person and Item Hierarchy Maps for Each Research Question

Research question 3 investigated Kentucky head principals' satisfaction with tasks and responsibilities of their jobs. Survey items *Q21-Q30* measured principals' satisfaction with these tasks and responsibilities (see Figure 5.1). While items spanned up to two standard deviations away from the item mean, almost all items were at the top of the scale and above the person mean for this sample. As such, with the exception of *Q29* and *Q21*, principals at or below the person *M* in the sample had difficulty expressing satisfaction with task and responsibility job attributes. Eight of the 10 items were found to be strong sources of dissatisfaction for principals in this sample. These included: (a) *Q30 amount of responsibility to address issues started out of school via social networking sites*; (b) *Q22 amount of managerial tasks*; (c) *Q23 amount of hours worked per week*; (d) *Q27 amount of time I am able to focus on tasks I find personally fulfilling*; (e) *Q26 amount of time I have to observe classes*; (f) *Q28 amount of responsibility for compliance to regulations relating to students with special needs*; (g) *Q24 amount of time spent dealing with student discipline*; and (h) *Q25 amount of time spent supervising school-related activities that extend beyond the school day*.

Interpretation and Discussion of the Findings

The findings of this study provided an overall hierarchy of principals' job satisfaction as well as individual hierarchies among items used to measure each of the research questions. These hierarchies provided an effective means to better understand which variables were the most significant sources of satisfaction and dissatisfaction for Kentucky head principals. An interpretation of findings will be presented for each research question in conjunction with appropriate literature in the following paragraphs.

Research question #1. None of the economic job attributes proved to be significant sources of dissatisfaction for Kentucky head principals. These results are consistent with the findings of content theorists such as Maslow (1954) and Herzberg (1966) who suggest that low level extrinsic motivators (such as economic benefits) are not significant sources of satisfaction. This is not to say economic variables are unimportant when measuring job satisfaction. Instead, these findings suggest that principals in Kentucky are generally satisfied with economic attributes of their jobs, and comparatively less satisfied with psychological attributes or tasks and responsibilities.

Essentially, items measuring economic attributes provided separation among other survey items and enhanced the utility of the instrument. This yielded useful data to better understand the impact of economic attributes on principals' job satisfaction. While none of these items was a significant sources of satisfaction when compared to other types of items on the survey, an examination of the item hierarchy among these economic attributes (see Table 5.1) provided a rich context for understanding this set of variables.

Table 5.1

Hierarchal Order of Economic Job Satisfaction Variables

Research Question	Variables of job satisfaction (least to most satisfied)	
1. To what degree are head principals in Kentucky satisfied with economic attributes of their job?	Q9	Technology perks (provided with paid technology devices)
	Q10	Coverage of expenses incurred while performing role
	Q8	Condition of school facility
	Q1	Current salary
	Q2	Health/medical benefits
	Q6	Opportunities for professional learning
	Q4	Leave time
	Q7	Technology resources of school
	Q5	Vacation time
	Q3	Retirement benefits

Interestingly, among economic attributes, principals in this study were least satisfied with *Q9*, *Technology perks (provided with paid technology devices)*. The majority of existing research on principals' satisfaction with salary (as presented in chapter 2) suggests principals are dissatisfied with their compensation. As such, it was expected that *Q1*, *(current salary)* would have been the highest ranked item in the economic hierarchy. Instead, not only did principals in this study suggest they were generally satisfied with their current salary, but compared to other economic attributes,

Kentucky principals suggested they were less satisfied with other attributes such as the condition of their school facility, the coverage (or lack thereof) of expenses incurred while performing their role, and being provided with paid technology devices.

Q9, *Technology perks (provided with paid technology devices)* has not been examined in previous studies but was included to further the research base on more contemporary economic attributes of the principalship. As such, interpretations and inferences are based solely on the researcher's own knowledge. Follow-up interviews could be an effective method to obtain more insight regarding this item. Principals may have expressed dissatisfaction with technology perks due to an increased need in technology use for communication and work purposes. Throughout the workday and even after, it is expected that principals can be reached for emergencies or simple requests. Therefore, a principal may need to own a smartphone so he or she can be contacted via phone call, text, or email at any given time. Owning a smartphone may provide optimal communication and assist with some work tasks. However, these, and similar devices are expensive and generally not provided to principals by their employing school district.

Similarly, although principals are provided with a computer while at work, unless it is a laptop, they may feel compelled to purchase a computer and additional accessories so they can complete work tasks that demand their attention from home. Furthermore, satisfaction with technology perks ranked significantly lower than satisfaction with technology resources of the school. This could indicate that technology items purchased may not be readily available in the school building for personal work use. Being a contemporary principal almost necessitates having 24-hour access to various technology

devices that are often expensive and not paid for by school districts. If these devices are a necessary part of principals' jobs, and principals have to purchase them, then this may be the reasoning for this particular item being at the top of the hierarchy.

The next item in the economic hierarchy (*Q10)* related to principals' satisfaction with coverage of expenses incurred while performing their role. Whether dissatisfaction with this variable is due to the unexpected expenses encountered performing job tasks, or those previously mentioned, Kentucky principals indicate this is a high level economic attribute. As with *Q9*, follow-up interviews could be an effective method to obtain more insight regarding this item. Similar to *Q9*, this item has not been examined in previous studies but was included to further the research base on more contemporary economic attributes of the principalship. As such, interpretations and inferences are based solely on the researcher's own knowledge. However, having worked in a Kentucky public school system before, the researcher can provide a few inferences.

Kentucky public school systems do not have "petty cash" funds and nearly every item purchased must be done by filling out a purchase order, which must then be approved by the district central office. This process may take one or several days. Furthermore, all items must be purchased from approved vendors unless the item is not available through an approved vendor, or if it can be proven that an alternate source is significantly less expensive than a vendor's cost. Given the immediacy of some needs that arise, principals may determine the need for a purchase outweighs the undesirable personal expense.

The last economic item at or above the item *M* was *Q8, satisfaction with condition of school facility*. The average age of school buildings was 42 years in 2000,

meaning some Kentucky schools may now be more than 50 years old (National Center for Education Statistics, 2000). Aging schools can present limitations for instructional programs and technology use. Kentucky superintendents responding to a survey administered by the Kentucky Legislative Research Commission (2005) indicated the condition and age of school facilities does in fact prevent school districts (and thus principals) from offering many desirable and needed instructional programs. These same superintendents point to the constant need for repairs and difficulty installing modern technology in such facilities as particularly challenging. However, given that principals cited high levels of satisfaction with technology resources of the school, the primary source of dissatisfaction is more likely due to the physical condition of the school facility, instead of an inability to install modern technology. Principals are held highly accountable for student outcomes, yet limitations of their school facility may prohibit access to much needed instructional programs. While principals seek ways to overcome these challenges, many principals may see the condition of their school facility as a limitation and source of dissatisfaction (White, Brown, Hunt & Klosterman, 2011).

Further interpretation of the remaining items measuring economic attributes was limited to basic inferences about their hierarchal placement as these items were well below person and item means. However, it can be inferred that Kentucky head principals are satisfied with the benefits package provided by their employing school districts. This includes health/medical and retirement benefits, as well as time for leave, vacation, and professional learning.

Research question #2. After examining data from research question #1, it was determined that economic factors had very little impact on the job satisfaction of

Kentucky head principals. In fact, no economic attribute was found to be an important predictor of Kentucky principals' job satisfaction. Research question #2 investigated the degree to which head principals in Kentucky were satisfied with psychological attributes of their job. Interestingly, besides *Q11*, these principals expressed moderate to high levels of satisfaction with psychological job attributes. This data suggested that they were generally satisfied with psychological attributes of their job; however, the effect of the job on their personal lives was a strong source of dissatisfaction compared to the other survey items. These findings also suggest dissatisfaction in the Kentucky principalship was not strongly related to economic or psychological attributes measured by the survey.

In examining the hierarchy of psychological attributes measured for research question #2, it is easily discernible that principals were intrinsically satisfied with their jobs. The only item principals indicated being dissatisfied with was *Q11*, *the effect the job had on their personal life*. This finding suggested that something related to the job may have had an impact on principals' personal lives, but the source was not economic, nor due to a lack of intrinsic psychological fulfillment. Taking into account this evidence, it became clear that the sources of dissatisfaction in the principalship would be found in the remaining items measured in research question #3.

However, before moving on to research question #3, it is important to examine the item hierarchy among psychological attributes (see Table 5.2). While these additional results did not suggest any important sources of dissatisfaction, examining this hierarchy can inform the current research base and provide a better understanding of how psychological attributes impact the job satisfaction of Kentucky head principals.

Table 5.2

Hierarchal Order of Psychological Job Satisfaction Variables

Research Question	Variables of job satisfaction (least to most satisfied)
2. To what degree are head principals in Kentucky satisfied with psychological attributes of their job?	Q11 Effect job has on personal life Q14 Recognition of my efforts by others Q16 Support from central office Q15 Support from superintendent Q19 Amount of autonomy I have as the school leader Q18 Support from the community Q20 Job security of current position Q17 Support from teachers Q12 Impact I am having on students Q13 Feeling that what I am doing is making a difference

Since psychological attributes are strong determinates of job satisfaction, it can be inferred from the data that some higher level intrinsic needs and values of Kentucky head principals are being fulfilled. Given the significant impact school leaders have on student outcomes and organizational function, it is encouraging that Kentucky head principals reported high levels of intrinsic job satisfaction. When intrinsically fulfilled by their work, individuals (or in this case principals) are effectively motivated to perform at high levels and exert significant effort (Herzberg, 1966).

Data in the hierarchy indicated principals would like to receive more recognition for their efforts. When principals feel valued and are recognized for their efforts it can be

a significant source of gratification and satisfaction (Sodoma & Else, 2009). Recognition of principals' efforts was the only other item above the item *M*, but it was still below the person *M*. As such, it was not a significant source of dissatisfaction for most principals in this sample. The rest of the items were below both the person and item *M*, and provide a few additional inferences.

When looking at the level of satisfaction principals have with the support they receive, it can be seen that a hierarchy exists here as well (teachers, community, superintendent, central office). Essentially, this hierarchy indicates that principals feel most supported by those they work and interact with most frequently. Next, and very importantly, Kentucky principals indicate a general sense of autonomy and job security. This suggests they are able to act autonomously as the school leader without constantly worrying about job security. Lastly, items *Q12* and *Q13* clearly indicate that Kentucky head principals are very satisfied with the impact they are having on students, and feel their efforts are truly making a difference.

Research question #3. Results from research questions #1 and #2 clearly indicate that Kentucky head principals are satisfied with economic and psychological attributes of their jobs. The only item among either research question principals indicated being dissatisfied with was *Q11* (the effect the job had on their personal life). This finding suggests other job attributes impacted principals' personal lives, but was not due to a lack of economic or intrinsic psychological fulfillment. Upon examining the remaining survey items, it was clear that the most significant sources of dissatisfaction for Kentucky principals related to items measured in research question #3.

Research question #3 measured the degree to which head principals in Kentucky

were satisfied with tasks and responsibilities of their job. With the exception of two items (*Q29* and *Q21*), nearly all of the items measuring satisfaction with tasks and responsibilities were at the top of the scale and above the person *M* for this sample. These results indicated the greatest sources of dissatisfaction for Kentucky head principals related to the tasks and responsibilities of their job. These findings are consistent with prominent job satisfaction theorists such as Glisson and Durick (1988) who suggest that categories of variables, and especially characteristics of job tasks, are excellent predictors of satisfaction and organizational commitment.

Table 5.3

Hierarchal Order of Task and Responsibility Job Satisfaction Variables

Research Question	Variables of job satisfaction (least to most satisfied)
3. To what degree are head principals in Kentucky satisfied with tasks and responsibilities associated with their job?	Q30 Amount of responsibility to address issues started out of school via social networking sites
	Q22 Amount of managerial tasks
	Q23 Amount of hours worked per week
	Q27 Amount of time I am able to focus on tasks I find personally fulfilling
	Q26 Amount of time I have to observe classes
	Q28 Amount of responsibility for compliance to regulations relating to students with special needs
	Q24 Amount of time spent dealing with student discipline
	Q25 Amount of time spent supervising school-related activities that extend beyond the school day
	Q29 Amount of responsibility associated with leading the Site-Based Decision Making Council
	Q21 The extent to which my job duties are clear

Interestingly, among tasks and responsibilities, principals in this study were least satisfied with *Q30 (Amount of responsibility to address issues started out of school via social networking sites)*. This item has not been examined in previous studies but was included to further the research base on contemporary responsibilities in the principal-

ship.

The responsibilities of the principalship are continually expanding to adapt to contemporary issues and technologies. This now includes the widespread use of social networking sites by students. Principals have a legal responsibility to investigate any threats or forms of abuse brought to their attention that could interfere with safety or the normal continuation of the school day. The use of social networking sites, even after school hours or off school property can cause concerns for safety and/or disrupt the regular school day. Common examples include students posting threats to others or themselves, or even students and teachers engaging in inappropriate communications. Regardless of the actual facts in a given situation, principals are legally accountable to investigate any such instances. Such investigations can consume considerable time and resources. Essentially, Kentucky principals seem to indicate this issue is a significant source of dissatisfaction.

The next two items in the hierarchy included principals' satisfaction with the amount of managerial tasks and hours worked per week. Principals can expect to work on both evenings and weekends with average workweeks between 54-80 hours (Educational Research Service, 2000; Yerkes & Guaglianone, 1998). Many of these hours are spent on managerial tasks and have little or nothing to do with the primary job of the principal, which is to improve student outcomes. As such, it is not unreasonable for principals to have cited managerial tasks such as *Q24 (Amount of time spent dealing with student discipline) and Q25 (Amount of time spent supervising school-related activities that extend beyond the school day)* as being important sources of dissatisfaction.

Dealing directly with student discipline may consume several hours each day. More severe cases that involve criminal acts, violence, or drugs can take away up to an entire day of a principal's time which otherwise could have been utilized acting in the role of an instructional leader (Markley, 2009). The additional time spent after school supervising extracurricular activities has also been cited as a major source of dissatisfaction, and is often seen by principals as an irrelevant extension of an already long workday (Brogan, Matthews, & Neill, 2005).

The amount of time principals spend on managerial tasks detracts from tasks associated with improving student outcomes and some that principals have cited as providing intrinsic satisfaction. These account for several additional items in the hierarchy such as: *Q28*, *Amount of responsibility for compliance to regulations relating to students with special needs; Q26*, *Amount of time I have to observe classes; Q27*, *Amount of time I am able to focus on tasks I find personally fulfilling;* and *Q29*, *Amount of responsibility associated with leading the Site-Based Decision Making Council*.

Many principals do not feel they have the expertise to oversee the development and refining of Individualized Education Plans for students with special needs, and would instead prefer this task be delegated to a professional who can oversee this process and ensure the school is in compliance (Markley, 2008). Given the high legal stakes of accountability for compliance to special education law and implementation, it is possible that principals feel their limited expertise in such an area does not qualify them for the amount of responsibility and oversight they are expected to provide. Instead, principals feel more qualified as instructional leaders observing classrooms and gaining a better understanding of students' needs. Engaging in tasks where principals are directly

developing relationships with teachers and students to improve school climate and student achievement are found to be important sources of satisfaction (DiPaola & Tschannen-Moran, 2003).

Ironically, the only item examined in research question #3 below the item *M* that was not a source of dissatisfaction was *Q21 (The extent to which my job duties are clear)*. So, Kentucky principals do indicate their job duties are clear. However, what is not clear is why they are asked to engage in so many tasks that negatively impact their job satisfaction and detract from the time needed to focus on their primary responsibility to improve student outcomes.

Implications for Practice

The findings of this study provide several useful insights regarding the job satisfaction of Kentucky head principals and what can be done to retain these important individuals. First, findings from research question #1 indicated that economic attributes were not significant sources of dissatisfaction. Next, findings from research question #2 indicated that with the exception of one item (*Q11*, *effect job has on personal life*) principals were satisfied with psychological attributes of their job. In other words, Kentucky head principals are generally satisfied with the ability of their job to fulfill economic and intrinsic psychological needs.

So why is it challenging to retain head principals in Kentucky? Previous research indicates this challenge is due to the fact that over the past several decades, the expectations of principals have become increasingly influenced by legislative and school district mandates, adding incrementally to the job responsibilities without reducing other duties (Rayfield & Diametes, 2004; Winter, Rinehart, Keedy, & Bjork, 2007). A quick

summation of the findings from research question #3 (which examined the tasks and responsibilities) supports this belief.

Essentially, data in this study indicates that head principals in Kentucky are: (a) highly dissatisfied with the amount of hours they work (which may explain the dissatisfaction with the effect of the job on their personal life); (b) highly dissatisfied with the amount of time spent on tasks that have nothing to do with their primary responsibility of improving student outcomes; and (c) highly dissatisfied with the lack of time they are able to spend on tasks that are directly related to improving student outcomes. These findings suggest that similar to a study of Kentucky principals by Riley (2006) "there may be an inherent conflict between the highest priority of reform in Kentucky (i.e., improved instruction and better student performance on standardized achievement tests) and non-instructional principal duties" (p. 203). As such, it may be that the primary challenge Kentucky superintendents and policy makers face in retaining effective principals has to do with the current design of the principalship.

If superintendents and policy makers want to retain principals in Kentucky then the position needs to be redesigned to address these legitimate sources of dissatisfaction. A major starting point is to consider how to define the primary job of principals. Principals are hired for the purpose of, held accountable for, and fired based on their ability (or inability) to improve student outcomes. As such, the primary job responsibility of principals should be focused on this single task. However, studies on how principals use their time have found that 42% (26 hours) of their work week is spent on management and administrative tasks, and only 27% (17 hours) is spent on instruction (White, Brown, Hunt, & Klosterman, 2011).

These aforementioned findings and those from this study clearly indicate a crucial barrier principals face in improving student outcomes is due to how inefficiently their time is used. Kentucky head principals are highly dissatisfied with the amount of hours they work, which is a result of spending too much time on tasks that have nothing to do with improving student outcomes, and too little time on tasks that are directly related to improving student outcomes. As such, a primary implication of this research is that Kentucky policy makers and superintendents could simultaneously increase principal retention and student outcomes by redesigning the principalship to address these inefficiencies.

A promising solution and logical starting point is a larger scale implementation of the current SAM (School Administration Manager) project. The SAM project was started as a joint effort between The Wallace Foundation and Jefferson County Public Schools in 2002. As described by the Kentucky Department of Education (2012), the School Administration Manager or SAM project is "a strategy designed to change the role of the principal from the managerial leader to the instructional leader, resulting in an increase in time spent on improving teaching and learning" (p. 1). SAM schools employ School Administrative Managers whose primary job responsibility includes oversight of all administrative duties not directly related to instruction (e.g., managing/coordinating school activities, supervision of classified personnel, special events, transportation, and maintenance). By assuming all administrative duties, SAMs enable school principals to focus time solely on instructional leadership. This work has led to successful outcomes and continues to be supported by The Wallace Foundation with efforts currently underway to expand SAM projects in 176 schools across eight states (Kentucky

Department of Education, 2012).

Principals in this study rated all items associated with administrative tasks as negatively impacting their job satisfaction, and all items associated with instructional leadership as positively impacting their job satisfaction. These results suggest principals desire relief from the overabundance of administrative tasks that have nothing to do with improving student outcomes so they can actually engage in the professional capacity for which they were trained and hired. Given these findings, it is not unreasonable to believe that Kentucky head principals would respond positively to initiatives such as the SAM project, or similar initiatives which would eliminate responsibility for managerial tasks having no direct relation to instruction. As such, the results of this study suggest that Kentucky policy makers and superintendents are in a unique position to simultaneously increase principal retention and student outcomes by giving serious consideration to redesigning the Kentucky principalship. This redesign would include eliminating managerial job tasks not directly tied to instruction from the principalship so that principals could instead focus their efforts on instructional leadership.

Redesigning the principalship towards a SAM model provides the ability to more narrowly define the job tasks and responsibilities of principals. However, it should be stressed that implementing a SAM model is only a structural change to the principalship. Providing principals with more focused and less cumbersome job descriptions may lead to an increase in job satisfaction, but it is not guaranteed to make them better principals who are able to improve student outcomes.

Principals inherently have personal strengths and areas for growth. So, while a principal may be afforded a more focused set of tasks and responsibilities by structurally

redesigning the position, this does not mean he or she possess the needed skills to successfully carry them out. As such, redesigning the principalship will require extending beyond just dividing tasks and responsibilities into managerial or instructional roles, and then assigning them to either the principal or the SAM. Superintendents and policy makers will have to be very strategic in working with principals and SAMs to determine their professional needs and how to best meet these needs. While this general approach can address the challenges of an immediate redesign, a better situation and long term solution is to have rigorously trained and certified individuals already prepared for these specific positions. This would indicate that redesigning the principalship also has important implications for principal preparation programs.

Implementing the SAMs project in Kentucky would create a need for leadership preparation programs to offer two separate certificate programs with competency standards and expectations for both. Similar to how CCSSO developed the ISLLC standards, leadership preparation programs in Kentucky would need to work collaboratively with practitioners and stakeholders to establish a common core of knowledge, dispositions, and performances for principals and SAMs (CCSSO, 1996). With this infrastructure of core components created, programs could then begin to offer students the choice of entering a principal preparation program with an emphasis on instructional and transformational leadership, or a SAMs preparation program centered on administrative management and distributed leadership. Within a few years these programs could begin to feed the "principalship" pipeline with rigorously trained and certified individuals prepared specifically for these positions.

Collaborative development of these programs could also provide a unique

opportunity for existing preparation programs to address the assertion that "traditional preparation programs" are disconnected from practice and place little emphasis on student achievement (Institute for Educational Leadership, 2000; Jacobson, 2005). Furthermore, with renewed interest in modeling preparation from the problems of practice, programs may also gain greater access to school sites for teaching, learning and research purposes. These experiences could further address criticisms asserting that preparation programs do not engage their students in field based learning, and that research conducted by faculty is disconnected from problems of practice (Chapman, 2005). Ultimately, collaborative partnerships created from a redesign process could potentially improve outcomes for schools as well as leadership preparation programs and their students.

Limitations

The study had several potential limitations. First, results were limited to public elementary, middle, and high school principals in Kentucky who were willing to participate in the survey (41%). Also, principals of private, parochial, vocational, and alternative schools were excluded, and therefore not represented.

Next, results were presented as a census sample, and findings were generalized to all Kentucky head principals. Results were not disaggregated by school level (elementary, middle, high) or person demographics. As such, no generalizations were made regarding differences in school/organizational characteristics or the demographics of respondents. Such results may have provided interesting insights among school levels, geographical locations, and the personal characteristics of respondents.

Additionally, to the researcher's knowledge, no previous studies of principal job

satisfaction have employed Rasch methods to analyze data. This presented a potential limitation due to an inability to methodologically compare this study with existing studies. Although there were some limitations for comparing methodologies, the results and findings from this study were still able to be used to make comparisons with existing research.

A final limitation to acknowledge was this study only looked at job satisfaction to inform principal retention. Investigating job satisfaction of principals is not the only means to address retention. Other approaches and methods may exist.

Suggestions for Future Research

The findings of this study provide several suggestions for future principal job satisfaction and retention research:

1) Job satisfaction instruments need to be specific to the jobs they are intended to measure. Many principal job satisfaction studies have utilized the Minnesota Satisfaction Questionnaire (MSQ), Job Description Index (JDI), and Job Diagnostics Survey (JDS). While these instruments have provided significant contributions, a potential limitation is that these instruments only investigate broad dimensions of worker satisfaction, and are not specific to any single job. As such, when using these instruments to investigate the job satisfaction of principals, findings can potentially be misleading. For example, if a researcher used the MSQ with principals, and a majority of the sample responded that they are satisfied with "the responsibility of my job", then what can truly be inferred? If asked to rate their satisfaction with "the responsibility to address complaints of angry parents" would respondents have provided a different response? Items specific to the principalship are needed to more accurately determine which responsibilities of the job

are sources of satisfaction or dissatisfaction.

2) Future principal job satisfaction instruments should continually integrate items that represent contemporary issues in the principalship. As was found in this study, the most significant source of principal job dissatisfaction was a contemporary issue (responsibility to address issues started outside of school via social networking sites). Also, while not significant sources of job satisfaction, two new economic attributes introduced in this study were the highest ranking items in the economic subscale (satisfaction with technology perks/provided with paid technology devices; and, coverage of expenses incurred while performing role). Each of these items provided new contributions to the literature on principal job satisfaction.

3) Findings from this study indicate principals in this sample were more likely to express dissatisfaction with tasks and responsibilities of their work than economic or psychological attributes. As such, future studies should further investigate specific tasks and responsibilities as these variables are the more significant sources of dissatisfaction. Furthermore, as suggested by this study, tasks and responsibilities that have little or nothing to do with improving student outcomes should be identified and eliminated to improve principals' job satisfaction.

4) An important part of survey research includes examining the psychometric properties of a survey instrument. Some researchers use principal job satisfaction survey instruments but do not present or examine the psychometric properties of the instrument. These researchers assume results are valid and then draw inferences about the data. However, inferences made about data are only going to be as good as the instrument used to measure them. Considering the time one puts into creating a research product, and for

the sake of producing quality research that most accurately represent data, researchers should be more cognizant of measurement practices.

5) While survey research on principal job satisfaction has provided considerable contributions to the literature, much of this research has been limited to traditional statistical methods. Commonly, these researchers administered some form of rating scale instrument to a given sample to measure levels of job satisfaction. Once data were collected, it was typically summed and averaged and the subsequent results were presented as descriptive and/or inferential statistics. What these researchers fail to realize when doing this is that they are treating ordinal data as if it were interval. Ordinal raw score data only indicate that one response option is more or less than another response option. These numbers and ranks are not measures. For such numbers or ranks to become measures, they must be converted into a linear continuum that possesses equal distances between each of the units (Bond & Fox, 2007). Until data have been linearized on a calibrated 'ruler' or 'scale' to conduct measurements, any assertions made about the results may be based on problematic methodological assumptions and, consequently, may be invalid. While traditional methods are useful for some purposes, future studies should consider utilizing Rasch models as they arguably provide a more thorough and methodologically sound approach to survey research.

6) Many principal job satisfaction studies only investigate and report overall satisfaction for the entire sample. As can be seen in this study, there is a strong need for future research that identifies specific subscales of satisfaction. Additionally, many of these same studies only go on to disaggregate data by person demographics. While this approach may suggest differences in satisfaction among demographics, there is currently

a greater need to understand and address what principals are dissatisfied with, not determining who is more satisfied or dissatisfied with a particular aspect. Furthermore, multiple contextual and even personality factors (see Holland's theory, Chapter 2) may influence the responses of persons with similar or different demographic characteristics.

Summary

Effective principals can impact student learning and other vital outcomes. Therefore, it is important to be able to retain effective school leaders. Examining the perceived sources of principals' satisfaction and dissatisfaction with their work has strong implications for policies and practices that can be implemented to increase principal retention. As such, the purpose of this study was to measure the job satisfaction of head principals in Kentucky.

Findings of this study determined that economic attributes were not significant sources of dissatisfaction for principals in this sample. Principals were also found to be satisfied with psychological attributes except for the effect their job has on their personal life. Major findings from data in this study indicated that head principals in Kentucky were: (a) highly dissatisfied with the amount of hours they work; (b) highly dissatisfied with the amount of time spent on tasks that have nothing to do with their primary responsibility of improving student outcomes; and (c) highly dissatisfied with the lack of time they are able to spend on tasks that are directly related to improving student outcomes. A primary implication of this research was that Kentucky policy makers and superintendents could simultaneously increase principal retention and student outcomes by redesigning the principalship to address these inefficiencies.

APPENDIX A: KENTUCKY PRINCIPAL JOB SATISFACTION SURVEY

In the box below please enter the ID number that was included with the e-mail invitation to this survey.

_____

Section I. Economic Job Variables

Please rate your level of satisfaction with each of the following aspects of your job using the scale below:

	(Very Dissatisfied) 1	2	3	4	(Very Satisfied) 5
1. Current salary	❍	❍	❍	❍	❍
2. Health/medical benefits	❍	❍	❍	❍	❍
3. Retirement benefits	❍	❍	❍	❍	❍
4. Leave time	❍	❍	❍	❍	❍
5. Opportunities for professional learning	❍	❍	❍	❍	❍
6. Technology resources of school	❍	❍	❍	❍	❍
7. Condition of school	❍	❍	❍	❍	❍
8. Vacation time	❍	❍	❍	❍	❍
9. Technology perks (provided with paid technology devices)	❍	❍	❍	❍	❍
10. Coverage of expenses while performing role	❍	❍	❍	❍	❍

Section II. Psychological Job Variables

Please rate your level of satisfaction with each of the following aspects of your job using the scale below:

	(Very Dissatisfied) 1	2	3	4	(Very Satisfied) 5
11. Effect job has on personal life	❍	❍	❍	❍	❍
12. Impact I am having on students	❍	❍	❍	❍	❍
13. Feeling that what I am doing is making a difference	❍	❍	❍	❍	❍
14. Recognition of my efforts by others	❍	❍	❍	❍	❍
15. Support from superintendent	❍	❍	❍	❍	❍
16. Support from central office	❍	❍	❍	❍	❍
17. Support from teachers	❍	❍	❍	❍	❍
18. Support from the community	❍	❍	❍	❍	❍
19. Amount of autonomy I have as the school leader	❍	❍	❍	❍	❍
20. Job security of current position	❍	❍	❍	❍	❍

Section III. Task and Responsibility Job Variables

Please rate your level of satisfaction with each of the following aspects of your job using the scale below:

(Very Dissatisfied) **(Very Satisfied)**

	1	2	3	4	5
21. The extent to which my job duties are clear	❍	❍	❍	❍	❍
22. Amount of managerial tasks	❍	❍	❍	❍	❍
23. Amount of hours worked per week	❍	❍	❍	❍	❍
24. Amount of time spent dealing with student discipline	❍	❍	❍	❍	❍
25. Amount of time spent supervising school-related activities that extend beyond the school day	❍	❍	❍	❍	❍
26. Amount of time I have to observe classes	❍	❍	❍	❍	❍
27. Amount of time I am able to focus on tasks I find personally fulfilling	❍	❍	❍	❍	❍
28. Amount of responsibility for compliance to regulations relating to students with special needs	❍	❍	❍	❍	❍
29. Amount of responsibility associated with leading the Site-Based Decision Making Council	❍	❍	❍	❍	❍
30. Amount of responsibility to address issues started outside of school via social networking sites	❍	❍	❍	❍	❍

Section IV. Demographic Variables

1. What is your gender?

- ❍ Male
- ❍ Female

2. What is your age?

- ❍ 25-34 years
- ❍ 35-44 years
- ❍ 45-54 years
- ❍ 55-64 years
- ❍ 65 years or more

3. What is your race?

- ❍ White/Caucasian
- ❍ African American
- ❍ Hispanic
- ❍ Asian
- ❍ Native American
- ❍ Pacific Islander
- ❍ Mixed Race - please identify _____
- ❍ Other - please identify _____

4. What is the highest level of education you have completed?

- ❍ Masters Degree
- ❍ Rank I
- ❍ Doctoral Degree

5. How many years of experience do you have as a head principal?

- ❍ 0-5 years
- ❍ 6-10 years
- ❍ 11-15 years
- ❍ 16-20 years
- ❍ 21-25 years
- ❍ 26 years or more

6. How many years of experience do you have as a professional educator?

- ❍ 0-5 years
- ❍ 6-10 years
- ❍ 11-15 years
- ❍ 16-20 years
- ❍ 21-25 years
- ❍ 26 years or more

7. How many years has it been since you graduated from a school leadership program?

- ❍ 0-5 years
- ❍ 6-10 years
- ❍ 11-15 years
- ❍ 16-20 years
- ❍ 21-25 years
- ❍ 26 years or more

8. What is the size of your student population?

- ❍ 0-249 students
- ❍ 250-499 students
- ❍ 500-749 students
- ❍ 750-999 students
- ❍ 1000-1249 students
- ❍ 1250-1499 students
- ❍ 1500 students or more

9. What is the estimated percent free/reduced lunch population of your school?

_____

10. What is the estimated percent racial minority population of your school?

_____

11. What is the estimated percent special needs population of your school?

_____

APPENDIX B: COVER LETTER

IRB Approval
11-0766
THIS FORM VALID
3-7-12 - 10-29-12

Cover Letter

To: _____

Subject: Job Satisfaction Survey of Kentucky Head Principals

Dear _____,

My name is Xavier Webb and I am a doctoral student at the University of Kentucky in the Department of Educational Leadership Studies. I am conducting research on job satisfaction of head principals in Kentucky and I would like to request your help in this endeavor by participating in a voluntary survey. The purpose of this survey will be to measure your job satisfaction as a head principal.

You were selected to be a participant in this study as you are currently a head principal in a Kentucky public school. Completed questionnaires from all principals in Kentucky provide the means to develop the most up to date and comprehensive examination of Kentucky school leaders' job satisfaction. While I am unable to provide monetary or other compensation for your time, it is imperative to understand aspects of your job satisfaction in order to inform recruitment practices and make a case for redesigning the job to address these sources of concern.

There are no known risks to participating in this study but if at any time during the survey you feel uncomfortable with responding to a particular question you may choose to skip the question or discontinue the survey altogether. The survey should take approximately 5-7 minutes to complete.

Your responses to the survey will be kept confidential to the extent allowed by law. When the researcher writes about the study you will not be personally identified in any way. You as a participant and your responses will be entered into a spreadsheet and coded. This spreadsheet will be saved as a password protected file on an encrypted data storage device that will be kept under lock and key.

If you have questions about the study, please feel free to contact me directly. My contact information is provided below. If you have questions about your rights as a research volunteer, please contact the University of Kentucky Office of Research Integrity at 859-257-9428 or toll-free at 1-866-400-9428. You may also contact my Educational Leadership Department faculty advisors, Dr. John Nash (john.nash@uky.edu) and Dr. Kenneth Royal (kdroya2@uky.edu) with questions as well.

Thank you in advance for your assistance with this important project. To ensure that your valuable responses/opinions will be included, please be sure to have your completed survey submitted by December 1, 2011.

Click this link to access the survey:
https://uky.qualtrics.com/SE/?SID=SV_8HealzvAM3PBCHW

Your ID Number: ___

Sincerely,

Xavier Johan Webb
University of Kentucky
PHONE: 859-893-0278
E-MAIL: xavier.webb@uky.edu

APPENDIX C: INSTITUITIONAL REVIEW BOARD APPROVAL

UNIVERSITY OF KENTUCKY

Office of Research Integrity
IRB, IACUC, RDRC
315 Kinkead Hall
Lexington, KY 40506-0057
859 257-9428
fax 859 257-8995
www.research.uky.edu/ori/

Procedures/Materials, Recruitment, Consent, Research Description, Study Personnel
PLEASE NOTE: John Nash could not be added at this time due to no HSP training.

Modification Review	Approval Ends	IRB Number
	October 29, 2012	11-0766-P4S

TO: Xavier Webb
Education
3848 Sugar Creek Drive
Lexington, KY 40517
PI phone #: (859)893-0278

FROM: Chairperson/Vice Chairperson
Institutional Review Board (IRB)

SUBJECT: Approval of Modification Request for Protocol 11-0766-P4S

DATE: March 12, 2012

On March 7, 2012, the Institutional Review Board approved your request for modifications in your protocol entitled:

Job Satisfaction of Kentucky Head Principals: A Rasch Analysis

If your modification request necessitated a change in your approved informed consent/assent form(s), attached is the new IRB approved consent/assent form(s) to be used when enrolling subjects. [Note, subjects can only be enrolled using informed consent/assent forms which have a valid "IRB Approval" stamp, unless waiver from this requirement was granted by the IRB.

According to our records, the following study personnel, John Nash, listed on the research protocol, has not had initial and/or the refresher (every three (3) years) of human subjects protection training as mandated by University of Kentucky policy in September of 2003 (see attached memo). At this time, this individual can not be added as study personnel and, therefore, cannot engage in any research activities. Should the above study personnel attain human subjects training, a modification request must be submitted to the IRB.

For information describing investigator responsibilities after obtaining IRB approval, download and read the document "PI Guidance to Responsibilities, Qualifications, Records and Documentation of Human Subjects Research" from the Office of Research Integrity's Guidance and Policy Documents web page [http://www.research.uky.edu/ori/human/guidance.htm#PIresp]. Additional information regarding IRB review, federal regulations, and institutional policies may be found through ORI's web site [http://www.research.uky.edu/ori]. If you have questions, need additional information, or would like a paper copy of the above mentioned document, contact the Office of Research Integrity at (859) 257-9428.

Norma VanTubergen PhD
Chairperson/Vice Chairperson

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APPENDIX D: RESEARCH QUESTIONS ALIGNED TO FRAMEWORK AND VARIABLES OF JOB SATISFACTION

Research Question	Variables of Job Satisfaction
1. To what degree are head principals in Kentucky satisfied with economic attributes of their job? (Satisfaction with situational characteristics specific to economic variables/benefits associated with the position)	1. Current salary 2. Health/medical benefits 3. Retirement benefits 4. Leave time 5. Vacation time 6. Opportunities for professional learning 7. Technology resources of school 8. Condition of school facility 9. Technology perks (provided with paid technology devices) 10. Coverage of expenses incurred while performing role
2. To what degree are head principals in Kentucky satisfied with psychological attributes of their job? (Satisfaction with situational occurrences specific to psychological needs)	11. Effect job has on personal life 12. Impact I am having on students 13. Feeling that what I am doing is making a difference 14. Recognition of my efforts by others 15. Support from superintendent 16. Support from central office 17. Support from teachers 18. Support from the community 19. Amount of autonomy I have as the school leader 20. Job security of current position
3. To what degree are head principals in Kentucky satisfied with tasks and responsibilities associated with their job? (Satisfaction with situational occurrences representative of the actual work context including the tasks and responsibilities performed)	21. The extent to which my job duties are clear 22. Amount of managerial tasks 23. Amount of hours worked per week 24. Amount of time spent dealing with student discipline 25. Amount of time spent supervising school-related activities that extend beyond the school day 26. Amount of time I have to observe classes 27. Amount of time I am able to focus on tasks I find personally fulfilling 28. Amount of responsibility for compliance to regulations relating to students with special needs 29. Amount of responsibility associated with leading the Site-Based Decision Making Council 30. Amount of responsibility to address issues started out of school via social networking sites

APPENDIX E: JOB SATISFACTION VARIABLES CROSS-REFERENCED WITH LITERATURE

Facets Identified in Literature	References
1. Current salary [1,3,4,5,6,7,10,11,12,13,14,16,17,18,19]	[1] Aberli, 2010
2. Health/medical benefits [10,12]	[2] Andreyko, 2010
3. Retirement benefits [10,11,12]	[3] Delgado, 2001
4. Leave time	[4] Derlin & Schneider, 1994
5. Vacation time [1,11,18,19]	[5] Dipola & Tschannen-Moran, 2003
6. Opportunities for professional learning [1,3,6,7,8,11,14,15,17]	[6] Hackman & Oldham, 1976
7. Technology resources of school [12,17]	[7] Kindt, 2008
8. Condition of school facility [5,17]	[8] Lawler & Hall, 1970
9. Technology perks (provided with paid technology devices)	[9] Markley, 2008
10. Coverage of expenses incurred while performing role	[10] Pengilly, 2010
11. Effect job has on personal life [1,7,11,12,14,18,19]	[11] Pounder & Merrill, 2001
12. Impact I am having on students [4,5,10,17]	[12] Riley, 2006
13. Feeling that what I am doing is making a difference [1,3,4,5,6,8,10,11,12,13,14,15,16,17,18,19]	[13] Smith, Kendall, & Hulin, 1969
14. Recognition of my efforts by others [1,3,4,10,12,14,16,18,19]	[14] Sodoma & Else, 2009
15. Support from superintendent [1,4,5,6,7,11,12,13,14,16,17]	[15] Wanous & Lawler, 1972
16. Support from central office [1,4,5,7,11,14,17]	[16] Weiss, Dawis, England, & Lofquist, 1967
17. Support from teachers [1,3,5,6,7,11,12,14,17]	[17] White, Brown, Hunt, & Klosterman, 2011
18. Support from the community [1,5,7,11,14,17]	[18] Winter, Rinehart, Keedy, & Bjork, 2007
19. Amount of autonomy I have as the school leader [1,2,3,5,6,7,8,9,10,11,12,15,16,17,18,19]	[19] Winter, Rinehart, & Munoz, 2002
20. Job security of current position [1,4,5,6,15,16,17,18,19]	
21. The extent to which my job duties are clear [2,5,7,10]	
22. Amount of managerial tasks [1,2,3,5,10,12,14,17]	
23. Amount of hours worked per week [1,5,12,17,18,19]	
24. Amount of time spent dealing with student discipline [1,5,9,11,12,14]	
25. Amount of time spent supervising school-related activities that extend beyond the school day [5,9,11,12,14,17]	
26. Amount of time I have to observe classes [9,12,17]	
27. Amount of time I am able to focus on tasks I find personally fulfilling [1,2,17]	
28. Amount of responsibility for compliance to regulations relating to students with special needs [5,9,11]	
29. Amount of responsibility associated with leading the Site-Based Decision Making Council [1,5,11,12,14]	
30. Amount of responsibility to address issues started out of school via social networking sites	

APPENDIX F: RESULTS OF NUMEROUS JOB SATISFACTION STUDIES IN EDUCATION[1]

Researcher	Year	Sample	Moderators of Job Satisfaction	Results
Trusty & Sergiovanni	1966	191 teachers 32 administrators	Needs and demographics	Age, gender, and professional role are significantly related to the perception of need deficiencies
Iannone	1973	40 principals	Needs	Achievement and recognition contributed to job satisfaction
Miskel, Glasnapp, & Hatley	1975	2,105 teachers 119 principals	Work motivation, existing incentives, primary life interest	The greater the primary life interest in the job, the higher the level of satisfaction
Schmidt	1976	74 administrators	Needs and demographics	Achievement, recognition, and advancement contributed to job satisfaction; demographics not significant
Miskel, DeFrain, & Wilcox	1980	10 principals 102 teachers	Expectancy work motivation, central life interests, voluntarism, personal and environmental variables	Expectancy motivation, voluntarism, and central life interest predictors of job satisfaction; demographics not significant predictors
Bacharach & Mitchell	1983	46 superintendents 95 principals	Routinization, autonomy, rule observance, bureaucratization, role ambiguity, role conflict	Differences in sources of dissatisfaction for principals and superintendents; role specific analysis of impact of organizational factors on job satisfaction
Friesen, Holdaway, & Rice	1983	327 principals	Needs and demographics	Relationships with teachers, sense of achievement, responsibility, interpersonal relationships, and autonomy areas of satisfaction

[1] From "Job satisfaction and professional growth experiences of urban school administrators" by T.A. Aberli. Aberli, 2010. University of Kentucky (Doctoral dissertation). UMI No. 3472537. Adapted with permission.

APPENDIX F (CONTINUED)

Researcher	Year	Sample	Moderators of Job Satisfaction	Results
Richford & Fortune	1984	174 principals	Manipulativeness and locus of control	Job satisfaction and manipulativeness act in conjunction to provide a predictive relationship for locus of control; internality was positively associated with high job satisfaction and non-manipulative behavior
Gunn & Holdaway	1986	133 principals	School characteristics, personal characteristics, school effectiveness, leader effectiveness, level of influence	Sense of accomplishment significantly correlated with overall job satisfaction; demographics associated with overall satisfaction include city location, senior high schools, larger size, older principals, and tenure in present position
Sparkes & McIntire	1988	417 principals 2 countries	Needs and school demographics	Principals of small schools in small communities reported significantly lower levels of satisfaction than did principals of large schools in large communities
Bogotch & Riedlinger	1993	14 new principals and 14 experienced paired by demographics	Factors contributing to role stress, social supports, tenure	Experienced principals perceive greater role conflict than do new principals
Mercer	1993	28 principals	Needs	Satisfiers and dissatisfiers identifiable by personal and organizational aspects; responsibility, recognition, and "having a worthwhile job" were significant satisfiers
Hill	1994	287 principals	Needs and demographics	Sources of satisfaction include relationships (with children, teachers, and parents)

APPENDIX F (CONTINUED)

Researcher	Year	Sample	Moderators of Job Satisfaction	Results
Sutter	1996	416 assistant principals	Needs	Sense of accomplishment, feeling that skills are being used, desire to advance, opportunities for advancement, and belief of opportunity to advance influence satisfaction; females more satisfied
Mercer	1997	39 principals	Needs	Relationships with others and positive view of one's self most important predictors of job satisfaction
Newby	1999	188 principals	Needs and demographics	Principals at large urban schools more satisfied than small rural schools, females more than males, younger and older more satisfied than middle age
Chaplain	2001	36 principals	Role stress	Most principals satisfied despite perceptions of high stress
Delgado	2001	115 principals	Dispositional factors and job characteristics	Dispositional factors (self-esteem, command/ efficacy, conscientious-ness) predict job satisfaction
Wong, Cheuk, & Rosen	2001	108 principals	Role stress	Correlation between job stress and dissatisfaction
Pounder & Merrill	2001	170 principals	Organizational tasks and job characteristics	Principal satisfaction positively correlated to pay, benefits, and intrinsic rewards, but negatively correlated to demands of the job

APPENDIX F (CONTINUED)

Researcher	Year	Sample	Moderators of Job Satisfaction	Results
Rinehart, Winter, Keedy & Bjork	2002	587 principals	Needs, organizational tasks and job characteristics	Satisfaction positively correlated to intrinsic variables (use of talents, sense of achievement, etc.) but negatively correlated to extrinsic factors of compensation and time with family
Dipola & Tschannen-Moran	2003	1,666 principals	Needs and working conditions	Principals unsatisfied with lack of authority and resources to complete job and amount of hours required
Eckman	2004	164 female and 175 male principals	Gender	No significant difference for job satisfaction among males and females
Rayfield, Ughrin, & Meabon	2004	111 principals	School size and tenure	Size of school and tenure predictors of job satisfaction
Stemple	2004	183 principals	Demographics and organizational attributes	Principals whose schools were fully accredited and had three assistant principals were significantly more satisfied than those principals whose schools were not fully accredited and had less than or more than three assistants
Brogan, Matthews, & Neil	2005	128 principals	Task performance factors, needs, and demographics	Males slightly more satisfied than females, academic degree held had no impact, amount of experience and number of assistant principals influenced levels of job satisfaction

APPENDIX F (CONTINUED)

Researcher	Year	Sample	Moderators of Job Satisfaction	Results
Lombardo	2005	141 principals	Needs and demographics	Principals had average level of satisfaction with jobs and demographic variable (age) had an effect on the general job satisfaction.
Riley	2006	749 principals	Needs and leadership	Satisfaction with intrinsic/leadership, time/family, fringe benefits, decision making, and secretarial support
Conley, Shaw & Glasman	2007	153 principals	Job, organizational and personal characteristics	Job characteristics are strong predictors of satisfaction, organizational characteristics medial, and personal characteristics had little influence
Haines	2007	153 principals	Needs and demographics	Satisfaction has decreased since implementation of NCLB
Kindt	2008	51 principals	Organizational climate and demographics	Satisfaction with professional effectiveness, relationship with subordinates, peers, and supervisors, and participation with decision making
Markley	2008	110 principals	Demands on time and stress, demographics	Pressures for student accountability has elevated the stress and time responsibilities required to complete job
Pierson	2008	24 principals	Needs, location of school and demographics	Some indication in data suggesting that smaller and larger urban schools are more likely to have principals with high satisfaction levels than those in rural schools; other results suggested the need for further study

APPENDIX F (CONTINUED)

Researcher	Year	Sample	Moderators of Job Satisfaction	Results
Ryans	2009	8,143 principals	Principal programs, professional development, autonomy, and achievement of school performance	Principal programs were not sufficient predictors for job satisfaction. Participation in professional development activities, autonomy, and school performance standards related to job satisfaction
Sodoma & Else	2009	300 principals	Needs, organizational characteristics and tasks, demographics	Satisfaction positively influenced by gender, years as principal, type of school, and intrinsic tasks, but negative relationship to amount of time spent on managerial tasks
Wilson	2009	107 principals	Needs, organizational attributes, demographics	Arizona principals generally satisfied with intrinsic and extrinsic variables. Relationship between professional development quality and job satisfaction, no significant relationship between job satisfaction and financial compensation
Aberli	2010	117 principals and 45 assistant principals	Professional growth experiences	Professional growth experiences predictors of urban school administrator job satisfaction
Andreyko	2010	59 principals	Role stress and coping skills	Most principals dissatisfied with high stress and have different ways of coping
Heyd	2010	105 principals	Needs and demographics	Most principals satisfied with jobs overall, but females more satisfied by extrinsic variables than males

APPENDIX F (CONTINUED)

Researcher	Year	Sample	Moderators of Job Satisfaction	Results
Pengilly	2010	162 principals	Needs, location of school and demographics	JSS job satisfaction score and subscale scores (i.e., pay, working conditions, fringe benefits) for all variables under analysis yielded range of 3 to 5, indicated no significant correlations
Sigrest	2010	108 principals	Demographics and organizational tasks	Generally satisfied across demographics, most satisfied with social service, achievement, and least satisfied with advancement, compensation, and security
White, Brown, Hunt & Klosterman	2011	877 principals	Working conditions, needs, organizational tasks and attributes	Strong correlation between job satisfaction, organizational support and ability to influence change. Relationship between satisfaction and type of student population served

APPENDIX G: COMPARISON OF SATISFACTION DOMAINS FROM THE JDI, MSQ, & JDS[2]

Instrument	Job Description Index (JDI)	Minnesota Satisfaction Questionnaire (MSQ)	Job Diagnostics Survey (JDS)
Researchers	Smith, Kendall, and Hulin (1969)	Weiss, Dawis, England, and Lofquist (1967)	Hackman and Oldham (1976)
Scale	"Yes ? No"	1 to 5 scale rating	1 to 7 scale rating
Satisfaction domains:	Pay (e.g., bad, inadequate, insecure)	Compensation	Pay and other compensation
1. Satisfaction with situational characteristics specific to economic variables/benefits associated with the position	Promotions (e.g., good opportunity for advancement, dead-end job)	Advancement Social status	Opportunity for growth and development on the job ("growth" satisfaction)
2. Satisfaction with situational occurrences specific to psychological needs	Work (e.g., fascinating, routine, boring, sense of accomplishment)	Achievement, recognition, responsibility, ability utilization, variety, independence, creativity, activity	*Job Dimensions*: Skill variety, task identity, task significance, autonomy, feedback from the job itself; feedback from agents (supervisors or co-workers); dealing with others *Critical psychological states:* Experienced meaningfulness of the work, experienced responsibility for work outcomes, knowledge of results, job security
3. Satisfaction with situational occurrences representative of the actual work context including the tasks and responsibilities performed	Supervision (e.g., asks my advice, tactful, lazy)	Supervision- technical Supervision- human relations	Supervision
	Co-workers (e.g., stimulating, boring, ambitious, loyal)	Co-workers Company policy Working conditions	Peers and co-workers ("social satisfaction")

[2] From "Job satisfaction and professional growth experiences of urban school administrators" by T.A. Aberli. Aberli, 2010. University of Kentucky (Doctoral dissertation). UMI No. 3472537. Adapted with permission.

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