Teachers’ Career Decisions in a Cognitive Framework: Logistical Regression Analysis of a National Data Set

Tamara H. Rosier
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TEACHERS’ CAREER DECISIONS IN A COGNITIVE FRAMEWORK: LOGISTICAL REGRESSION ANALYSIS OF A NATIONAL DATA SET

by

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TEACHERS' CAREER DECISIONS IN A COGNITIVE FRAMEWORK: LOGISTICAL REGRESSION ANALYSIS OF A NATIONAL DATA SET

Tamara H. Rosier, Ph.D.
Western Michigan University, 2004

Research was conducted in order to determine if extrinsic, cognitive or situative sets of variables could predict teachers' career decisions using the Schools and Staffing Survey (SASS). Questions from the survey were divided into three cognitive perspectives: extrinsic, cognitive, and situative. Stepwise logistic regression analyses were used to predict group membership among those who chose to stay in their current position and those who left the profession.

Results for the extrinsic set of variables indicated that while the model was a good fit, the ability of the model to predict was low. Teachers agreeing that student behavior interferes with ability to teach and agreeing that student drop out rates were a problem were the most influential predictors of leavers in this set. Results from the cognitive set of variables indicated a slight improvement in the predictability of the model. Teachers believing that they did not have control of classroom decisions and lack of participation in workshops and conferences were significant predictors of leavers in a cognitive approach to career decisions. Results from the situative set of variables indicated the model did have the ability to adequately discriminate between the groups. Those who disagreed that they coordinate content with other teachers and those who do not feel that they have administrative support were more likely to leave. The significant variables
from the extrinsic, cognitive, and situative analyses were placed into a logistic model. Participation in workshops and conferences appeared to be the strongest predictor of a teacher's career decision to stay or leave.
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CHAPTER I

INTRODUCTION

Rationale

Nationally, public school districts spend valuable resources on recruitment and retention of new teachers every year. High attrition rates further increase school expenditures, as well as disrupt educational program development and classroom content, both of which may hinder student learning (Darling-Hammond, 2003). In the interest of improving the work force, researchers should focus on why teachers stay in teaching, move between schools and districts, and why some leave.

The issue of career decisions of teachers comes at a time when many districts are concerned with widely publicized teacher shortages (Grissmer & Kirby, 1997). A study in Texas estimated that an annual 15 percent turnover rate, which incorporates a 40 percent turnover rate for public teachers within their first three years, costs the state approximately $330 million every year (Texas Center for Educational Research, 2000). There are a variety of factors involved in the national teacher shortage: increased birth rates, increased immigration, the anticipated retirement of one half of the teaching force, and the likelihood that one in five new teachers will leave the profession (Henke, Chen, & Geis, 2000). Districts could respond to teacher shortages in a variety of ways by, for example, lowering hiring standards, or increasing the teaching loads of current teachers either through increased class sizes or number of classes taught, but these options should
cause concern about the quality of the teaching force.

During the last decade, much of the empirical research has focused on determining variables associated with those who leave teaching (Darling-Hammond, 1999; Grissmer & Kirby, 1997; Shen, 1997). Individual characteristics such as age, gender, and ethnicity, are associated with attrition (Murnane, 1991), as are environmental characteristics, such as time spent in preparation (Darling-Hammond, 1996; Shen, 1997), staff collaboration (Kim & Loadman, 1994), and class size (Boylan & McSwan, 1998). Low salaries and organizational issues have also been likened to higher attrition rates in the teaching workforce (Darling-Hammond, 1999; Kirby & Grissmer, 1993). In short, there are a number of variables that might factor into a teacher’s decision to stay or to leave the profession and it would be helpful if these variables could be organized into a pattern.

Empirical research that organizes the career decision of teachers into patterns of cognition is limited. The purpose of this study is to examine teacher career decisions using three broad perspectives on cognition—behavioral, cognitive, and situative—defined by Greeno, Collins and Resnick (1996). This study organized teacher responses to a survey into these three perspectives in order to identify any predictive patterns to teacher career decisions. I examined behavioral variables because research has identified some associations between career decisions and external reinforcements and non-reinforcements (Boe, Bobbitt, & Cook, 1997; Hastings & Bham, 2003; Litt, 1985; Shen, 1997). For example, it is believed that teachers leave the profession because of salary (Stinebrickner, 2001). Cognitive and situative perspectives are also supportive by attrition and retention literature (Billingsley & Cross, 1992; Cohen & Willis, 1985; Darling-
Hammond, 2003). An example of a cognitive perspective would be a teacher’s belief in the efficacy of his or her skills (Brouwers & Tomic, 2000). An example of a situative perspective would consider the importance of a collaborative, supportive social environment of the teacher. Although past research has shown these independent variables to be related to attrition and retention (Adams, 1996; P. Dolton & van der Klaauw, 1999), research to organize these variables into a pattern of cognition has not been conducted. Providing a pattern of cognition may lead to effective policies aimed at reducing teacher attrition. It can also assist school administrators with projected future rates of attrition, essential to fiscal reporting and capital planning.

Background

Between 1965 and 1975, many women entered the teaching force, and were able, for the first time, to continue teaching after marriage and childbirth (Sykes, 1983). Women and many minorities did not yet have access to a full range of career choices, so the educational system benefited from this cohort of well-educated individuals who entered the profession and remained in their positions until the end of their careers (Johnson & Birkeland, 2003). Unlike the previous generation of educators, many current, prospective and practicing teachers have access to occupational settings that offer high pay, status, well-equipped work settings, and opportunities to advance in their careers. There is no guarantee that these individual will choose teaching over career other options and even stay in the workforce. Examining teachers’ decisions to stay in their current position, move to another teaching position, or leave the profession altogether is an important part of discussions with policymakers, administrators and other educators who are concerned with attracting and retaining qualified teachers.
The shortage and attrition problem is exacerbated by migration issues. Teachers move within the profession, from school to school, and from district to district. Richard Ingersoll (2001), who refers to this phenomenon as "migration," found that it accounts for one half of the turnover that districts experience. The impact of migration is unequally distributed; districts in low-income communities experience a disproportionate share of migration (Darling-Hammond, 2003; Haycock, 1998). Explaining teachers' career decisions may enable schools to address the current shortage and build a stronger faculty. If policy makers understood how teachers think about their career decisions, it may provide insight into the problem.

Policy makers and administrators have attempted to address the issue of attrition and migration without fully understanding teachers' career decisions. They have offered financial benefits (Darling-Hammond, 2003), revised certification requirements (Ingersoll, 2001a), and created mentoring programs (Pardini, 2002) without a clear picture of the issues surrounding the problem. It is not enough to learn how schools can best recruit new teachers needed to meet the shortage; it is important to know whether and why those individuals stay in teaching. Among those who stay in teaching but transfer from one school to another, we need to understand what factors precipitate such moves. Why do teachers make the career choices they do? Why do some teachers stay in teaching, some stay but move, and others leave? What are patterns of behavior can be observed when using cognition as a framework?

Purpose of the Study

This study examined teachers' career decisions and using three broad perspectives of cognition that Greeno, Collins and Resnick (1996) defined as behavioral, cognitive,
and situative. They assert that these perspectives represent distinct traditions in educational theories and practices. Although other organizing principles could be chosen, Greeno et al. argued that these categories represent broad issues and trends in educational research. In this context, the three categories of cognition will be used to describe teachers’ career decisions by dividing them into three categories: those teachers who have chosen to stay in their current position, those who move to a similar position, and those who leave the teaching profession. Specifically I wanted to answer the following questions: (1) Do teachers make career decisions based on outside stimuli as in behavioral cognition? (2) Do teachers make career decisions based on how they perceive their circumstances as in the cognitive perspective? (3) Do teachers make career decisions based on how they respond to their social world as in situative cognition?

In addition to representing broad frameworks of educational theory, these three categories align with current research findings on teachers’ career decisions. Johnson and Birkeland (2003) conducted a longitudinal interview study of teachers’ reasons for staying in their schools, moving to a new school or leaving public school teaching within their first three years of teaching. Their findings suggest that cognitive and situative context play a large role in a teacher’s career decision. This study will provide a larger framework for the discussion of teacher attrition and retention by using the three perspectives and determining what relationships exists between the categories and teacher career decisions.

Research Questions

There are six general research questions guiding the direction of this study. This study, although interested in three groups: stayers, movers, and leavers - uses a statistical
design in which the dependent variable is a dichotomous variable. When this study places stayers and movers together in the same group, it is assuming that these groups share characteristics. For example, both stayers and movers have remained in teaching and have therefore made similar career decisions. When the study only examines stayers opposed to leavers, it is looking for the characteristics that only those teachers who have remained in their current position possess.

1. What behavioral variables are predictors for teachers’ career decisions (stayers and leavers)?

2. What behavioral variables are predictors for teachers’ career decisions (stayers/movers and leavers)?

3. What cognitive variables (beliefs and perceptions) are predictors for teachers’ career decisions (stayers and leavers)?

4. What cognitive variables (beliefs and perceptions) are predictors for teachers’ career decisions (stayers/movers and leavers)?

5. What situative variables are predictors for teachers’ career decisions (stayers and leavers)?

6. What situative variables are predictors for teachers’ career decisions (stayers/movers and leavers)?

Research Design

This study is of teachers who chose to stay in their current position, move horizontally to another position or leave the profession entirely using the data provided by the *National Center for Education Statistics* (NCES). The instrument used is the teacher survey of *Schools and Staffing Survey* (SASS).
For the purposes of this study, a teacher is defined as any full-time teacher whose primary assignment was teaching in any of the grades, kindergarten through twelfth grade. This study refers to three groups of teachers: stayers, movers and leavers. Stayers are teachers who remained in the same school. Movers are teachers who made a horizontal career move and voluntarily relocated to another school. Those who have made a vertical career move, from teaching to administration are not included in this group. Leavers were classified as teachers who left the profession of their own accord. Those who left because of illness, retirement or family reasons were not classified as leavers according to the SASS data. The SASS definition of leavers fits well into this study. For example, we know that teachers leave the profession because of child care or maternity leave (P. Dolton & van der Klaauw, 1995) and that they are very apt to return to the profession. In that sense, those individuals do not belong to the true sample of leavers because the reason for departure is known and may not be permanent.

Teacher retention refers to those teachers who choose to stay in their current school as an educator. Teacher turnover and job turnover refer to the rate at which schools need to replace teaching positions. Attrition refers to teachers leaving the profession. Migration refers to teachers who stay in their profession, but transfer to another district (Ingersoll, 2001a).

The three perspectives of cognition, behavioral, cognitive, and situative, frame how teachers make decisions. In this study, the categories established by Greeno et al. to describe learning and cognition are applied to decision-making. This can be done because learning and cognition involve decision-making (Santrock, 2001). The behavioral mode of decision-making acts upon associations through reinforcements and non-reinforce-
ments. In this study, external forces affect decision-making will be explored. The cognitive/rationalist perspective focuses on perceptions and beliefs that affect career decisions. These variables attempt to explain teachers’ career decisions from the perspective that a person’s thoughts guide their decisions (Petri & Govern, 2004; Weiner, 1994). The situative decision mode focuses on the interactions of individuals with other people. Situative, social or contextual variables are determined through experiences with the social world. This perception of cognition considers social facilitation, the presence of others motivates behavior, and coaction effect, a form of modeling that occurs when performance is motivated as a result of others performing the same action to be intricately involved in the motivation (Pintrich & Schunk, 1996).

Delimitations and Limitations of the Study

Because this study used a nationally representative survey, there are advantages. This survey contains a very large sample, potentially making the results statistically significant even when analyzing multiple variables. Using carefully planned sampling procedure, the survey used for this study has stratified the sample to ensure proper coverage of the major characteristics. With good methodology and a considerable sample size, one can expect reasonable representativeness through coverage of important factors that differentiate sections of the population, even if these were not specifically controlled in the sampling scheme.

During the 1999-2000 school-years the survey was self-administered to national probability samples of public school teachers. Though the instrument has been used in previous survey cycles, this study uses a cross-sectional approach in order to detect a pattern among the three different groups of teachers. The Schools and Staffing Survey
(SASS) Public School Survey used for this study uses many items to measure areas such as certification and training information, decision-making and working conditions. This data set is large, comprehensive, and nationally representative, and it includes teacher migration, teacher attrition, the reasons teachers themselves give for their departures, and a wide range of information on the contextual characteristics of schools. This study will confine itself to the variables available in the SASS data set only. There may be other useful variables that are not represented in the set.

There are a number of limitations that pertain to the data set and the analyses. Though the Schools and Staffing Survey (SASS), the instrument for this study, provides rich data on teachers, their career decisions, and their perceptions, the study may have been more complete if interviews, classroom observations, and other interpersonal resources were collected. Another limitation is that the analysis did not include a cross-validation with a second sample.

Significance of the Study

A study examining the relationship between teachers’ career decisions and perspectives of cognition is important for several reasons. First, understanding the relationships among teachers’ career decisions and cognitive perspectives may explain and predict patterns of behavior of teachers in the three groups. Policy makers may be able to use this information to attract and retain teachers. Second, the information from this study may help administrators and policy makers evaluate their current approaches to staff development and retention. Third, much of the empirical research has tended to emphasize only one component of the overall flow of teachers from schools: those who leave the profession.
Researchers have often de-emphasized another component of teacher turnover: those who transfer to another district. Many assume migration is a less significant form of turnover because it does not increase or decrease the overall supply of teachers as does teacher attrition (Ingersoll, 2001b). From an organizational perspective, employee migration is as relevant as employee attrition. Though researchers may assume that those departing are moving to similar jobs in other organizations or leaving the occupation altogether, their departures simply impact and are impacted by the organization. While there is merit in this approach, one is not able to discern the differences in leaving these two groups may have. For this reason, this study examines three groups of teachers; stayers, movers, and leavers, in order to observe differences in leaving patterns. Finally, research has identified many variables associated with attrition and retention of teachers. The design of this study addresses many possible variables, organizes them into categories and examines the relationships between the career decisions and cognition.
Examinaing the work force decisions of educators is not only relevant, but necessary. Teacher turnover is an important phenomenon to study because it affects an entire system including teachers, students and administration. It is a significant factor undermining program stability and school quality (Boe et al., 1997). Both those who transfer to other districts and those who leave the profession pose economic and organizational problems for districts. Early attrition from teaching places considerable financial burdens on districts that are already financially stressed (Darling-Hammond, 2001). The process of searching, hiring and training the teacher for the specific demands of the placement are some of the cost incurred from teacher attrition (Kirby & Grissmer, 1993). Disadvantaged schools seem to bear much of the economic and organizational burden by experiencing higher attrition rates (Darling-Hammond, 1999). A study in Texas estimated that the state’s annual turnover rate of 15 percent, which includes a 40 percent turnover rate for public teachers in their first three years, costs the state approximately $330 million a year (Texas Center for Educational Research, 2000). Though recent research has attempted to address attrition and migration, there is more that needs to be understood about why teachers make the career choices they do.

In order to better understand teacher retention, attrition and migration, teacher career choices were examined using three perspectives of cognition. This review is
divided into two main subject areas: (1) review of research on teacher turnover, (2) discussion of the theoretical framework as proposed by Greeno, Collins and Resnick (1996) and (3) teacher turnover will be examined in terms of the variables which have been previously associated with the topic. Personal, operational, organizational, and social characteristics will be explored in order to gather a full sense of what is known about teacher retention, migration and attrition. Finally, this will explain the independent variables and the organization of them into perspective of cognition.

Teacher Turnover

In order to investigate these variables involved in teacher retention, attrition and migration further, this literature review has identified three categories of characteristics associated with turnover: personal, daily operational, organizational and social. The three categories provide a way to organize the extensive research on this topic. Personal characteristics are variables that are closely associated with the individual such as age, marital status, gender and race. Operational characteristics are the tasks that teachers are expected to complete on a daily basis. As will be seen, these tasks may or may not directly related to their classroom teaching. Organizational characteristics have to do with how the environment of the teacher has been structured. Examples of organization characteristics are salary, administration and location of school. Social characteristics are the situative contexts in which teachers work. These influences include administration, peers, support staff and parents of students.

Personal Characteristics

Variables such as gender, age, years of experience, grade level taught as well as
Marital and family status have been linked to teacher attrition. Studies of gender differences have yielded inconsistent findings. Studies have shown that the probability of a teacher leaving his or her job is high in the first few years after entering the profession, falls after the third year, and increases again as the teacher nears retirement age (Murnane, Singer, Willet, Kemple, & Oleson, 1991). Although there is some disagreement as to why this is the case, researchers have consistently found that younger teachers have very high rates of departure. Age appears to be a salient differentiating variable in respect to teacher attrition (Boe et al., 1997; Byrne, 1999; Huberman & Vandeberghe, 1999). Because the distribution of age is skewed upward, that is, older teachers significantly outnumber younger teachers, researchers have concluded that retirement due to a maturing workforce is the most significant factor behind turnover (Grissmer & Kirby, 1997).

Marital and family status has revealed inconsistent findings. Maslach and Jackson (1986) reported no significant effect of marital status on the incidence of attrition on elementary and secondary teachers, but a significant effect for family status. Respondents with children exhibited less burnout symptoms than those with no children. Contrary to the previous findings, Byrne (1991) found that both variables, marital and family, to be insignificant for the same teacher populations.

The research presented in this section has focused on assessing whether particular types of teachers are more or less likely to depart teaching and has generally sought to explain teacher turnover as a function of the characteristics of individual teachers (e.g. Byrne, 1991). To understand the issue of teacher turnover more completely, one should also consider other characteristics.
Operational Characteristics

Teachers have consistently cited the burden of their work load as a source of their stress (Byrne, 1999). Task qualities such as class size, number of classes, type of classes and student behavior have been associated with teacher turnover (Friedman, 1995; Hastings & Bham, 2003; Mont & Rees, 1996). Studies examining the effects of oversized classes, excessive paperwork, time constraints provide ample evidence that they contribute to teacher stress (Borg & Riding, 1991; Guglielmi & Tatrow, 1998). In a study of teacher turnover, class load characteristics were included along with more traditional variables such as salary, personal characteristics and district characteristics in a time hazard model to stimulate the effects of changing classroom characteristics on high school teacher turnover (Mont & Rees, 1996). The researchers concluded that class load characteristics of class size, number of classes taught and percentage of class time spent in areas outside a teacher’s certification area are important correlates of job turnover.

Student misbehavior is also a major contributor to stress (Freudenberger, 1974; Hastings & Bham, 2003; Kim & Loadman, 1994). Friedman (1995) developed a Pupil Behavior Patterns scale (PBP) which allowed teachers to rate behavior of children in their classroom on three dimensions: disrespect, attentiveness, and sociability. Disrespectful student behavior was the strongest predictor of burnout in the two samples reported by Friedman. Interestingly, students themselves also identified disrespectful behaviors as the most likely to disturb their teachers (Friedman, 1995). Negative classroom behavior has been associated with teacher turnover.

In order to develop his idea further, Friedman (1995) used an adapted version of the Maslach Burnout Inventory or MBI (Maslach & Jackson, 1986) that included
exhaustion and accomplishments components. He studied Israeli primary school teachers using the MBI and his Pupil Behavior Patterns scale (PBP). Data were presented on differential relationships between dimensions of burnout and dimensions of student behavior. Specifically, emotional exhaustion burnout was predicted by disrespect and sociability. Accomplishment was predicted by disrespect and attentiveness. Though this study draws some important conclusions about student behavior and teacher burnout, it should be noted that Friedman did not report construct validity data for the PBP. Therefore, one can not be sure that the PBP tested what it projected.

Hastings and Bham (2003) replicated and expanded Friedman’s study (1995) with British students. Using an exploratory factor analysis, they confirmed the PBP domains of disrespectful behavior, sociability and attentiveness. Reliability analysis supported the internal consistency of the scales. Regression analysis of teacher burnout revealed differential prediction by PBP sub domains. Disrespect predicted emotional exhaustion and depersonalization burnout, and lack of sociability predicted depersonalization and personal accomplishment. Though the study extended and improved Friedman’s work, two problems remain. The PBP does not seem to have any external validity presented. It is unclear whether the behaviors rated by teachers reflect actual student behaviors or perceived behaviors. The second issue in this study is an issue of shared variance: Teachers reported on their students’ behavior and on their burnout.

The grade level and subject seemed to be involved in a teachers decision to stay or leave the profession. When looking at grade level taught, attrition is more prevalent among high school teachers than elementary teachers (Beer & Beer, 1992). Among the most important findings has been that teacher turnover is strongly affected by academic
field. Although the data is inconsistent at times, special education, mathematics, and science are typically found to be the fields of highest turnover (Boe et al., 1997; Grissmer & Kirby, 1997; Murmane, 1991).

The special education field yields some relevant information on teachers’ tasks and turnover. Special education teachers experienced higher attrition rates (20%) than their general education counterparts (13%) in 1987-88 (Boe et al., 1997). Researchers have seen the trend continue and attribute types of disabilities of students, lack of planning time and paperwork are related to teacher turnover (Fore, Martin, & Bender, 2002). It appears that special education teachers have task qualities associated with their job that relate to attrition.

Just the perception of the task may affect how a teacher performs in his or her profession. Hancock (1999) suggests that when a teacher perceives the demands of a situation to be greater than his or her capabilities to meet those demands, stress is felt on the person and that person will leave the environment. He contends that if one would like to reduce excessive stress, one must identify the source of the stress as related to either demand or capability (Hancock, 1999). Another study examined the direction and time-frame of relationships between perceived self-efficacy in classroom management and the three dimensions of burnout—depersonalization, exhaustion and personal accomplishment—among 243 secondary students. Structural equation modeling analyses indicated that perceived self-efficacy had a longitudinal effect on depersonalization and personal accomplishment (Brouwers & Tomic, 2000). The direction of the model was reversed for the relationship between perceived self-efficacy and emotional exhaustion; the time frame was synchronous. Perceived self-efficacy in classroom management and
other task qualities are connected with teacher burnout and retention.

Organizational Characteristics

Work conditions are key factors in the determination of job satisfaction (Norton, 1999). According to Norton, the more favorable the organizational conditions, the higher the work satisfaction scores. Ingersoll (2001) considers turnover from a sociological perspective as he contends that teacher turnover and staffing problems are embedded in the organizational conditions of schools. His study suggests that staffing problems are not from teacher shortages, but from teachers leaving their position before retirement (Ingersoll, 2002, 2003).

Low salaries are associated with teachers’ decisions to leave the profession (P. Dolton & van der Klaauw, 1995; Stinebrickner, 1999, 2001). Using a longitudinal dataset providing information on the career histories of 13,890 North Carolina teachers, Murnane and Oleson (1989) revealed that teachers who are paid more stay longer in teaching. Salaries influence duration less for teachers with higher test scores than for teachers with lower scores (Murnane et al., 1991). Ingersoll (2001) examined teacher turnover from an organizational perspective and suggested that increases in student enrollment and increases in teacher retirement are not primary factors of staffing difficulties. Instead, the potential insufficient supply of teachers is due to teachers leaving their jobs for reasons other than retirement. Both novice and experienced teachers are leaving the profession (Darling-Hammond, 1999; Delgado, 1999).

Social Support

Marlow, Inman, Betacourt (1997) underscore the importance of administrators,
colleagues and the community in the lives of beginnings teachers’ support features. Their study examined attitudes of beginning teachers toward their current support systems. They found that feelings regarding professional prestige are generally a direct result of teachers’ perceptions of how they are regarded by people outside the field of education. The study concludes that as teachers begin their careers, many are so inundated with tasks inside the educational environment that they are relatively unaware of the perceptions of the outside communities. As a result, the researchers suggest that beginning teachers need to be given opportunities to interact with colleagues who have similar ideas about teaching and working cooperatively and administrators who encourage and promote teachers’ ideas.

Theoretical Framework for Independent Variables

Researchers outside of the field of education have addressed the issue of career decision-making. A typology of “Career Anchors” (Schein, 1990) can be used to understand career decisions or motivations. While early career decisions are often based upon inaccurate information about career paths, after several years in the work force individuals develop more accurate assessments of their abilities, needs, and values. Schein labeled these job preferences as “career anchors”, suggesting that they set reasonably strong parameters within which career decisions are made. Schein (1978) posits the existence of five career anchors: (1) technical/functional competence; (2) managerial competence; (3) security and stability; (4) autonomy and independence; and (5) entrepreneurial creativity. Though these anchors have been useful in determining goals interests and ultimately career decisions, they may not be as useful in determining the patterns of teachers’ career decisions because the nature of the teaching profession is
much different as the many other professions Schein studied. As with many human
service occupations, teaching is not only associated with the five career anchors, but also
the complexities of working with students who are neither clients nor patients. If one is to
study the career decisions and patterns of teachers, one needs a framework that considers
the unique characteristics of teaching.

Johnson and Birkeland (2003) conducted a longitudinal study of 50 new teachers
in Massachusetts in order to study respondents’ reasons for staying in their schools,
moving to new schools, or leaving public school teaching within their first three years of
teaching. Through their interviews, they found that although the respondents’ prior career
orientations, financial situations and preparation played a role in their career decisions,
their experiences at the school sites were central in influencing their decisions. Teachers
who felt successful with students and whose schools were organized to support them in
their teaching were more likely to stay in their schools and in teaching than teachers who
did not have the feeling of self-efficacy or collegial support. These results are similar to
the findings in other studies (Henke et al., 2000; Marlow, Inman, & Betancourt-Smith,
1997; Rauch & O'Rourke, 2001; Tito, 1993; Wethington & Kessler, 1986). Johnson and
Birkeland’s study seems to highlight two areas that are critical to teacher retention,
migration and attrition: cognitive ability to interpret environmental information and
situative support within the school environment.

Framework for Decisions

A framework was needed to classify the different reasons for career decisions of
teachers. Using the results from the Massachusetts study (Johnson & Birkeland, 2003)
and knowing from other research that other external variables play a part in the decision-
making process (Billingsley & Cross, 1992; Murnane & Oleson, 1989; Ruhland, 2001), a framework that would extend an explanation to at least these groups of variables: external forces (such as salary and safety), perceptions (how one views the value of his or her work), and contextual (the socio-work environment of the teacher) was chosen.

A classification of the constructs discussed above that provides a useful framework was put forth by Greeno, Resnick, Collins (1996). This framework organizes educational, psychological research in three general perspectives. The perspectives correspond to general views of cognition in European and North American thought (Greeno, Collins, & Resnick, 1996). Others have used similar categories to describe schools of thought and issues in education (Case, 1992; Packer, 1985). The perspectives are the extrinsic perspective, the cognitive/rationalist perspective, and the situative perspective. Though the field could be characterized in different terms that could distinguish research in different ways, this grouping organizes the broad trends and issues in educational research.

The three general perspectives are used to frame the career decisions of teachers. In the extrinsic view, decision-making is based upon an organized accumulation of associations and components of skills which are applied from one situation to another. This view contends that individuals favor learning new skills and associations when incentives are involved. Individuals will attend to relevant aspects of a situation, decide which response will be the most rewarding and choose the appropriate response. The cognitive/rationalist perspective emphasis shows individuals use cognitive abilities to interpret their environment. This view expresses individuals’ use of cognitive abilities such as planning, reasoning, problem solving, and linguistic skills while making
decisions. The situative/pragmatist socio-historic perspective set forth by Green et al. contends that knowledge is distributed among people in their environment. Individuals gather information from communities in which they belong and make decisions based on those connections. One or more of these perspectives may contribute to understanding of teacher career decisions.

Extrinsic Perspective

The extrinsic perspective of cognition is an organized accumulation of associations and components of skills (Greeno et al., 1996). This perspective characterizes cognition as an organized collection of connections among basic mental or behavioral units. These units may be limited sensory impressions that combine to form percepts and concepts or stimulus-response associations. The behaviorist mode of decision-making acts upon associations collected through reinforcements and non-reinforcements.

A theory that contributed to the behaviorist perspective is stimulus-response association theory. Stimulus theories contend that stimuli that produce positive experiences or provide information about behavior or the environment are reinforcing (Beck, 2004). Thorndike’s Law of Effect states that behaviors followed by positive outcomes are strengthened, while those followed by negative behaviors are weakened (Santrock, 2001). A weak law of effect describes only that reinforcement that is a sufficient condition for changing behavior, without considering how the reinforcers work. A strong law of effect implies that some specific feature of a reinforcer is a necessary condition for reinforcing effect to occur.

Skinner (1953), expanding Thorndike’s ideas, added that reinforcement or reward...
is a consequence that, either positive or negative, increases the probability a behavior will occur. Punishment is a consequence that decreases the probability a behavior will occur. In positive reinforcement, a behavior increases because it is followed by rewards. In negative reinforcement, a behavior increases because the response removes an aversive stimulus. Reinforcements are most effective when given immediately and are progressively less effective with longer delays (Skinner, 1953). The delay between a response and reinforcement can be bridged by a secondary reinforcement, a stimulus that receives its reinforcing power by previous association with another. These theories are framed by the assumption that behavior is understood as a response by individuals to stimuli.

Rewards often influence an individual’s choices. Researchers have understood rewards in two ways: (1) as reinforcements to learn new behaviors; (2) as incentive to motivate approach behaviors (Beck, 2004). Developed from instrumental conditioning, an individual’s beliefs are instrumental in being rewarded or punished. Learning occurs, in other words, when an individual engages in an activity to receive praise, special privileges, and material rewards (Alderman, 2004). Extrinsic rewards are rewards that are given by someone else and are not under direct control of the person doing the rewarded activity.

Incentives affect decision-making when anticipation of rewards arouses whatever responses might be effective in obtaining the rewards (Petri & Govern, 2004). Based upon the idea rewards do not necessarily affect specific responses, Mowrer (Mowrer, 1960) believed incentive motivation was the central instigator of action. He postulated that emotions are the intervening variables that mediate the relation between stimuli and
responses. Cues associated with the onset of emotion become capable of eliciting the emotion before the emotion-producing stimulus does. Anticipatory emotion produces instrumental behavior to approach or avoid the stimulus. This theory represents an understanding of how some decisions are made.

There are different ways to examine the external forces that affect how one makes decisions. Theories of reinforcement emphasize increases or decreases of drive or arousal as reinforcing events (Beck, 2004). Drive reduction theory concludes that any behavioral outcome that reduces the level of drive is reinforcing (Hull, 1943). Drive, a motivational construct, energizes the individual to reduce the need. This theory directly ties reinforcement to motivation because there must be drive in order to have drive reduction. Drive theorists found it necessary to distinguish between need reduction and drive stimulus reduction. Miller (1959) argued that any strong stimulus has drive properties, but not all need states produce strong stimuli. Drive stimulus reduction is a reinforcing event, whether the drive stimulation is generated by some internal need such as hunger or comes from a painful or otherwise unpleasant stimulus (Beck, 2004). In other words, individuals may make decisions based upon reducing a need or a drive.

Teacher Career Decisions

The old adage, “what gets rewarded gets done” has been practiced in many school districts as a way to invigorate a faculty (Sergiovanni & Starratt, 1998). The assumption of many principals seems to be that teachers make decisions based on the extrinsic perspective. Headlines about Teacher Unions demanding more money, better benefits, or shorter calendars seem to underscore this point. This study tested the assumption that teachers decide to stay or leave their position because of external forces.
If this study found that there is a connection between teachers staying or leaving and external forces, difficult issues surface. Providing rewards for performance inevitably leads to an emphasis on measuring performance (March, 1984). Linking rewards and performance in March’s opinion causes problems: “A system of rewards linked to precise measure is not an incentive to perform well; it is an incentive to get a good score” (p. 27). In March’s view, teachers begin to work for the rewards rather than the job itself. This situation raises a number of serious questions about the profession and extrinsic motivation. What happens when the extrinsic rewards are no longer available to teachers? What happens to other sources of motivation once extrinsic motivators are introduced?

Variables Used in this Study

The variables in this study reflect the assumption that decisions are understood as responses to stimuli. Specifically the use of reward or punishment, incentive stimuli, and need reduction will be used as variables are selected. Table 1 presents the entire set of variables to be used in this study. The variable, student attack, was chosen to represent a negative reinforcement. Satisfaction with salary, is considered to have reward value. The variables, student behavior interferes, adequate materials, other duties interfere and satisfied with class size are concerned with an individual’s desire to reduce a need. Variables student drop out and student alcohol use were added because students’ destructive behaviors such affect the teachers’ ability to effectively teach by creating a hostile environment. Each of the variables in this set competes with the teacher’s ability to complete their teaching task. The need or drive becomes completing the task. Disruptive student behavior, inadequate materials, too much paperwork, dissatisfaction with class size and tardiness are outside forces that interfere with the teacher’s ability to

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complete the task.

The rest of the variables are construed as incentives. The variables, principal enforces rules and teacher enforces rules, represent the prompt in the survey which asks teachers to what extent rules in their schools are consistently reinforced by all staff. Because cues are often associated with the onset of emotion, the feeling of frustration that teachers do not have a uniform discipline system may become an “anticipatory emotion” producing behavior to approach or avoid the stimulus. The variables, staff recognition and job security are clearly incentive related. Staff recognition, provided an external incentive to perform well, while job security reflects anticipated safety in the job market.

*Cognitive/Rationalist Perspective*

One very important motive of human behavior is the need to develop the competence necessary to control one’s environment. Various researchers have approached this idea in different ways, but each seems to believe that healthy individual’s need to perceive that they can affect their surroundings. Unlike external motives, internal motives are integrated into one’s sense of self (Petri & Govern, 2004). An individual’s cognitive process, such as belief about his or her ability acts as an important mediator of motivation, which influences both expectations for potential performance and action taken (Alderman, 2004). Cognitive theorist who support the idea that beliefs or perceptions are a key motivating force, contend that individuals come to achieve, master, or gain competence because they have the capacity to anticipate the future: They have expectations about what might be (Franken, 2002).

Greeno et al. (1996) consider three traditions when they write of the cognitive/rationalist perspective. First, they consider Gestalt psychology which emphasized the
structural nature of knowledge and the importance of insight in learning. Constructivism, developed by Piaget, was included in this perspective because of the theory's focus on development of a child's conceptual understanding. Symbolic information processing was developed by cognitive scientists Chomsky, Simon and Newell. It focused on characterizing processes of language understanding, reasoning, and problem solving (Greeno 1996). Cognitive theories also have their roots in work done by earlier theorists such as Edward Tolman (1886-1959), personality theorists such as Kurt Lewin (1890-1947) and developmental theorists such as Jean Piaget (Franken, 2002). Contrary to traditional learning theorists (Hull, 1943) who contended that behavior could be shaped externally by strengthening an association, these theorists argued that mental representations formed by individuals play a central role in directing behavior. Instead of seeing individuals as mechanistic, cognitive theorist believe that individuals are active and rational decision makers. Building upon Lewin's ideas, (Atkinson, 1964) included a term for value in his model of achievement motivation, which he called incentive value. In the Atkinson model, the motivation to approach success was equal to achievement times probability for success times incentive value. This becomes the basis for much of the expectancy research. Individuals would make decisions based upon their internal processes.

There are two general approaches to expectancy construct that are of interest to this study: expectancy for success construct, and self-efficacy theory. The idea that people follow some basic motive to achieve control over their environments can be traced back to Robert White. White (White, 1959) argued that striving for competence is a major motive and success produces feelings of "effectance". Effectance, he defined as, "an
innate need to manipulate the environment” (p. 318). The goal of the effectance motive is the desirable state called competence, which is marked by control and mastery over the personal environment. He believed that this motive dominated the behavior of all living organisms, including humans, at all times except during brief periods, called “homeostatic crises.” when hunger, thirst, and avoidance of danger must first be satisfied. Once the crises have been resolved, the person returns to mastery-oriented behavior. What White called effectance is now usually referred to as the motive mastery on the grounds that successful manipulation of the environment leads to personal control (Geen, 1995). Self perception of ability is a major component of many current perspectives of motivation. A central influence on perceptions of one’s competence is a belief about one’s one competence is a belief about effort and ability (Paris, Byrnes, & Paris, 2001).

Expectancy for Success

The expectancy for success model resembles early expectance models of Lewin and Atkinson (Pintrich & Schunk, 1996). The Expectancy-for-Success framework proposed by Eccles and Wigfield (1992) provides a comprehensive model of value components. The model focuses on an individual’s expectancy for success and perceptions of ability for tasks. They have consistently found that student’s expectancy beliefs about their capabilities to do a task and succeed at it are closely related to actual achievement and earned grades. Wigfield and Eccles (2000) distinguished ability beliefs from expectancies for success. Ability beliefs focus on present ability, and expectancies focus on the future. Task value is a central concept to their understanding of motivation.

Eccles and Wigfield (1995) define achievement task value in terms of four
components, each of which can influence achievement behaviors such as choice, persistence, and actual achievement. The four components, attainment, intrinsic interest, perceived cost and extrinsic utility, are of great interest to this study because they influence the variables chosen for this study. Three of the four components have been shown to be empirically separable constructs in confirmatory factor analyses (Eccles & Wigfield, 1995). It appears that individuals make differential judgments about importance, interest, and utility. There can be intra-individual variability on these dimensions of the same task.

The first component, attainment value is defined as the importance of doing well on a task. It is also understood that attainment value is the extent to which a task allows individuals to confirm or disconfirm salient or central concepts of their self-schema (Wigfield & Eccles, 1992). For example, being a good a teacher may be very important for an individual because an important aspect of his self-identity is his concept of himself as a good teacher. In this case, his attainment value would be quite high.

The second component of task value is intrinsic interest value, defined as the enjoyment individuals experience when performing a task or as their subjective interest in the content of the task (Wigfield & Eccles, 1992). When intrinsic interest value is high, individuals will be more engaged in the task, persist longer, and be intrinsically motivated for the task (Wigfield & Eccles, 1992).

The third component of task value is extrinsic utility value. Utility value is defined as the usefulness of a task for individuals in terms of their future goals. It is related more to the ends than the means in and of a task. For example, a teacher may not have much intrinsic interest in discipline procedures, but because she wishes to have a
well managed classroom, she learns about different discipline procedures. In this sense, utility value is not like the external motivation discussed at the beginning of this section. External motivation is a reward system while this aspect of the expectancy theory contends that the individual is motivated by what the individual deems useful for the future.

The fourth component of the model is the cost attached to engaging in the task. When individuals engage in a task, it usually means not engaging in another task at the same time. Effectance, he defined as, “an innate need to manipulate the environment” (p. 318). The goal of the effectance motive is the desirable state called competence, which is marked by control and mastery over the personal environment. He believed that this motive (Wigfield & Eccles, 1992) assume that costs include the perceived amount of effort required for the task as well as anticipated emotional states such as fear of failure and performance anxiety. For example, a teacher may choose to leave the profession because he perceives that the cost in terms of effort required are too much for him to bear at that time. He may realize that being a housepainter takes up less of his time than being an educator. In terms of the anticipated emotional costs influencing behavior, a teacher may not participate in a conference presentation because of her performance anxiety about speaking to a group of her peers.

The four components of task value are assumed to operate together to determine the achievement value a task might have for an individual. Individuals will generally have perceptions and beliefs of the attainment value, interest level, and utility value of a task as well as the cost associated with a task. Much of Eccles & Wigfield (1995) research has focused on late elementary through secondary school students. They have
found that expectancy beliefs, including self-concepts, ability perceptions, and expectancy for success, seem to predict actual achievement in terms of grades and performance on standardized. Values are positively correlated with actual achievement, but when both expectancy beliefs and values are used to predict achievement, expectancy beliefs are significant predictors and values are not significant predictors. In contrast, in terms of intentions to take future classes and actual enrollment in those courses (choice behavior), value beliefs, including attainment value, intrinsic interest, and extrinsic utility are better predictors than expectancy beliefs (Wigfield & Eccles, 1992). It seems that achievement values may be more important for choice behaviors and be responsible for students enrolling in courses, but once in the course, values are not as important for actual performance as are expectancy beliefs. If this can be applied to teachers, it may mean that once in the profession, teachers’ expectancy and self-competence beliefs may be more important than value and interest in professional concerns.

Other research findings have theoretical implications on the expectancy models. In their construct validity studies using confirmatory factor analysis, (Eccles & Wigfield, 1995) have found that the different expectancy constructs such as self-perception, self-competence and expectancy for success are not differentiated into separable factors empirically. When students were interviewed, self-perception of ability was considered to be more stable and expectancy for success was more situational. Contrary to Atkinson’s model, their research reveals that value components are positively correlated with an expectancy component. Individuals tend to value those activities in which they think they will do well and vice versa (Eccles & Wigfield, 1995).
Self-Efficacy Theory

Bandura (1995) proposed a model that includes self-efficacy as a major emphasis. Self-efficacy is defined as “people’s judgment of their capabilities to organize and execute courses of action required to attain designated types of performances”. Although this definition sounds like the theories already discussed, it adds at least two new details to the picture.

One assumption Bandura (1995) adds to expectancy research is that individuals “organize and execute courses of action”. This suggests that this theory uses situations to define the cognitive skills that are necessary for competent performance. Another aspect that distinguishes self-efficacy from self-competence is the assumption that it is used in reference to some type of goal or as Bandura writes, “to attain designated types of performance.” The goal may be determined by the individual, or task, but the critical point is that judgments of efficacy are in a reference to a goal.

Self-Efficacy in Relation to Teacher-Career Decisions

Self-efficacy theories are similar to other expectancy constructs because they all represent individuals’ judgments of their capabilities. Studies have found general associations between teacher self-concept variables and teacher turnover (Friedman & Farber, 1992; Lunenburg & Cadavid, 1992). The discrepancy between teacher’s perceptions of their competence and satisfaction appears to be strongly predictive of burnout (Friedman, 2000). Friedman (2000) suggests that self-efficacy may be a critical psychological mechanisms underlying burnout. When educators perceive a distinct dissonance between their expectations of professional success and the reality of their
situation, this perception creates a discrepancy between their expected and observed levels of professional efficacy that cause burnout. Hancock (1999) suggests that each person views differently the demands of a particular work situation. He suggests that teachers respond to stress in stages. In the first stage, a teacher perceives a demand. In stage two, the individual cognitively compares the demand to the perception of his or her capabilities. If the perceived demands and capabilities are equal, a balance situation exists. Stage three occurs when the two are imbalanced. If, as a result of the comparison, perceived demands are greater or less than perceived capabilities, the imbalance which exists gives rise to stress (Hancock, 1999).

After interviewing what she considered exceptional teachers, (Williams, 2003) supports this perspective when she observes that the teachers interviewed understood their need for rest and reflection and professional renewal. As they discussed difficult years and fatigue, Williams notes that they tended to internalize disciplinary challenges as personal failures, or “at least a lack of effectiveness” (p. 74). Teachers’ beliefs and perceptions about their competence, attainment values, intrinsic values, extrinsic utility, perceived costs and self-efficacy will be examined in this perspective of cognition.

Variables Used in this Study

Variables to represent perceptions and beliefs were considered in light of the literature review on this topic. Table 2 presents the entire set of variables to be used in this study. Variables, influence over faulty and influence over policy reflect the need to influence the environment. If a person believes that he or she has influence over staffing decisions and influence over instructional policies, then those beliefs will affect motivation of the individual. The belief that it is a waste of time to try to do ones’ best as
a teacher reflects the lack of ability to affect the environment. The variables control of
teaching decisions and control of classroom decisions relate to White’s notion of
effectance. Both refer to the innate need to manipulate the environment. Variables,
principle discusses practices and principle-kind school refer to expectations set by the
leadership in the school. According to Tolman (in Petri and Govern, 2004), organisms
develop a cognitive map of their environment. The organism learns a general concept
about a place where reinforcement can be found. With the variable, principal knows what
kind of school he or she wants and has communicated that to teacher, reflects a similar
concept that has been taught. A person motivated in this cognitive manner, according to
Tolman, acquires, though mostly assumed, expectations both that behavior will be
rewarded and that the reward can be attained with certain performance.

The variable attending workshops reflect Wigfield and Eccles (1992) notion of
Expectancy-for-Success. The second component of task value is intrinsic interest value.
Attending of presenting at a workshop insinuates intrinsic interest. When intrinsic interest
value is high, individuals will be more engaged in the task, persist longer, and be
intrinsically motivated for the task (Wigfield & Eccles, 1992). This variable may also be
related to the third component of task value is extrinsic utility value. Utility value, the
usefulness of a task for individuals in terms of their future goals, may be involved in
attending and presenting at conferences.

Situative Perspective

The belief that people are members of groups, and the social bonds that emerge
from this membership shape their individual decisions frames this perspective of
cognition. An analysis of this decision-making perspective focuses on processes of
interaction of individuals with other people and with physical and technological systems. Greeno et al. acknowledged other research traditions that have contributed to the situative perspective, ethnography, for example, which studies groups of people in their culture. Ecological psychology, which studies behaviors as physical interactions between individuals, is another tradition cited by the authors. In addition to those theories, Greeno et al. recognized situational theory, which analyzes meaning and action as relational systems. Decision-making in this perspective is both a characteristic of the groups that carry out cooperative activities and a characteristic of individuals who participate in the communities to which they are members. Decisions often emphasize the engagement of individuals with the functions and goals of the community, including personal commitments and ways in which individual’s identities are enhanced or diminished by their participation (Greeno et al. 1996).

A basis for this perspective is that individuals are affected by their surroundings. As early as 1900 it was observed that the presence of others sometimes has a strong effect upon the behavior of individuals (Zajonc, 2000). It has been found that bicycle racers perform better when they compete against each other than against the clock (Petri & Govern, 2004). This social facilitation of behavior is probably one reason why new records are set in competitive situations. The presence of others energizes the behavior of contestants to higher levels. The co-action effect occurs when others are performing the same task. Social facilitation is a well documented phenomenon in humans and animals (Redd & deCastro, 1992; Zajonc, 2000). Satiated chickens will begin to eat if put into a cage with other feeding chickens. Chickens will even eat more when they are exposed to a videotape of another chicken that is eating (Keeling & Humik, 1993). Humans show
social facilitation effect of the presence of others. Redd and deCastro (1992) found that college students consumed more food, water, sodium, and alcohol when others were present. Like the chickens, their intake was sixty percent higher in social situations. Being in social contexts affects an individual’s behavior.

Individuals may make decisions based upon social motives. Social motives are needs and desires that are learned through experiences with the social world (Santrock, 2001). Membership in the school as a community provide collective attributes that place individual decision-making on a back burner (Etzioni, 1988) causing decision-making, in contextual terms, to become norms-based (Geen, 1995).

In the academic setting, the power of social context has been found to influence classroom engagement, academic effort, and subsequent success and failure. Social context was identified as a factor in reduction of drop-out rate in secondary schools (Wehlage, Rutter, Smith, Lesko, & Fernandez, 1989) and increased retention rates in college (Tito, 1993). Goodenow (1992) described membership as the extent to which “students feel supported by others in the school environment” (p. 80). Wehlage et al. (1989) asserted that a sense of school membership is the foundation upon which the educational engagement is built. This study will determine if this type of social membership and social facilitation affects teachers’ career decisions.

*The Situative Perspective in Relation to Teacher Career Decision*

Social support has a generally beneficial effect on health and well being. Research has highlighted the extent to which strong social support allows employees some immunization against the damaging effects of stress encountered during a typical work day (Gold, 1989; Litt, 1985; Woodhouse, 1985). The general effect on the quality of
life that is provided by the integration of the person into a social network. The importance of community is highlighted in a study of 427 teachers living in rural Australia, who had been in their current school for at least six years and were not planning to move within 12 months, were interviewed. The study created a profile of a community integrated, family oriented teacher who enjoyed the rural lifestyle and environment (Boylan & McSwan, 1998).

One explanation for this may be because it has been hypothesized that social support has two effects on health: a general effect and a buffering effect (Cohen & Willis, 1985). The buffer effect describes that help that is given to an individual going through stressful experiences. The support either reduces the aversive character of the stressor or fortifies the person against it. The actual receipt of social support is less related to well-being during the stressful affair than the perceived availability (Wethington & Kessler, 1986). Apparently just perceiving that one has supportive individuals who can be called upon can alleviate much of a person’s stress.

Lack of social support affects individuals, their emotional state and their decisions. An emotional state often discussed in teacher attrition literature is ‘burnout’. Burnout is a label used to describe the stress experienced by those who work in interpersonally intense occupations subject to chronic tension (Cunningham, 1983). Using a social change model, Schaufeli (1998) suggests that teacher burnout is a result of a lack of reciprocity in relationships with students, colleagues and administrators. When teachers invest more than they receive, burnout is likely to occur. Sakharov and Farber (1983), using critical theory, suggest that burnout is not merely a psychological state, but a subjective experience of a predominately social problem. It is the result of a
dynamic relationship between an individual teacher and a 'social world'. The social world is important to a teachers' emotional state and the decisions he or she make.

Variables Used in this Study

The importance of social interaction was significant in selecting the variables for this perspective of cognition. Table 3 represents the entire set of variables to measure situative indicators.

Three relationships are examined in order to understand social support. The first four variables represent relationships that teachers have with other teachers or specialists. Staff cooperation, coordination of content and shared beliefs reflect a positive working environment; while support for special needs students and planning with the librarian are relationships with other specialists in the school environment. A supportive administration and parental support reach outside of the direct realm of staff. Mentoring denotes a unique relationship in which the teacher is supported intentionally.

The three major perspectives and their supporting research have been discussed. Variables have been selected based on the perspective’s unique set of categorical analysis. The goal of this approach is to identify which perspective is more effective when it comes to predicting teachers’ career choices.

Summary

Over the past two decades there has been substantial empirical research focused on determining which kinds of teachers are more prone to leave teaching and why (e.g. (Boe et al., 1997; Cunningham, 1983; Marso & Pigge, 1997; Murmane, 1991; Sakharov & Farber, 1983). Individual characteristics, such as age, gender, and ethnicity, are
associated with attrition, (Murmane, 1991) as are environmental characteristics, such as
time spent in preparation (Darling-Hammond, 1996; Shen, 1997), staff collaboration
(Kim & Loadman, 1994), and class sizes (Boylan & McSwan, 1998). Low salaries and
organizational issues have also been likened to higher attrition rates in the teaching
workforce (Darling-Hammond, 1999; Kirby & Grissmer, 1993). Still, others attribute
teacher attrition to teachers changing occupations after finding more attractive non-
The challenge of attracting, supporting and retaining new teachers requires a full
understanding into the decision-making behaviors of teachers.

While acknowledging the previous research, this study has organized many of the
variables associated with attrition, retention, and migration into three perspectives of
cognition in order to examine what patterns of teacher career decision-making may exist.
Table 1

*Extrinsic Indicators of Cognition*

<table>
<thead>
<tr>
<th>Variable name</th>
<th>SASS question</th>
<th>Item no.</th>
<th>Question no.</th>
<th>Response</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>physical attack</td>
<td>Has a student from this school ever physically attacked you?</td>
<td>0283</td>
<td>56a</td>
<td>Yes/No</td>
<td></td>
</tr>
<tr>
<td>Satisfied w/ salary</td>
<td>I am satisfied with my teaching salary</td>
<td>0301</td>
<td>59c</td>
<td>Strongly agree =1 - Strongly disagree = 4</td>
<td></td>
</tr>
<tr>
<td>student behavior</td>
<td>The level of student behavior in this school (such as noise, horseplay, or</td>
<td>0302</td>
<td>59d</td>
<td>Strongly agree =1 - Strongly disagree = 4</td>
<td></td>
</tr>
<tr>
<td>interferes</td>
<td>fighting in the halls, cafeteria or student lounge) interferes with my</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adequate materials</td>
<td>Necessary materials such as textbooks, supplies, and copy machines are</td>
<td>0304</td>
<td>59f</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Other duties</td>
<td>Routines duties and paperwork interfere with my job of teaching.</td>
<td>0305</td>
<td>59g</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>interfere</td>
<td>My principal enforces school rules for student conduct and backs me up when</td>
<td>0306</td>
<td>59h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>principal enforces</td>
<td>I worry about the security of my job because of the performance of my</td>
<td>0313</td>
<td>59o</td>
<td></td>
<td></td>
</tr>
<tr>
<td>discipline</td>
<td>students on state or local tests</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>teacher enforces</td>
<td>Rules for student behavior are consistently enforced by teachers in this</td>
<td>0308</td>
<td>59j</td>
<td>Strongly agree =1 - Strongly disagree = 4</td>
<td></td>
</tr>
<tr>
<td>rules</td>
<td>school, even for students who are not in their classes.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff recognized</td>
<td>In this school, staff members are recognized for a job well done.</td>
<td>0312</td>
<td>59n</td>
<td>Strongly agree =1 - Strongly disagree = 4</td>
<td></td>
</tr>
<tr>
<td>job security</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfied class size</td>
<td>I am satisfied with my class size(s).</td>
<td>0315</td>
<td>59q</td>
<td>Strongly agree =1 - Strongly disagree = 4</td>
<td></td>
</tr>
<tr>
<td>Student drop out</td>
<td>The extent to which students dropping is a problem.</td>
<td>0333</td>
<td>60m</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Student alcohol use</td>
<td>The extent to which student alcohol use is a problem</td>
<td>0329</td>
<td>60i</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

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Table 2

Perceptions and Beliefs in the Cognition Framework

<table>
<thead>
<tr>
<th>Variable name</th>
<th>SASS Question</th>
<th>Item no.</th>
<th>Question no.</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influence on faculty (influfac)</td>
<td>How much actual influence do you think teachers have over school policy in hiring new full-time teachers?</td>
<td>0290</td>
<td>57e</td>
<td>no influence = 1 to a great deal of influence = 5</td>
</tr>
<tr>
<td>Influence on faculty (influfac)</td>
<td>How much actual influence do you think teachers have over school policy in evaluating teachers?</td>
<td>0289</td>
<td>57d</td>
<td>no influence = 1 to a great deal of influence = 5</td>
</tr>
<tr>
<td>Influence on policy (influpo)</td>
<td>How much actual influence do you think teachers have over school policy in setting performance standards for students of this school?</td>
<td>0286</td>
<td>57a</td>
<td>no influence = 1 to a great deal of influence = 5</td>
</tr>
<tr>
<td>Influence on policy (influpo)</td>
<td>How much actual influence do you think teachers have over school policy in establishing curriculum?</td>
<td>0287</td>
<td>57b</td>
<td>no influence = 1 to a great deal of influence = 5</td>
</tr>
<tr>
<td>Influence on policy (influpo)</td>
<td>How much actual influence do you think teachers have over school policy in determining the content of in-service professional developmental programs</td>
<td>0288</td>
<td>57c</td>
<td>no influence = 1 to a great deal of influence = 5</td>
</tr>
<tr>
<td>Influence on policy (influpo)</td>
<td>How much control do you think you have in your classroom at this school over selecting textbooks and other instructional materials?</td>
<td>0293</td>
<td>58a</td>
<td>no influence = 1 to a great deal of influence = 5</td>
</tr>
<tr>
<td>Control of teaching decisions (conteach)</td>
<td>How much control do you think you have in your classroom at this school over selecting content, topics, and skills to be taught?</td>
<td>0294</td>
<td>58b</td>
<td>no influence = 1 to a great deal of influence = 5</td>
</tr>
<tr>
<td>Control of teaching decisions (conteach)</td>
<td>How much control do you think you have in your classroom at this school over selecting teaching techniques?</td>
<td>0295</td>
<td>58c</td>
<td>no influence = 1 to a great deal of influence = 5</td>
</tr>
<tr>
<td>Control of class decisions (concla)</td>
<td>How much control do you think you have in your classroom at this school over evaluating and grading students?</td>
<td>0296</td>
<td>58d</td>
<td>no influence = 1 to a great deal of influence = 5</td>
</tr>
<tr>
<td>Control of class decisions (concla)</td>
<td>How much control do you think you have in your classroom at this school over disciplining students?</td>
<td>0297</td>
<td>58e</td>
<td>no influence = 1 to a great deal of influence = 5</td>
</tr>
<tr>
<td>Control of class decisions (concla)</td>
<td>How much control do you think you have in your classroom at this school in determining the amount of homework to be assigned?</td>
<td>0298</td>
<td>58f</td>
<td>no influence = 1 to a great deal of influence = 5</td>
</tr>
<tr>
<td>Principal discusses practices</td>
<td>The principal talks with me frequently about my instructional practices.</td>
<td>0307</td>
<td>59i</td>
<td>strongly agree = 1 to strongly disagree = 4</td>
</tr>
<tr>
<td>Principal - kind of</td>
<td>The principal knows what kind of school he/she wants and has</td>
<td>0130</td>
<td>59l</td>
<td>strongly agree = 1 to strongly disagree = 4</td>
</tr>
<tr>
<td>school</td>
<td>Teaching is waste of time</td>
<td>communicated it to his staff. I sometimes feel it is a waste of time to try to do my best as a teacher.</td>
<td>disagree = 4 strongly agree = 59</td>
<td>0318 59t</td>
</tr>
<tr>
<td>--------</td>
<td>--------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Workshops attended (work)</td>
<td>In the past 12 months, have you attended workshops, conferences or training?</td>
<td>0157 27h</td>
<td>Yes/No</td>
<td></td>
</tr>
</tbody>
</table>
Table 3

Social Indicators of Cognition

<table>
<thead>
<tr>
<th>Var. name</th>
<th>SASS Question</th>
<th>Item no.</th>
<th>Question no.</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff cooperation</td>
<td>There is a great deal of cooperative effort among staff members.</td>
<td>0311</td>
<td>59m</td>
<td>strongly agree = 1 -- strongly disagree = 4</td>
</tr>
<tr>
<td>Coordinate content</td>
<td>I make a conscious effort to coordinate the content of my courses with that of other teachers.</td>
<td>0316</td>
<td>59r</td>
<td>strongly agree = 1 -- strongly disagree = 4</td>
</tr>
<tr>
<td>Special needs students</td>
<td>I am given support I need to teach students with special needs</td>
<td>0314</td>
<td>59p</td>
<td>strongly agree = 1 to strongly disagree = 4</td>
</tr>
<tr>
<td>Plan w/ librarian</td>
<td>I plan with the library media specialist/librarian for the integration of library media services into my teaching.</td>
<td>0319</td>
<td>59u</td>
<td>strongly agree = 1 -- strongly disagree = 4</td>
</tr>
<tr>
<td>Administrative support</td>
<td>The school's administration's behavior toward the staff is supportive and encouraging.</td>
<td>0300</td>
<td>59b</td>
<td>strongly agree = 1 -- strongly disagree = 4</td>
</tr>
<tr>
<td>Parental support</td>
<td>I receive a great deal of support from parents for the work I do.</td>
<td>0303</td>
<td>59e</td>
<td>strongly agree = 1 to strongly disagree = 4</td>
</tr>
<tr>
<td>Mentoring</td>
<td>In the past 12 months, have you participated in mentoring and/or peer observation and coaching, as part of a formal arrangement that is recognized or supported by the school district?</td>
<td>0155</td>
<td>27f</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Colleagues share beliefs</td>
<td>Most of my colleagues share my beliefs and values about what the central mission of the school should be.</td>
<td>0309</td>
<td>59k</td>
<td>strongly agree = 1 -- strongly disagree = 4</td>
</tr>
</tbody>
</table>
CHAPTER III

METHODOLOGY

Introduction

Research thus far has provided a great deal of insight into the variables associated with teacher attrition, migration, and retention. In order to further understand teacher career decisions, this study used three perspectives of cognition and three groups of teachers: those who stay in teaching, those who leave teaching and those who move to another district. This determines the relationship between a particular perspective of cognition and career decisions. Secondary analysis of data set provided by the Schools and Staffing Survey conducted by the National Center for Educational Statistics was used because of its substantial sample size, careful sampling procedures and it provides nationally representative data. Sample designs, instrumentation, variables used in the study and data analysis are included in this chapter.

Rationale for Secondary Analysis of Quantitative Data

Secondary analysis involves using existing data, collected for purposes of a prior study, in order to pursue a research interest which is distinct from that of the original work (Cox, 1990). Large data base hold valuable information in them; information that has not been tapped. Secondary analysis is an opportunity to provide a set of tools by which that information can be extracted.

Hand (1998) suggests that there are two primary techniques of secondary analysis
according to whether they seek to build models or to find patterns. The first type is concerned with building a comprehensive structure, referring to many cases. The second type is a smaller structure, relating to just a few variables and a limited number of cases. A different distinction is sometimes made between empirical and mechanistic models (Cox, 1990). Empirical models seek to model relationships without basing them on any underlying theory. The latter models are based on some theory of mechanism for the underlying data generating process.

Hand (1998) proposed another model of secondary analysis. Instead of unearthing structures in the data, this approach imposes a structure on it. Hand (1998) argues that such an approach is relevant to secondary data analysis because it is based in theory. This study has designed a structure and has imposed it on the teacher portion of the SASS data set in order to determine if the structure is helpful in understanding teacher retention attrition and migration. This study does not merely search for a pattern in teacher career decisions. Instead, it has examined literature, proposed a possible pattern; formulated research questions based on theory, and approached the data with the framework created.

Population and Sample

The population for this study is full-time teachers whose primary assignment was teaching in any of the grades, kindergarten through 12th grade in a public school during 1999-2000. This study used a survey that would allow for the greatest access to that population.

Sample Selection Procedures

Schools are the primary sampling unit. Public schools were selected to be representative at the national and state levels. Once a school is selected, school districts
associated with the selected school and the schools principal were included in the sample as well. Each selected school was asked to provide a list of teachers and teachers’ assignments that became the teacher sampling frame (Gruber, Wiley, Broughman, Stizek, & Burian, 2002). Only seven percent of the public schools did not provide teacher lists (Cole, Fondelier, Jackson, Parmer, & Warner, 2003). Based upon the information collected on teachers from schools, teachers were assigned to mutually exclusive strata depending upon the following teacher characteristics, listed in order of priority: (1) Teacher’s race was reported as Asian or Pacific Islander; (2) Teacher’s race was reported as American Indian or Alaskan Native; (3) Teachers who teach classes designed for students with Limited-English Proficiency; (4) Teachers in their first, second, or third year of teaching; or (5) Teachers not classified in any of the above groups. The probability of selection of teachers within each strata varied, depending on the number of teachers within each sector.

Sample Size

Table 4 illustrates the number of eligible cases (Sample Size). Out-of-scope cases, which were drawn from the sample but were not eligible for the initial interviews were excluded. Reasons for an out-of-scope designation include school closure or a teacher that was no longer employed by the school. The non-interview cases include eligible cases that refused or returned questionnaires with too little valid data to be considered complete interviews for the survey.

In preparation for the teacher follow-up interview (TFS), the SASS teacher questionnaire asked for the teacher’s home address and two people who would know their whereabouts. The Teacher Follow-Up Survey (TFS), Table 5 below, consisted of all
eligible teachers who responded to the SASS Teacher Survey in the previous year.

Weighted response rates are defined as the number of in-scope sample cases, using an inverse of the probability of selection.

Collection Procedures Data

Data collection took place during the 1999-2000 school year. Respondents to the School District Questionnaire were designated by the district office in response to a notification letter. The principal and teacher questionnaires were sent to the sampled individuals. The process began with a mail-out phase, followed by a second mailing, and additional non-response follow-up conducted by telephone.

The teacher surveys included a re-interview program. The purpose of this re-interview program was to evaluate the reliability of the data from selected SASS questions by estimating each question’s response variance. High response variance would indicate a problem with the design of the question or the nature of the data being collected by that question. The questions chosen for the re-interview were considered to be critical to the SASS survey or suspected to be problematic. Most re-interview respondents received their re-interview questionnaire in the mail between three and four weeks from the date they returned their original interview (Ehnis & Miller, 2001).

Response Rates

The response rate for the public school teacher questionnaire was 81.2 percent (Gruber et al., 2002). A non-response bias analysis was conducted for each of the components of the 1999-2000 SASS. The analysis included two steps to evaluate the extent for potential bias introduced by school district non-response, school non-response,
school principal nonresponse and teacher nonresponse. First, response rates were examined to find large response rate differences overall and by school characteristics. Then the results from the first step were used to identify a set of components or subgroups for which the response rates were relatively low (< 75%). The second step compared subgroups or components to the corresponding population value obtained from the Common Core Data (CCD). Significant differences between the distribution of the respondent units and the frame distribution would suggest a potential bias due to non-response (Gruber et al., 2002). When considering this area of non-response, there was no evidence to point to a substantial bias in SASS estimates (Gruber et al., 2002).

**Item Response Rates**

The item response rates are the number of sample cases responding to an item divided by the number of sample cases eligible to answer the item. None of the items in the 1999-2000 survey had a response rate below 70 percent. If one should have occurred, it would not have been included in the data file (Gruber et al., 2002).

**Reliability**

Non-sampling errors could be attributed to many sources, including: inability to recall information, differences in interpretations of questions, errors made in data processing and inability or unwillingness on the part of the respondents to provide correct information. Control and editing procedures were used to reduce errors made by respondents, coders and interviewers (Gruber et al., 2002).

Sampling errors mostly measure the variations that occurred by chance because
the sample was surveyed rather than the entire population. The sample estimate and its standard error enable one to construct confidence levels. Standard errors were estimated using a bootstrap variance procedure that incorporates the design features of the complexity of the survey design (Kaufman, 2000).

Subject Selection

In January 2000, questionnaires were sent to the sampled teachers' home addresses. In preparation for the mailing, in the previous year, the Schools and Staffing Survey Teacher Questionnaire asked for both home address and contact information for two people who would know the whereabouts of the teacher. Teachers who were sent questionnaires that were inappropriate for their status were asked to return them and the correct version of the questionnaire was then sent.

Instrumentation

The data used for this study was conducted by the National Center for Education Statistics, U.S. Department of Education. It provided a nationally representative probability sample with more than 50,000 participants. The responses from the survey covered a wide band of issues including decision-making working conditions and classroom management.

The Schools and Staffing Surveys (SASS) of the National Center for Education Statistics provided a wealth of detailed information about elementary and secondary schools and their staffs. SASS was composed of four basic questionnaires, with minor variations for units in the public and private sectors. SASS questionnaires were administered by mail, with extensive telephone follow-up. The questionnaire response
rate was 83.1 percent for public school teachers (NCES, 2004).

Primary data used for this research was the nationally representative Schools and Staffing Survey (SASS) and its supplement, the teacher Follow-up Survey (TFS), both conducted at the National Center for Educational Statistics of the U.S. Department of Education. SASS is a comprehensive data source available on file staffing, occupationally and organizational aspects of schools. To date, four independent cycles of SASS have been completed: 1987-88; 1990-91; 1993-94; and 1999-2000. This study used data collected through the Public School Teachers Questionnaire of the 1999-2000 Schools and Staffing Survey and the subsequent Questionnaire for Current Teachers and the Questionnaire for Former Teachers of the 2001 Teacher Follow-up Survey.

Public School Teacher Questionnaire

The Public School Teacher Questionnaire, a component of SASS, concentrates on teachers’ current teaching status, teaching experience, training and certification, current teaching assignment and load, perceptions and attitudes toward teaching, compensation and incentives, and demographic and socioeconomic characteristics. It provides data suitable for identifying entering and transferring teachers, including transfers among schools, and for tracing these teachers back to their sources of supply (Faupel, Bobbitt, & Friedrichs, 1992). Teachers responded to questions regarding their perception on a Likert scale.

Teacher Follow-up Survey

The Teacher Follow-up Survey (TFS) uses a longitudinal sample survey of teachers who either continued in the teaching profession or left the teaching profession in the year immediately following the SASS. In the case of this study, SASS was completed
in 2000; the follow-up survey was distributed a year later. Thus, the TFS derives from and can be linked to the SASS administered during the prior year. The design of the TFS likewise provides for representative estimates of the numbers and attributes of teachers in both public- and private-sector schools. The TFS was composed of two questionnaires, a Questionnaire for Current Teachers (teachers who continued in the teaching profession from the prior year) and a Questionnaire for Former Teachers (teachers who had left the teaching profession at the end of the prior school year). It is in this manner the three groups; stayers, leavers, and movers are formed.

TFS was designed to support comparative analyses of stayers, movers and leavers for teachers. Stayers are teachers who remained in the same school. Movers are teachers who made a horizontal career move and voluntarily relocated to another school. Leavers were classified as teachers who left the profession on their own accord. Those who left because of illness, retirement or family reasons were not classified as leavers. Subjects identified by the data set as belonging to one of the three groups will be considered for the study.

Research Questions

This study is interested in the decisions that educators make. The purpose was to determine if these career choices could be predicted in terms of a cognition framework. Six research questions guided this study.

1. What behavioral variables are predictors for teachers' career decisions (stayers and leavers)?

2. What behavioral variables are predictors for teachers' career decisions (stayers/movers and leavers)?
3. What cognitive variables (beliefs and perceptions) are predictors for teachers’ career decisions (stayers and leavers)?

4. What cognitive variables (beliefs and perceptions) are predictors for teachers’ career decisions (stayers/movers and leavers)?

5. What situative variables are predictors for teachers’ career decisions (stayers and leavers)?

6. What situative variables are predictors for teachers’ career decisions (stayers/movers and leavers)?

Each perspective of cognition was analyzed twice using different dependent variables. The first question asked of the specific cognitive framework used stayers and leavers as the dependent variable. The second question was interested in the contribution of the movers to the group of stayers. If the results are similar, it might be assumed that the movers do not add new information to the analysis.

The independent variables for this study are comprised of questions from the Teacher Questionnaire of SASS. In order to address research questions one and two, variables associated with external cognition were selected. Table 6 illustrates how the extrinsic variables related to the survey questions. Research questions three and four used independent variables that were associated with perception based cognition. Table 7 shows the relationship between the cognitive independent variables and the survey questions. Independent variables associated with situative cognition are used to address questions five and six. Table 8 provides information about how the situative variables are related to the survey.

Covariates are used in a regression to remove extraneous variation in the
dependent variables. Because age (Boe et al., 1997; Byrne, 1999; Huberman & Vandeberghe, 1999) and total years of experience (Mumane, Singer, Willet, Kemple, & Oleson, 1991) are both strongly identified with teachers’ career decisions, they were added to the model as covariates.

**Combined Variables**

Some responses to questions that had bivariate correlations over .4 and were similar in content were combined by averaging the responses. For example, items 288, 289, and 290 were combined because of their high bivariate correlation and because each question asked the participants about the influence thought teachers have over school policy. In each case of combined variables, the items appeared within the same subset of the general prompt. For example, question number 57 asks, “Using the scale of 1-5, where 1 means ‘No influence’ and 5 means ‘A great deal of influence,’ how much actual influence do you think teachers have over school policy at this school in each of the following areas?” Since the interest in this variable was to observe how much influence teachers had over policies that are usually administrative in nature, the items that dealt with evaluating, hiring, and content of in-service programs were chosen. The placement of the prompts on the survey is noteworthy because it indicates that the writers of the survey considered them similar.

**Expression of Variables**

The covariate variables were recoded to change the expression of the variable and to facilitate interpretation. Both of the variables, age and total years of experience were expressed as continuous variables which posed interpretation challenges in the logistic
regression.

Since previous research indicates that the probability of a teacher leaving his or her job is high in the first few years after entering the profession, then falls and increases again as the teacher nears retirement age (Murnane, Singer, Willet, Kemple, & Oleson, 1991), total years of experience (EXP) was recoded as an ordinal variable. If a person had been teaching less than six years then total years of experience (EXP) was equal to one. If a person had been teaching more than 5 but less than 11, total years of experience (EXP) was coded as a 2. If a person had been teaching more than 10 but less than 16, total years of experience (EXP) was coded as a 3. If a person had been teaching more than 15 but less than 21, total years of experience (EXP) was coded as a 4. If a person taught more than 20 years then total years of experience was coded as a 5. Age posed a similar interpretation problem; therefore, it was also recoded as a nominal variable. There were three groups created: teachers under 31 (Y), teachers between the ages of 30 and 40 (M), and teachers older than 40 (O).

Data Analysis

Each of the analyses used data on public school teachers’ responses from the 2000-2001 Schools and Staffing Surveys (SASS) and the Teacher Follow-up Surveys (TFS). The data sets were the basis for regression analysis of cognition perspective on the three groups of teachers (stayers, movers and leavers) to examine whether cognition indicators are related to a teachers decision to stay in their current position.

Statistical Method

The goal of this analysis is to find the best fitting and most parsimonious model to
describe the relationship between teacher career choices and sets of cognition predictors. Logistical regression has become the standard method of analysis in situations similar to this study (Hosmer & Lemeshow, 2000). Unlike linear regression where outcome variables are assumed to be continuous, logistic regression uses outcome variables that are binary or dichotomous (Hair, Anderson, Tatham, & Black, 1998; Hosmer & Lemeshow, 2000). This analysis technique applies maximum likelihood estimation after transforming the dependent into a logit variable, a log of the odds of the dependent occurring or not (Tabachnick & Fidell, 2001). Used in this manner, logistic regression estimates the probability of a certain event occurring.

This study used a technique of regression, stepwise logistical regression, which employed a selection procedure is an effective means to screen a number of variables and to fit a number of logistic equations simultaneously (Tabachnick & Fidell, 2001). The stepwise logistical regression method utilizes chi-square difference to determine automatically which variables to add to the model (Hosmer & Lemeshow, 2000). SAS uses individual Wald statistics to check for removal or addition of covariates. A drawback of this method happens when a researcher enters a multitude of unrelated variables often resulting in modeling noise in the data. To compensate for this risk, the variables for this study have been selected on a theoretical basis according to the earlier descriptions. Bivariate correlations have also been examined in order to determine which variables are strongly associated.

Logistic regression is more flexible than other techniques such as multiple regression and discriminate function analysis (Tabachnick & Fidell, 2001). Unlike discriminate function analysis, logistic regression has no assumptions about the
distributions of the predictor variables: They do not have to be normally distributed, linearly related or of equal variance with each group.

Because logistic regression is based on a logistic curve, which values falls between 0 and 1, each analysis used a dichotomous outcome variable. For this reason the dependent value is coded as 0 (indicating those who remain in the profession) and 1 (those who leave the profession).

Since this study examine three groups, it was necessary to conduct parallel analyses to meet the dichotomous requirement. For example to test extrinsic cognition, two analyses will be performed: one analysis tests two groups of stayers (coded as 0) and leavers (coded as 1), while the other tests stayers and movers (coded as 0) and leavers (coded as 1). The study continued in the same manner testing perceptual and situative cognition. After the best models were determined for each set of cognition perspectives, a final logistic regression was conducted to determine the effect of all the cognition perspectives together.

An important decision that needs to be made when using stepwise regression is the choice of an “alpha” level to judge the variables. The choice of an entry alpha determines how many variables are eventually included in the model. The choice of 0.05 is too stringent and often excludes important variables from the model (K. Lee & Koval, 1997). The “alpha” entry level for the variables was 0.3 and 0.35 for the variables to stay in the model.

Analysis

Each major analysis accounted for the assumptions and limitations that go along with logistic regression. Because SASS is such a large data set, the limitation of ratio of
cases to variable is tenable. A goodness of fit test was conducted in order to determine the adequacy of expected frequencies and power. The assumptions of outliers and independence are met because of the organization of the data set. Additional analyses such as odds ratio and prediction success table were conducted based on the major analysis.

Variables and the Model

Because this study examined many independent variables that could potentially be included in the model, the goal of this study was to select variables that result in the “best model” within the cognition context of the question. According to Hosmer and Lemeshow (2000), the researcher ought to have: (1) a basic plan for selecting the variables (2) a set of methods for assessing the adequacy of the model both in terms of its independent variables and its overall fit. The arguments for selecting the variables in this study were present in Chapter II.

Model Assessment Method

Hosmer and Lemeshow (2000) propose an approach that 1) computes and evaluates overall measures of fit; 2) examines individual components of the summary of statistics, and 3) examines other measures of difference or distance between the components of \( y \) and \( \hat{y} \).

Goodness of Fit

Goodness of fit provides an overall indication of the fit of the model. It is important to remember that summary statistics, by their nature, may not provide information about the individual model components. Tabachnick and Fidell (2001)
caution that if sample sizes are large, as in this study, almost any difference between models is likely to be reliable (statistically significant) even if it has no practical importance. In order to compensate for the large sample size, this study conducts a multifaceted assessment of fit. In an attempt to fully assess the fit of the model and to attend to the goal of the study of correct prediction, goodness-of-fit was assessed with three methods: The Hosmer-Lemeshow goodness-of-fit statistic, classification tables, and Receiver Operating Characteristic (ROC).

The Hosmer-Lemeshow goodness-of-fit statistic evaluates the model by creating ordered groups of subjects and then comparing the number actually in each group with the number predicted into each group by the logistic model (Tabachnick & Fidell, 2001). If the model is good, the statistic produces a nonsignificant chi-square. Classification tables are used to evaluate if the model has the ability to predict correctly the outcome category for cases for whom outcome is known. Another description of classification accuracy is given by the area under the ROC curve. It plots the probability of detecting true signal (sensitivity) and false signal (1 - specificity) for an entire range of possible cut points. In this case, a participant who leaves teaching has a higher probability cut off that participants who remain in teaching. As a general rule:

if $\text{ROC} = 0.5$: this suggests no discrimination;

if $\text{ROC} \leq 0.7$ $\text{ROC} < 0.8$: this is considered acceptable discrimination;

if $0.8 \leq \text{ROC} < 0.9$: this is considered excellent discrimination;

if $\text{ROC} \geq 0.9$: this is considered outstanding discrimination (Hosmer & Lemeshow, 2000).
Evaluations of the Model without Predictors

It is important to determine whether the predictors, as a group, contribute to the prediction of the outcome (Tabachnick & Fidell, 2001). In logistic regression, this is the comparison of the intercept-only model with the full model that has the constant plus all of the predictors. If no improvement is found when all of the predictors are added, the predictors are unrelated to outcome. SAS reports log-likelihood for both intercept-only model and the full model as -2 Log L. If the difference between the full model and the intercept-only model at the level of at least $p < .05$, I considered it significantly different.

Examining Individual Components

If the model is considered a good fit, then the analysis proceeded with examining individual components. The Wald statistic was used to test the significance of each regressor in each model. The Wald statistic has a chi-squared distribution, but apart from that it is used in just the same way as the $t$ values for an individual regressor in linear regression.

Summary

In summary, the methodology used in this study was appropriate based on the problem identified and the rationale for the study. The study accessed the teacher portion of the Schools and Staffing Survey (SASS). Variables were constructed based on classification of the cognitive perspective. Several stepwise logistical regressions were performed in order to determine the best set of perspectives of cognition. Analysis of the regressions included an evaluation of the overall fit of the model, significance of individual predictors and evaluation of the model without predictors.
Table 4

2000-2001 TFS Sample Sizes and Response Rates

<table>
<thead>
<tr>
<th>Public Schools</th>
<th>Sample Size</th>
<th>Weighted response rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current teachers</td>
<td>2818</td>
<td>90.1%</td>
</tr>
<tr>
<td>Former teachers</td>
<td>1846</td>
<td>90.5%</td>
</tr>
</tbody>
</table>
Table 5

*Number of Interviewed Teachers in Sample*

<table>
<thead>
<tr>
<th>Teachers</th>
<th>Total</th>
<th>SASS for Public Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample</td>
<td>72058</td>
<td>56354</td>
</tr>
<tr>
<td>In-Scope</td>
<td>65342</td>
<td>51811</td>
</tr>
<tr>
<td>Interviews</td>
<td>52404</td>
<td>42086</td>
</tr>
</tbody>
</table>
### Table 6

**Extrinsic Indicators of Cognition**

<table>
<thead>
<tr>
<th>Variable name</th>
<th>SASS question</th>
<th>Item no.</th>
<th>Question no.</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>physical attack</td>
<td>Has a student from this school ever physically attacked you?</td>
<td>0283</td>
<td>56a</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Satisfied w/ salary</td>
<td>I am satisfied with my teaching salary</td>
<td>0301</td>
<td>59c</td>
<td>Strongly agree =1 - Strongly disagree = 4</td>
</tr>
<tr>
<td>student behavior interferes</td>
<td>The level of student behavior in this school (such as noise, horseplay, or fighting in the halls, cafeteria or student lounge) interferes with my teaching.</td>
<td>0302</td>
<td>59d</td>
<td>Strongly agree =1 - Strongly disagree = 4</td>
</tr>
<tr>
<td>Adequate materials</td>
<td>Necessary materials such as textbooks, supplies, and copy machines are available as needed by the staff.</td>
<td>0304</td>
<td>59f</td>
<td>Strongly agree =1 - Strongly disagree = 4</td>
</tr>
<tr>
<td>Other duties interfere</td>
<td>Routines duties and paperwork interfere with my job of teaching.</td>
<td>0305</td>
<td>59g</td>
<td>Strongly agree =1 - Strongly disagree = 4</td>
</tr>
<tr>
<td>principal enforces discipline</td>
<td>My principal enforces school rules for student conduct and backs me up when I need it.</td>
<td>0306</td>
<td>59h</td>
<td>Strongly agree =1 - Strongly disagree = 4</td>
</tr>
<tr>
<td>teacher enforce rules</td>
<td>Rules for student behavior are consistently enforced by teachers in this school, even for students who are not in their classes.</td>
<td>0308</td>
<td>59j</td>
<td>Strongly agree =1 - Strongly disagree = 4</td>
</tr>
<tr>
<td>Staff recognized</td>
<td>In this school, staff members are recognized for a job well done.</td>
<td>0312</td>
<td>59n</td>
<td>Strongly agree =1 - Strongly disagree = 4</td>
</tr>
<tr>
<td>job security</td>
<td>I worry about the security of my job because of the performance of my students on state or local tests.</td>
<td>0313</td>
<td>59o</td>
<td>Strongly agree =1 - Strongly disagree = 4</td>
</tr>
<tr>
<td>class size</td>
<td>I am satisfied with my class size(s).</td>
<td>0315</td>
<td>59q</td>
<td>Strongly agree =1 - Strongly disagree = 4</td>
</tr>
<tr>
<td>Student drop out</td>
<td>The extent to which students dropping is a problem.</td>
<td>0333</td>
<td>60m</td>
<td>Serious Problem =1 - Not a problem = 4</td>
</tr>
<tr>
<td>Student alcohol use</td>
<td>The extent to which student alcohol use is a problem</td>
<td>0329</td>
<td>60i</td>
<td>Serious Problem =1 - Not a problem = 4</td>
</tr>
</tbody>
</table>
Table 7

*Cognitive Set of Variables*

<table>
<thead>
<tr>
<th>Variable name</th>
<th>SASS Question</th>
<th>Item no.</th>
<th>Question no</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influence on faculty (influfac)</td>
<td>How much actual influence do you think teachers have over school policy in hiring new full-time teachers?</td>
<td>0290</td>
<td>57e</td>
<td>no influence = 1 to strongly disagree = 4</td>
</tr>
<tr>
<td>Influence on faculty (influfac)</td>
<td>How much actual influence do you think teachers have over school policy in evaluating teachers?</td>
<td>0289</td>
<td>57d</td>
<td>no influence = 1 to strongly disagree = 4</td>
</tr>
<tr>
<td>Influence on policy (influpo)</td>
<td>How much actual influence do you think teachers have over school policy in setting performance standards for students of this school?</td>
<td>0286</td>
<td>57a</td>
<td>no influence = 1 to strongly disagree = 4</td>
</tr>
<tr>
<td>Influence on policy (influpo)</td>
<td>How much actual influence do you think teachers have over school policy in establishing curriculum?</td>
<td>0287</td>
<td>57b</td>
<td>no influence = 1 to strongly disagree = 4</td>
</tr>
<tr>
<td>Influence on policy (influpo)</td>
<td>How much actual influence do you think teachers have over school policy in determining the content of in-service professional development programs</td>
<td>0288</td>
<td>57c</td>
<td>no influence = 1 to strongly disagree = 4</td>
</tr>
<tr>
<td>Influence on policy (influpo)</td>
<td>How much control do you think you have in your classroom at this school over selecting textbooks and other instructional materials?</td>
<td>0293</td>
<td>58a</td>
<td>no influence = 1 to strongly disagree = 4</td>
</tr>
<tr>
<td>Control over teaching decisions (conteach)</td>
<td>How much control do you think you have in your classroom at this school over selecting content, topics, and skills to be taught?</td>
<td>0294</td>
<td>58b</td>
<td>no influence = 1 to strongly disagree = 4</td>
</tr>
<tr>
<td>Control over teaching decisions (conteach)</td>
<td>How much control do you think you have in your classroom at this school over selecting teaching techniques?</td>
<td>0295</td>
<td>58c</td>
<td>no influence = 1 to strongly disagree = 4</td>
</tr>
<tr>
<td>Control over class decisions (concla)</td>
<td>How much control do you think you have in your classroom at this school over evaluating and grading students?</td>
<td>0296</td>
<td>58d</td>
<td>no influence = 1 to strongly disagree = 4</td>
</tr>
<tr>
<td>Control over class decisions (concla)</td>
<td>How much control do you think you have in your classroom at this school over disciplining students?</td>
<td>0297</td>
<td>58e</td>
<td>no influence = 1 to strongly disagree = 4</td>
</tr>
<tr>
<td>Control over class decisions (concla)</td>
<td>How much control do you think you have in your classroom at this school in determining the amount of homework to be assigned?</td>
<td>0298</td>
<td>58f</td>
<td>no influence = 1 to strongly disagree = 4</td>
</tr>
<tr>
<td>Principal discusses practices</td>
<td>The principal talks with me frequently about my instructional practices.</td>
<td>0307</td>
<td>59i</td>
<td>strongly agree = 1 to strongly disagree = 4</td>
</tr>
<tr>
<td>Principal –kind of school</td>
<td>The principal knows what kind of school he/she wants and has communicated it to his staff.</td>
<td>0130</td>
<td>59l</td>
<td>strongly agree = 1 to strongly disagree = 4</td>
</tr>
<tr>
<td>Teaching is waste of time</td>
<td>I sometimes feel it is a waste of time to try to do my best as a teacher.</td>
<td>0318</td>
<td>59t</td>
<td>strongly agree = 1 to strongly disagree = 4</td>
</tr>
<tr>
<td>Workshops attended</td>
<td>In the past 12 months, have you attended workshops, conferences or training?</td>
<td>0157</td>
<td>27h</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Prepared for first year (prepared)</td>
<td>In your first year of teaching, how well were you prepared to handle a range of classroom management or discipline situations?</td>
<td>0129</td>
<td>21a</td>
<td>Not prepared at all = 1; Very well prepared = 4</td>
</tr>
<tr>
<td>--------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------</td>
<td>------</td>
<td>-----</td>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>Prepared for first year (prepared)</td>
<td>In your first year of teaching, how well were you prepared to use a variety of instructional methods?</td>
<td>0130</td>
<td>21b</td>
<td>Not prepared at all = 1; Very well prepared = 4</td>
</tr>
<tr>
<td>Prepared for first year (prepared)</td>
<td>In your first year of teaching, how well were you prepared to teach your subject matter?</td>
<td>0131</td>
<td>21c</td>
<td>Not prepared at all = 1; Very well prepared = 4</td>
</tr>
<tr>
<td>Prepared for first year (prepared)</td>
<td>In your first year of teaching, how well were you prepared to use computers in classroom instruction?</td>
<td>0132</td>
<td>21d</td>
<td>Not prepared at all = 1; Very well prepared = 4</td>
</tr>
<tr>
<td>Prepared for first year (prepared)</td>
<td>In your first year of teaching, how well were you prepared to plan lessons effectively?</td>
<td>0133</td>
<td>21e</td>
<td>Not prepared at all = 1; Very well prepared = 4</td>
</tr>
<tr>
<td>Prepared for first year (prepared)</td>
<td>In your first year of teaching, how well were you prepared to assess students?</td>
<td>0134</td>
<td>21f</td>
<td>Not prepared at all = 1; Very well prepared = 4</td>
</tr>
<tr>
<td>Prepared for first year (prepared)</td>
<td>In your first year of teaching, how well were you prepared to select and adapt curriculum and instructional materials?</td>
<td>0135</td>
<td>21g</td>
<td>Not prepared at all = 1; Very well prepared = 4</td>
</tr>
</tbody>
</table>
### Table 8

**Situative Set of Variables**

<table>
<thead>
<tr>
<th>Var. name</th>
<th>SASS Question</th>
<th>Item no.</th>
<th>Question no.</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff cooperation</td>
<td>There is a great deal of cooperative effort among staff members.</td>
<td>0311</td>
<td>59m</td>
<td>strongly agree = 1 -- strongly disagree = 4</td>
</tr>
<tr>
<td>Coordinate content</td>
<td>I make a conscious effort to coordinate the content of my courses with that of other teachers.</td>
<td>0316</td>
<td>59r</td>
<td>strongly agree = 1 -- strongly disagree = 4</td>
</tr>
<tr>
<td>Special needs students</td>
<td>I am given support I need to teach students with special needs.</td>
<td>0314</td>
<td>59p</td>
<td>strongly agree = 1 to strongly disagree = 4</td>
</tr>
<tr>
<td>Plan with librarian</td>
<td>I plan with the library media specialist/librarian for the integration of library media services into my teaching.</td>
<td>0319</td>
<td>59u</td>
<td>strongly agree = 1 -- strongly disagree = 4</td>
</tr>
<tr>
<td>Administrative support</td>
<td>The school’s administration’s behavior toward the staff is supportive and encouraging.</td>
<td>0300</td>
<td>59b</td>
<td>strongly agree = 1 -- strongly disagree = 4</td>
</tr>
<tr>
<td>Parental support</td>
<td>I receive a great deal of support from parents for the work I do.</td>
<td>0303</td>
<td>59e</td>
<td>strongly agree = 1 -- strongly disagree = 4</td>
</tr>
<tr>
<td>Mentoring</td>
<td>In the past 12 months, have you participated in mentoring and/or peer observation and coaching, as part of a formal arrangement that is recognized or supported by the school district?</td>
<td>0155</td>
<td>27f</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Colleagues share beliefs</td>
<td>Most of my colleagues share my beliefs and values about what the central mission of the school should be.</td>
<td>0309</td>
<td>59k</td>
<td>strongly agree = 1 -- strongly disagree = 4</td>
</tr>
</tbody>
</table>

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CHAPTER IV

FINDINGS

This chapter presents the findings on perspectives of cognition on teacher career decisions. The results of this study are presented as a response to the six research questions that guided this study:

1. What extrinsic variables are predictors for teachers’ career decisions (stayers and leavers)?
2. What extrinsic variables are predictors for teachers’ career decisions (stayers/movers and leavers)?
3. What cognitive variables (beliefs and perceptions) are predictors for teachers’ career decisions (stayers and leavers)?
4. What cognitive variables (beliefs and perceptions) are predictors for teachers’ career decisions (stayers/movers and leavers)?
5. What situative variables are predictors for teachers’ career decisions (stayers and leavers)?
6. What situative variables are predictors for teachers’ career decisions (stayers/movers and leavers)?

There were 35698 stayers, 2966 movers and 3300 leavers. One hundred and twenty-two observations were missing values because the cases did not belong in either of the three groups. Table 9-12 provides descriptive statistics for the
independent variables in this study.

The dependent variable "yes" measures whether a teacher left the teaching field. Yes is equal to 1 if the respondent has left the teaching field in the last year and 0 if the respondent has not. Since the dependent variable is discrete, the ordinary least squares regression can be used to fit a linear probability model. Since the linear probability model is heteroskedastic and may predict probability values beyond the (0,1) range, the logistic regression model is used to estimate the factors which influence a teacher's decision to leave the field. Analysis of the data was performed using SAS. Each response to the research question evaluates the overall measures of regression fit, examines individual components of the summary statistics, and addresses the model without the predictors. Results are presented separately for each of the six research questions.

The Extrinsic Set of Variables

A stepwise logistical regression analysis was performed in order to determine if teacher career decisions can be predicted on the basis of extrinsic variables. A seven variable model for predicting career decisions (attrit_10) based on extrinsic predictors was identified. The analysis considered age and experience as covariates. Using the Hosmer and Lemeshow Goodness-of-fit test, there was a good model fit, $\chi^2 (8, N = 38998) = 14.72, p = 0.06$. Comparison of log-likelihood ratios for models with and without extrinsic variables showed a reliable improvement with the addition of extrinsic variables, $\chi^2, (5, N = 38998) = 299.37, p < .0001$.

The receiver operating characteristic curve (ROC) was 0.58 indicating that the probability of a correct classification of randomly selected pairs of cases in each outcome category was slightly higher than a chance prediction. Table 13 indicates the
regression coefficient, $Wald^2$, probability, and odds ratios and confidence intervals for the final model. When are close to one the predictors in this regression are not very influential (Hair et al., 1998). Student drop out (t0333) and student behavior interferes (t0302) appeared to be the most influential of the independent variables. Employing a 0.05 criterion of statistical significance, agree students misbehavior interferes with teaching (t0302), agree that principal enforces discipline (t0306), agree that they had job security (t0313), agree that student dropouts are a problem (t0333), agree that teachers enforce rules (t0308), staff recognized (t0312) and agree that student use of alcohol is a problem (T0329) had significant partial effects. Teachers who responded that they agreed that the level of student behavior in the school interferes with their teaching are 13% more likely to leave the profession when controlling for all other variables. Teachers who agreed that the principal enforces school rules for student conduct are 10% more likely to be classified as leavers when controlling for all other variables. Teachers who disagreed that rules were consistently enforced by teachers at the school are more likely to be leavers when controlling for all other variables. Teachers who agreed that staff members were recognized for a job well done are only eight percent more likely to be leavers when controlling for all other variables. Teachers who disagreed that they worried about job security because of performance on state or local tests were more likely to be leavers when controlling for all other variables. Teachers that observed that students dropping out of school are a problem are 12% more likely to leave the profession when controlling for all other variables. Teachers who did not rate student alcohol use problem are more likely to be leavers when controlling for other variables.

A stepwise logistical regression analysis was performed in order to determine if
teacher career decisions can be predicted on the basis of extrinsic variables. A seven variable model for predicting career decisions of stayers/movers and leavers (attrit_20) based on extrinsic predictors was identified while using age and experience as covariates. Comparison of log-likelihood ratios for models with and without extrinsic variables showed a reliable improvement with the addition of extrinsic variables, $\chi^2(5, N = 41964) = 243.69, p < .0001$. Using the Hosmer and Lemeshow Goodness-of-fit test which indicates the models ability to accurately predict leavers from stayers/movers, there was not good model fit, $\chi^2(8, N = 41964) = 18.62, p = 0.01$. This suggests that movers added information to the equation that was not explained by the extrinsic variables. The receiver operating characteristic curve (ROC) was 0.57 indicating that the probability of a correct classification of randomly selected pairs of cases in each outcome category was slightly higher than a chance prediction. Table 14 indicates the regression coefficient, $Wald\chi^2$, probability, and odds ratios and confidence intervals for the final model. Employing a 0.05 criterion of statistical significance, agree students misbehavior interferes with teaching (t0302), agree that principal enforces discipline (t0306), agree that they had job security (t0313), agree that student dropouts are a problem (t0333), agree that teachers enforce rules (t0308), staff recognized (t0312) and agree that student use of alcohol is a problem (t0329) had significant partial effects. Teachers who responded that they agreed that the level of student behavior in the school interferes with their teaching are 13% more likely to leave the profession when controlling for all other variables. Teachers who agreed that the principal enforces school rules for student conduct are 9% more likely to be classified as leavers when controlling for all other variables. Teachers who disagreed that rules were consistently enforced by teachers at the school are more likely to be
leavers when controlling for all other variables. Teachers who agreed that staff members were recognized for a job well done are only seven percent more likely to be leavers when controlling for all other variables. Teachers who disagreed that they worried about job security because of performance on state or local tests were two percent more likely to be leavers when controlling for all other variables. Teachers that agreed that students dropping out of school are a problem are 12% more likely to leave the profession when controlling for all other variables. Teachers who did not rate student alcohol use problem as more likely to be leavers when controlling for other variables.

The Cognitive Set of Variables

A stepwise logistical regression analysis was performed in order to determine if teacher career decisions can be predicted on the basis of the cognitive set of variables among stayers and leavers. A five variable model for predicting career decisions (attrit_10) based on the cognitive set of independent variables and age and experience as covariates was examined further. Comparison of log-likelihood ratios for models with and without cognitive variables showed a reliable difference with the addition of cognitive variables, $\chi^2 (8, N = 38998) = 392.64, p < .0001$. There was not a good model fit, $\chi^2 (8, N = 38998) = 18.82, p = 0.01$, based on the Hosmer and Lemeshow test, suggesting that there was no statistically significant difference between the observed and predicted classifications. The receiver operating characteristic curve (ROC) was 0.59 indicating that the model does that the model does not discriminate very well. Employing a 0.05 criterion of statistical significance, influence on the school (INFLUPO), control of classroom (CONCLA), feeling that teaching is a waste of time (t0318), principal communication (t0310) and workshop attendance (t0157) had significant partial effects.
Table 15 indicates the regression coefficient, $Wald^2$, probability, odds ratios and confidence intervals for the final model. The odds ratios suggest that the predictors in this regression that are influential are feeling that teaching is a waste of time (t0318), attending workshops (t0157) and control of classroom decisions (CONCLA). Teachers who did not believe that they had influence over policy at their school were seven percent more likely to be leavers when controlling for all other variables in the model. Teachers who did not believe that they had control over classroom decisions such as grading students, disciplining students, and determining the amount of homework assigned were 11% more likely to leave the profession when controlling for all other variables in the model. Teachers who did not feel that the principal talked with them frequently about instructional practices were more likely to leave the profession when controlling for all other variables in the model. Teachers who agreed to feeling it was a waste of their time to try to do their best as a teacher were eight percent more likely to be leavers when controlling for all other variables in the model. Teachers who did not attend workshops, conferences or training were 31% more likely to leave teaching.

Another stepwise logistical regression analysis was performed in order to determine if teacher career decisions can be predicted on the basis of the cognitive set of variables among stayers/movers and leavers. A five variable model for predicting career decisions (attrit_10) based on the cognitive set of independent variables and age and experience as covariates was examined further. Comparison of log-likelihood ratios for models with and without cognitive variables showed a reliable difference with the addition of cognitive variables, $\chi^2$, $(8, N = 41964) = 333.76, p < .0001$. Like the previous analysis which only included stayers and movers, there was not a good model fit, $\chi^2 (8, N =$ 70
41964) = 20.30, \( p = 0.0092 \), based on the Hosmer and Lemeshow test, suggesting that there was no statistically significant difference between the observed and predicted classifications. The receiver operating characteristic curve (ROC) was 0.58 indicating that the model does not discriminate very well. Employing a 0.05 criterion of statistical significance, influence on the school (INFLUPO), control of classroom (CONCLA), feeling that teaching is a waste of time (t0318), principal communicating the kind of school he/she wants (t0310) and workshop attendance (t0157) had significant partial effects. Table 16 indicates the regression coefficient, \( \text{Wald}^2 \), probability, odds ratios and confidence intervals for the final model. The odds ratios suggest that the predictors in this regression that are influential are feeling that teaching is a waste of time (t0318) and attending workshops (WORK). Teachers who did not believe that they had influence over policy at their school were eight percent more likely to be leavers when controlling for all other variables in the model. Teachers who did not believe that they had control over classroom decisions such as grading students, disciplining students, and determining the amount of homework assigned were nine percent more likely to leave the profession when controlling for all other variables in the model. Teachers who did not feel that the principal communicated what kind of school he/she wanted to the staff were more likely to leave the profession when controlling for all other variables in the model. Teachers who agreed to feeling it was a waste of their time to try to do their best as a teacher were seven percent more likely to be leavers when controlling for all other variables in the model. Teachers who did not attend workshops, conferences or training were 17% more likely to leave teaching.
The Situative Set of Variables

A stepwise logistical regression analysis was performed in order to determine if teacher career decisions can be predicted on the basis of situative variables. A four variable model for predicting career decisions (attrit_10) based on situative predictors was identified. The analysis considered age and experience as covariates. Comparison of log-likelihood ratios for models with and without situative variables showed a reliable improvement with the addition of extrinsic variables, \( \chi^2 \), \((7, N = 38998) = 290.27, p < .0001. \) Using the Hosmer and Lemeshow Goodness-of-fit test, there was not a good model fit, \( \chi^2 \) \( (8, N = 38998) = 34.00, p = <.0001, \) suggesting that there was no statistically significant difference between the observed and predicted classifications.

The receiver operating characteristic curve (ROC) was 0.57 indicating that the probability of a correct classification of randomly selected pairs of cases in each outcome category was slightly higher than a chance prediction. Table 17 indicates the regression coefficient, \( Wald \chi^2 \), probability, and odds ratios and confidence intervals for the final model. The odds ratios suggest that the predictor in this regression that is the most influential is administrative support (t0300). Teachers who disagreed that there was a great deal of cooperative effort among staff members were five percent more likely to leave when controlling for all other variables in the model. Teachers who did not agree that they made a conscious effort to coordinate the content of their courses with that of other teachers were 10% more likely to leave the profession when controlling for all other variables in the model. Teachers who did not agree that the school’s administration’s behavior toward the staff is supportive and encouraging were 15% more likely to leave the profession when controlling for all other variables in the model. Finally, teachers
who did not agree that they received a great deal of support from parents for the work they do were six percent more likely to leave teaching.

A stepwise logistical regression analysis was performed in order to determine if teacher career decisions can be predicted on the basis of situative variables. A four variable model for predicting career decisions (attrit_20) based on situative predictors was identified. The analysis considered age and experience as covariates. Comparison of log-likelihood ratios for models with and without extrinsic variables showed a reliable improvement with the addition of situative variables, $\chi^2 (7, N = 41964) = 221.24, p < .0001$. Using the Hosmer and Lemeshow Goodness-of-fit test, there was not a good model fit, $\chi^2 (8, N = 41964) = 29.48, p = <.0003$, suggesting that there was no statistically significant difference between the observed and predicted classifications.

The receiver operating characteristic curve (ROC) was 0.57 indicating that the probability of a correct classification of randomly selected pairs of cases in each outcome category was slightly higher than a chance prediction. Table 18 indicates the regression coefficient, $Wald\chi^2$, probability, and odds ratios and confidence intervals for the final model. The odds ratios suggest that the predictor in this regression that is the most influential is administrative support (t0300) as it was with the analysis of stayers and leavers. Teachers who did not agree that they made a conscious effort to coordinate the content of their courses with that of other teachers were 10% more likely to leave the profession when controlling for all other variables in the model. Teachers who did not agree that they received support when they teach students with special needs are five percent more likely to leave teaching. Teachers who did not agree that the school’s administration’s behavior toward the staff is supportive and encouraging were four
percent more likely to leave the profession when controlling for all other variables in the model. Finally, teachers who did not agree that they received a great deal of support from parents for the work they do were nine percent more likely to leave teaching.

**Significant Variables From the Three Variable Sets**

After examining the cognitive perspectives separately, I placed the significant variables in a stepwise logistic regression in order to determine if the predictability would improve. A seven variable model for predicting career decisions of stayers/movers and leavers (attrit_10) all of the previously significant predictors was chosen after observing the ROC and odds ratios. The ROC improved very slightly after the seventh step and the odds ratios for the variables added after that step were close to one, signifying that they were not influential predictors. Age and experience were entered as covariates.

Comparison of log-likelihood ratios for models with and without extrinsic variables showed a reliable improvement with the addition of cognitive variables, $\chi^2$, $(10, N = 38998) = 465.76, p < .0001$. Using the Hosmer and Lemeshow Goodness-of-fit test which indicates the models ability to accurately predict leavers from stayers/movers, there was not good model fit, $\chi^2 (8, N = 38998) = 30.39, p = 0.0002$. The receiver operating characteristic curve (ROC) was 0.60 indicating that the probability of a correct classification of randomly selected pairs of cases in each outcome category was modest.

Table 19 indicates the regression coefficient, $Wald\chi^2$, probability, and odds ratios and confidence intervals for the final model. Coordinating content (t0316), administrative support (t0300), control of classroom decisions (CONCLA), feeling that teaching is a waste of time (t0318), attending workshops (t0157), agreeing that students misbehavior interferes with teaching (t0302), agreeing that they had job security (t0313) had
significant partial effects. Administrative support (t0300), feeling that teaching was a waste of time (t0318) and attending workshops were most influential in the model according to the odds ratio. Teachers who did not agree that they made a conscious effort to coordinate the content of their courses with that of other teachers were eight percent more likely to leave the profession when controlling for all other variables in the model. Teachers who did not agree that the school’s administration’s behavior toward the staff is supportive and encouraging were 12% more likely to leave the profession when controlling for all other variables in the model. Teachers who did not believe that they had control over classroom decisions such as grading students, disciplining students, and determining the amount of homework assigned were 10% more likely to leave the profession when controlling for all other variables in the model. Teachers who agreed to feeling it was a waste of their time to try to do their best as a teacher were 16% more likely to be leavers when controlling for all other variables in the model. Teachers who responded that they agreed that the level of student behavior in the school interferes with their teaching are nine percent more likely to leave the profession when controlling for all other variables. Teachers who disagreed that they worried about job security because of performance on state or local tests were more likely to be leavers when controlling for all other variables.

Summary

The findings of this study show the extrinsic set of variables met the standards of the two statistical tests for the significance of the final model. Both the chi-square test for change in the -2LL value from the base model and the Hosmer and Lemeshow measure of overall fit, which indicates that there was no statistically significant difference between
the observed and predicted classifications, were promising. Upon closer examination, the extrinsic model provided little predictive ability. The cognitive and situative regressions were not a suitable for further analysis because of model failed to reject the null hypothesis due to the Hosmer and Lemeshow measure (according to Hair et. al. 1998). The regression that included all of the significant variables form the three cognition sets did not pass the Hosmer and Lemeshow measure either. The predictability of the model did not improve much.

In addition to the information regarding the statistical significance of the models, I have also learned that adding the movers to the group of stayers does not add much information. Discussion of these analyses will be presented in chapter 5.
Table 9

*Descriptive Statistics for Covariate*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total experience</td>
<td>3.09</td>
<td>1.59</td>
</tr>
</tbody>
</table>
Table 10

*Descriptive Statistics for Extrinsic Predictor Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree- student behavior interferes (t0302)</td>
<td>2.79</td>
<td>1.02</td>
</tr>
<tr>
<td>Agree - principal enforces discipline (t0306)</td>
<td>3.2</td>
<td>0.89</td>
</tr>
<tr>
<td>Agree - job security (t0313)</td>
<td>3.11</td>
<td>0.92</td>
</tr>
<tr>
<td>y/n – physical attack (t0283)</td>
<td>1.91</td>
<td>0.27</td>
</tr>
<tr>
<td>Agree – satisfied w/ salary (t0301)</td>
<td>2.92</td>
<td>0.99</td>
</tr>
<tr>
<td>Agree – adequate materials (t0304)</td>
<td>3.06</td>
<td>0.91</td>
</tr>
<tr>
<td>Agree- other duties interfere (t0305)</td>
<td>2.11</td>
<td>0.91</td>
</tr>
<tr>
<td>Agree – teachers enforce rules (t0308)</td>
<td>2.61</td>
<td>0.96</td>
</tr>
<tr>
<td>Agree – staff recognized (t0312)</td>
<td>2.78</td>
<td>0.92</td>
</tr>
<tr>
<td>*Agree - (t0315) satisfied w/ class sizes</td>
<td>2.96</td>
<td>1.02</td>
</tr>
<tr>
<td>Problem – drop outs (t0333)</td>
<td>3.11</td>
<td>0.94</td>
</tr>
<tr>
<td>Agree – alcohol use (t0329)</td>
<td>2.84</td>
<td>1.06</td>
</tr>
</tbody>
</table>

*Reversed coded – strongly agree = 4, strongly disagree = 1*
Table 11

*Descriptive Statistics for Cognitive Predictors*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influence on faculty (influfac)</td>
<td>1.91</td>
<td>0.93</td>
</tr>
<tr>
<td>Influence on policy (influpo)</td>
<td>3.09</td>
<td>0.96</td>
</tr>
<tr>
<td>Control over teaching decisions (contreach)</td>
<td>3.92</td>
<td>0.84</td>
</tr>
<tr>
<td>Control over classroom decisions (concla)</td>
<td>4.30</td>
<td>0.64</td>
</tr>
<tr>
<td>*Agree – principal discusses practices (t0307)</td>
<td>1.29</td>
<td>0.94</td>
</tr>
<tr>
<td>*Agree – principal –kind of school (t0310)</td>
<td>1.80</td>
<td>0.88</td>
</tr>
<tr>
<td>Agree – teaching waste of time (t0318)</td>
<td>3.32</td>
<td>0.93</td>
</tr>
<tr>
<td>**Y/N -- Workshops attended (t0157)</td>
<td>1.05</td>
<td>0.22</td>
</tr>
<tr>
<td>Degree of preparedness (prepared)</td>
<td>2.84</td>
<td>0.57</td>
</tr>
</tbody>
</table>

*Reversed coded – strongly agree = 4, strongly disagree = 1*

** recoded – 1 = yes 0 = no
Table 12

*Descriptive Statistics for Situative Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Agree – Staff cooperation (t0311)</td>
<td>2.01</td>
<td>0.84</td>
</tr>
<tr>
<td>*Agree – coordinate content (t0316)</td>
<td>2.09</td>
<td>0.80</td>
</tr>
<tr>
<td>*Agree – special needs students (t0314)</td>
<td>1.69</td>
<td>0.89</td>
</tr>
<tr>
<td>*Agree – plan with librarian (t0319)</td>
<td>1.57</td>
<td>1.02</td>
</tr>
<tr>
<td>*Agree – admin supportive (t0300)</td>
<td>2.11</td>
<td>0.92</td>
</tr>
<tr>
<td>*Agree – parent support (t0303)</td>
<td>1.55</td>
<td>0.92</td>
</tr>
<tr>
<td>Y/N -- Mentoring (t0155)</td>
<td>1.5</td>
<td>0.49</td>
</tr>
<tr>
<td>*Agree – colleagues share beliefs (t0309)</td>
<td>2.09</td>
<td>0.75</td>
</tr>
</tbody>
</table>

*Reversed coded — strongly agree= 4, strongly disagree = 1*
Table 13

Logistic Regression Predicting Career Decisions Between Stayers and Leavers from Extrinsic Variables

<table>
<thead>
<tr>
<th>Predictor</th>
<th>β</th>
<th>Wald χ²</th>
<th>p</th>
<th>Odds Ratio</th>
<th>95% CI - lower</th>
<th>95% CI - upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-1.40</td>
<td>138.73</td>
<td>&lt; .0001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age of teacher &lt; 31 (y)</td>
<td>0.28</td>
<td>19.58</td>
<td>&lt; .0001</td>
<td>1.32</td>
<td>1.16</td>
<td>1.48</td>
</tr>
<tr>
<td>Age of teacher between ages of 30 and 40</td>
<td>-0.18</td>
<td>11.34</td>
<td>0.0008</td>
<td>0.82</td>
<td>0.74</td>
<td>0.92</td>
</tr>
<tr>
<td>Total years of experience</td>
<td>-0.06</td>
<td>17.96</td>
<td>&lt; .0001</td>
<td>0.93</td>
<td>0.90</td>
<td>0.96</td>
</tr>
<tr>
<td>Agree – misbehavior interferes (t0302)</td>
<td>-0.13</td>
<td>50.01</td>
<td>&lt; .0001</td>
<td>0.87</td>
<td>0.84</td>
<td>0.97</td>
</tr>
<tr>
<td>Agree - principal enforces discipline (t0306)</td>
<td>-0.09</td>
<td>17.34</td>
<td>&lt; .0001</td>
<td>0.90</td>
<td>0.86</td>
<td>0.94</td>
</tr>
<tr>
<td>Agree – teachers enforce rules (t0308)</td>
<td>0.04</td>
<td>4.70</td>
<td>0.0301</td>
<td>1.05</td>
<td>1.00</td>
<td>1.09</td>
</tr>
<tr>
<td>Agree – staff recognized (t0312)</td>
<td>-0.07</td>
<td>11.06</td>
<td>0.0009</td>
<td>0.92</td>
<td>0.88</td>
<td>0.96</td>
</tr>
<tr>
<td>Agree - job security (t0313)</td>
<td>0.06</td>
<td>10.93</td>
<td>0.0009</td>
<td>1.07</td>
<td>1.02</td>
<td>1.11</td>
</tr>
<tr>
<td>Problem - Student drop out (t0333)</td>
<td>-0.12</td>
<td>28.45</td>
<td>&lt; .0001</td>
<td>0.88</td>
<td>0.84</td>
<td>0.92</td>
</tr>
<tr>
<td>Problem - Student alcohol use (t0329)</td>
<td>0.056</td>
<td>6.82</td>
<td>0.0090</td>
<td>1.05</td>
<td>1.01</td>
<td>1.10</td>
</tr>
</tbody>
</table>
Table 14

Logistic Regression Predicting Career Decisions Between Stayers, Movers, and Leavers from Extrinsic Variables

<table>
<thead>
<tr>
<th>Predictor</th>
<th>$\beta$</th>
<th>Wald $\chi^2$</th>
<th>$p$</th>
<th>Odds Ratio</th>
<th>95% CI - lower</th>
<th>95% CI - upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-1.58</td>
<td>177.88</td>
<td>&lt; .0001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age of teacher &lt; 31 (y)</td>
<td>0.23</td>
<td>14.31</td>
<td>0.0002</td>
<td>1.26</td>
<td>1.12</td>
<td>1.43</td>
</tr>
<tr>
<td>Age of teacher between ages of 30 and 40</td>
<td>-0.19</td>
<td>12.13</td>
<td>0.0005</td>
<td>0.82</td>
<td>0.74</td>
<td>0.91</td>
</tr>
<tr>
<td>Total years of experience</td>
<td>-0.04</td>
<td>8.77</td>
<td>0.0031</td>
<td>0.95</td>
<td>0.92</td>
<td>0.98</td>
</tr>
<tr>
<td>Agree – misbehavior interferes (t0302)</td>
<td>-0.13</td>
<td>46.38</td>
<td>&lt; .0001</td>
<td>0.87</td>
<td>0.84</td>
<td>0.91</td>
</tr>
<tr>
<td>Agree - principal enforces discipline (t0306)</td>
<td>-0.09</td>
<td>13.61</td>
<td>0.0002</td>
<td>0.91</td>
<td>0.87</td>
<td>0.96</td>
</tr>
<tr>
<td>Agree – teachers enforce rules (t0308)</td>
<td>0.04</td>
<td>4.15</td>
<td>0.0414</td>
<td>1.04</td>
<td>1.00</td>
<td>1.09</td>
</tr>
<tr>
<td>Agree – staff recognized (t0312)</td>
<td>-0.06</td>
<td>8.83</td>
<td>0.0030</td>
<td>0.93</td>
<td>0.89</td>
<td>0.97</td>
</tr>
<tr>
<td>Agree - job security (t0313)</td>
<td>0.06</td>
<td>10.31</td>
<td>0.0009</td>
<td>1.07</td>
<td>1.02</td>
<td>1.11</td>
</tr>
<tr>
<td>Problem - Student drop out (t0333)</td>
<td>-0.12</td>
<td>28.83</td>
<td>&lt; .0001</td>
<td>0.88</td>
<td>0.84</td>
<td>0.92</td>
</tr>
<tr>
<td>Problem - Student alcohol use (t0329)</td>
<td>0.047</td>
<td>4.97</td>
<td>0.0257</td>
<td>1.04</td>
<td>1.00</td>
<td>1.09</td>
</tr>
</tbody>
</table>
Table 15

Logistic Regression Predicting Career Decisions Between Stayers and Leavers from Cognitive Variables

<table>
<thead>
<tr>
<th>Predictor</th>
<th>$\beta$</th>
<th>Wald $\chi^2$</th>
<th>p</th>
<th>Odds Ratio</th>
<th>95% CI - lower</th>
<th>95% CI - upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>intercept</td>
<td>-1.29</td>
<td>66.88</td>
<td>&lt;.0001</td>
<td>1.30</td>
<td>1.15</td>
<td>1.47</td>
</tr>
<tr>
<td>Age of teacher &lt; 31 (Y)</td>
<td>0.26</td>
<td>17.63</td>
<td>&lt;.0001</td>
<td>1.30</td>
<td>1.15</td>
<td>1.47</td>
</tr>
<tr>
<td>Age of teacher between ages of 30 and 40 (M)</td>
<td>-0.19</td>
<td>12.93</td>
<td>0.0003</td>
<td>0.81</td>
<td>0.73</td>
<td>0.91</td>
</tr>
<tr>
<td>Total years of experience (exp)</td>
<td>-0.07</td>
<td>21.56</td>
<td>&lt;.0001</td>
<td>0.92</td>
<td>0.89</td>
<td>0.95</td>
</tr>
<tr>
<td>Agree – influence on policy (INFLUPO)</td>
<td>-0.06</td>
<td>11.36</td>
<td>0.0008</td>
<td>0.93</td>
<td>0.89</td>
<td>0.97</td>
</tr>
<tr>
<td>Agree - control of student issues (CONCLA)</td>
<td>-0.11</td>
<td>15.84</td>
<td>&lt;.0001</td>
<td>0.93</td>
<td>0.84</td>
<td>0.94</td>
</tr>
<tr>
<td>Agree – principal discusses practices (T0307)</td>
<td>-0.52</td>
<td>6.7</td>
<td>0.0096</td>
<td>0.94</td>
<td>0.91</td>
<td>0.98</td>
</tr>
<tr>
<td>Agree - feeling that teaching is a waste of time (T318)</td>
<td>-0.19</td>
<td>99.83</td>
<td>&lt;.0001</td>
<td>0.93</td>
<td>0.82</td>
<td>0.79</td>
</tr>
<tr>
<td>Workshops attended (work)</td>
<td>-0.47</td>
<td>52.11</td>
<td>&lt;.0001</td>
<td>0.93</td>
<td>0.69</td>
<td>0.70</td>
</tr>
</tbody>
</table>

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Table 16

**Logistic Regression Predicting Career Decisions Between Stayers, Movers, and Leavers from Cognitive Variables**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>β</th>
<th>Wald χ²</th>
<th>p</th>
<th>Odds Ratio</th>
<th>95% CI lower</th>
<th>95% CI upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>intercept</td>
<td>-1.77</td>
<td>109.44</td>
<td>&lt;.0001</td>
<td>1.24</td>
<td>1.09</td>
<td>1.40</td>
</tr>
<tr>
<td>Age of teacher &lt; 31 (Y)</td>
<td>0.21</td>
<td>11.92</td>
<td>0.0006</td>
<td>1.24</td>
<td>1.09</td>
<td>1.40</td>
</tr>
<tr>
<td>Age of teacher between ages of 30 and 40 (M)</td>
<td>-0.20</td>
<td>14.20</td>
<td>0.0002</td>
<td>0.812</td>
<td>0.72</td>
<td>0.90</td>
</tr>
<tr>
<td>Total years of experience (exp)</td>
<td>-0.05</td>
<td>11.08</td>
<td>0.0009</td>
<td>0.94</td>
<td>0.91</td>
<td>0.97</td>
</tr>
<tr>
<td>Agree – influence on policy (INFLUPO)</td>
<td>-0.05</td>
<td>8.64</td>
<td>0.0033</td>
<td>0.94</td>
<td>0.90</td>
<td>0.98</td>
</tr>
<tr>
<td>Agree - control of student issues (CONCLA)</td>
<td>-0.09</td>
<td>10.66</td>
<td>0.0011</td>
<td>0.91</td>
<td>0.86</td>
<td>0.96</td>
</tr>
<tr>
<td>Agree – principal – kind of school (t0310)</td>
<td>0.06</td>
<td>9.82</td>
<td>0.0017</td>
<td>1.06</td>
<td>1.02</td>
<td>1.11</td>
</tr>
<tr>
<td>Agree - feeling that teaching is a waste of time (T318)</td>
<td>-0.17</td>
<td>89.55</td>
<td>&lt;.0001</td>
<td>0.83</td>
<td>0.80</td>
<td>0.86</td>
</tr>
<tr>
<td>Workshops attended (work)</td>
<td>-0.47</td>
<td>52.38</td>
<td>&lt;.0001</td>
<td>0.83</td>
<td>0.84</td>
<td>0.86</td>
</tr>
</tbody>
</table>
Table 17

*Logistic Regression Predicting Career Decisions Between Stayers and Leavers from Situative Variables*

<table>
<thead>
<tr>
<th>Predictor</th>
<th>$\beta$</th>
<th>Wald $\chi^2$</th>
<th>$p$</th>
<th>Odds Ratio</th>
<th>95% CI - lower</th>
<th>95% CI - upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>intercept</td>
<td>-1.42</td>
<td>238.79</td>
<td>&lt;.0001</td>
<td>1.27</td>
<td>1.12</td>
<td>1.44</td>
</tr>
<tr>
<td>Age of teacher &lt; 31 (Y)</td>
<td>0.24</td>
<td>14.95</td>
<td>0.0001</td>
<td>0.80</td>
<td>0.71</td>
<td>0.89</td>
</tr>
<tr>
<td>Age of teacher between ages of 30 and 40 (M)</td>
<td>-0.22</td>
<td>16.15</td>
<td>&lt;.0001</td>
<td>0.92</td>
<td>0.89</td>
<td>0.95</td>
</tr>
<tr>
<td>Total years of experience (exp)</td>
<td>-0.07</td>
<td>21.27</td>
<td>&lt;.0001</td>
<td>0.92</td>
<td>0.89</td>
<td>0.95</td>
</tr>
<tr>
<td>Staff cooperation(t0311)</td>
<td>-0.05</td>
<td>4.74</td>
<td>0.02</td>
<td>0.95</td>
<td>0.90</td>
<td>0.99</td>
</tr>
<tr>
<td>Coordinate content (t0316)</td>
<td>-0.09</td>
<td>19.08</td>
<td>&lt;.0001</td>
<td>0.90</td>
<td>0.86</td>
<td>0.94</td>
</tr>
<tr>
<td>Administrative support (t0300)</td>
<td>-0.16</td>
<td>60.63</td>
<td>&lt;.0001</td>
<td>0.85</td>
<td>0.81</td>
<td>0.88</td>
</tr>
<tr>
<td>Parental support (t0303)</td>
<td>-0.06</td>
<td>8.72</td>
<td>0.0031</td>
<td>0.94</td>
<td>0.90</td>
<td>0.98</td>
</tr>
</tbody>
</table>
Table 18

*Logistic Regression Predicting Career Decisions Between Stayers, Movers, and Leavers from Situative Variables*

<table>
<thead>
<tr>
<th>Predictor</th>
<th>β</th>
<th>Wald χ²</th>
<th>p</th>
<th>Odds Ratio</th>
<th>95% CI - lower</th>
<th>95% CI - upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>intercept</td>
<td>-1.62</td>
<td>320.45</td>
<td>&lt;.0001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age of teacher &lt; 31 (Y)</td>
<td>0.20</td>
<td>10.63</td>
<td>0.001</td>
<td>0.79</td>
<td>0.71</td>
<td>0.89</td>
</tr>
<tr>
<td>Age of teacher between ages of 30 and 40 (M)</td>
<td>-0.22</td>
<td>16.47</td>
<td>&lt;.0001</td>
<td>0.94</td>
<td>0.91</td>
<td>0.97</td>
</tr>
<tr>
<td>Total years of experience (exp)</td>
<td>-0.05</td>
<td>11.16</td>
<td>0.0008</td>
<td>0.90</td>
<td>0.86</td>
<td>0.94</td>
</tr>
<tr>
<td>Coordinate content (t0316)</td>
<td>-0.09</td>
<td>19.28</td>
<td>&lt;.0001</td>
<td>0.90</td>
<td>0.86</td>
<td>0.94</td>
</tr>
<tr>
<td>Support with special needs students (t0314)</td>
<td>-0.04</td>
<td>4.79</td>
<td>0.0286</td>
<td>0.95</td>
<td>0.91</td>
<td>0.99</td>
</tr>
<tr>
<td>Administrative support (t0300)</td>
<td>-0.15</td>
<td>56.82</td>
<td>&lt;.0001</td>
<td>0.86</td>
<td>0.82</td>
<td>0.89</td>
</tr>
<tr>
<td>Parental support (t0303)</td>
<td>-0.05</td>
<td>6.35</td>
<td>0.01</td>
<td>0.95</td>
<td>0.91</td>
<td>0.98</td>
</tr>
</tbody>
</table>
Table 19

Logistic Regression Predicting Career Decisions Between Stayers and Leavers Using Significant Variables from All Three Sets of Cognition

<table>
<thead>
<tr>
<th>Predictor</th>
<th>$\beta$</th>
<th>Wald $\chi^2$</th>
<th>$p$</th>
<th>Odds Ratio</th>
<th>95% CI - lower</th>
<th>95% CI - upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>intercept</td>
<td>-1.24</td>
<td>55.33</td>
<td>&lt;.0001</td>
<td>1.27</td>
<td>1.13</td>
<td>1.44</td>
</tr>
<tr>
<td>Age of teacher $&lt;31$ (Y)</td>
<td>0.24</td>
<td>15.16</td>
<td>&lt;.0001</td>
<td>1.27</td>
<td>1.13</td>
<td>1.44</td>
</tr>
<tr>
<td>Age of teacher between ages of 30 and 40 (M)</td>
<td>-0.21</td>
<td>14.61</td>
<td>0.0001</td>
<td>0.80</td>
<td>0.72</td>
<td>0.90</td>
</tr>
<tr>
<td>Total years of experience (exp)</td>
<td>-0.07</td>
<td>23.94</td>
<td>&lt;.0001</td>
<td>0.92</td>
<td>0.89</td>
<td>0.95</td>
</tr>
<tr>
<td>Coordinate content (t0316)</td>
<td>-0.07</td>
<td>11.78</td>
<td>0.0006</td>
<td>0.92</td>
<td>0.88</td>
<td>0.96</td>
</tr>
<tr>
<td>Administrative support (t0300)</td>
<td>-0.12</td>
<td>36.01</td>
<td>&lt;.0001</td>
<td>0.88</td>
<td>0.85</td>
<td>0.92</td>
</tr>
<tr>
<td>Control of classroom (CONCLA)</td>
<td>-0.10</td>
<td>13.71</td>
<td>0.0002</td>
<td>0.90</td>
<td>0.85</td>
<td>0.95</td>
</tr>
<tr>
<td>Feeling teaching is a waste of time (t0318)</td>
<td>-0.16</td>
<td>71.57</td>
<td>&lt;.0001</td>
<td>0.84</td>
<td>0.81</td>
<td>0.87</td>
</tr>
<tr>
<td>Workshop attended (t0157)</td>
<td>0.45</td>
<td>47.67</td>
<td>&lt;.0001</td>
<td>1.58</td>
<td>1.39</td>
<td>1.80</td>
</tr>
<tr>
<td>Student behavior interferes (t0302)</td>
<td>-0.09</td>
<td>23.57</td>
<td>&lt;.0001</td>
<td>0.91</td>
<td>0.87</td>
<td>0.94</td>
</tr>
<tr>
<td>Job security (t0313)</td>
<td>0.08</td>
<td>16.80</td>
<td>&lt;.0001</td>
<td>1.08</td>
<td>1.04</td>
<td>1.13</td>
</tr>
</tbody>
</table>

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CHAPTER V

DISCUSSION

This study of perspectives of cognition on teacher career decisions explored the reasons teachers choose to stay in their current position, leave the career or move to other positions. To accomplish this, items from the Schools and Staffing Survey (SASS) were categorized according to the three cognitive perspectives: extrinsic, cognitive, and situative. The data from the Public School Teacher Questionnaire of SASS provided the basis for answering the following research questions:

1. What behavioral variables are predictors for teachers’ career decisions (stayers and leavers)?

2. What behavioral variables are predictors for teachers’ career decisions (stayers/movers and leavers)?

3. What cognitive variables (beliefs and perceptions) are predictors for teachers’ career decisions (stayers and leavers)?

4. What cognitive variables (beliefs and perceptions) are predictors for teachers’ career decisions (stayers/movers and leavers)?

5. What situative variables are predictors for teachers’ career decisions (stayers and leavers)?

6. What situative variables are predictors for teachers’ career decisions (stayers/movers and leavers)?

The results of the regressions provide the basis for the discussion in this chapter.

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It is important to remember that three groups of teachers were studied: those who remained in their position, those who moved to another district, and those who left the teaching field. Only teachers who left teaching for reasons other than childbirth or other family related reasons, retirement or illness were considered leavers.

Responding to the Research Questions

To address the first research question, a stepwise logistic regression was employed using stayers and leavers as the dependent variable. The variables in the data set that were most in-line with the extrinsic perspective was used. These variables indicated teachers’ perceptions of personal safety, salary satisfaction, and student behavior and job security. The purpose of the regression was to examine the ability to predict group membership and to analyze the importance of the predictors.

The first step in the analysis was to determine the statistical significance for the final model, the change in the log likelihood value from the base model and the Hosmer and Lemeshow Goodness of Fit Test. The extrinsic regression met both of the qualifications for a well fitted model according to these measurements. Next, the ROC curve was examined to assess the model’s ability to predict. The ability to predict group membership, though was slightly better than flipping a coin. Though the accuracy to predict was not impressive, the analysis continued with the examination of the predictors in the equation. Because the literature review revealed age and experience to be associated with leaving teaching, they were added to the equation as a covariate: They did not predict, as independent variables do, instead they occupied variance space. The independent variables or predictors that entered the equation will be discussed in the subsequent section in relation to current literature.
Adding the group of movers to the stayers category to address research question number two, did not appear to add any new information to the model. Unlike the first extrinsic regression, this model was statistically significant in terms of the change in the likelihood ratio, but the Hosmer and Lemeshow Goodness of Fit test revealed that the model was not able to accurately discriminate the two groups of teachers. According to Hair et. al. (1998) there should be a question whether or not the model is suitable for further examination. Also like the first regression with the extrinsic set, the model was not able to predict the groups reliably. The independent variables that entered the equation will be discussed in the subsequent section in relation to current literature.

In response to the third research question, another stepwise logistic regression was conducted using stayers and leavers as dependent variables. The variables in the data set that aligned with the cognitive perspective were used. These variables indicated teachers’ perceptions of influence on school policy, control in the classroom, control over student issues, principal’s communication and participation in professional development.

The first step of examining the overall statistical significance of the model was disappointing. According to the Hosmer and Lemeshow Goodness of Fit Test the model was not able to accurately discriminate between the observed and predicted values. Further examination of the model proceeded cautiously because of those results (Hair et. al., 1998). The indicators of effectiveness of the model’s ability to predict the groups were not impressive. This suggests that the variables used were not able to reliably predict stayers or leavers responses. The independent variables that entered the equation will be discussed in the subsequent section in relation to current literature.

In response to the fourth research question, which added movers to the stayers,
the Goodness of Fit Test revealed once again that the model did not accurately discriminate between the observed and predicted observations. Adding the group of movers did not appear to add ability to discriminate or predict leavers. The specific variables that were added to the model will be discussed in a subsequent section of this chapter.

In response to the fifth and sixth research questions applied the situative set of predictors to a logistic regression. The variables in the data set that were most closely related to the situative perspective indicated teachers' perceptions on participation and support among staff and faculty, shared beliefs among the stakeholders and participation in mentoring. Both of these models were statistically significant in terms of the change in the likelihood ratio, but the Hosmer and Lemeshow Goodness of Fit test revealed that the model was not able to accurately discriminate the two groups of teachers. The independent variables that entered the equation will be discussed in the subsequent section in relation to current literature.

The regression analyses demonstrated that when age and experience are considered in the context of an extrinsic framework, the models were able to discriminate and modestly predict whether teachers chose to stay, leave or to move to another position. The other two frameworks were not able to provide discriminative or predictive value. Although the models either predict modestly or very little, the variables that entered the equation provide an interesting discussion.

**Limitations**

There were five primary limitations of this study: (1) exploratory nature of the study, (2) Greeno et. al theory was not tested for decision making usefulness, (3) the
SASS data set, (4) subjective categorization of variables. These limitations are presented as the foundation for the implications of this study, which will address the ability of this research to predict who will leave the teaching profession.

**Exploratory Nature**

The purpose of this research was to develop rather than to test a theory of teacher career decisions. The analysis used for this study attempted to identify possible relationships in only the most general form and then allowed a series of stepwise logistical regressions to estimate relationships. While within the context of this study, it was appropriate approach, the results should be seen as an exploratory venture.

**Untested Theory**

The three broad perspectives on cognition used to divide the SASS variables were generated by summarizing educational psychology and philosophy. This study was not designed to test theories themselves, but their ability to be used to predict teacher attrition. The theories used by Greeno et. al may not be well suited to describe decision-making behavior. When discussing the findings of this study it is important to understand that the variables are being evaluated instead of the value of the perspective.

**SASS Data Set**

This study used a data set that was collected for the purpose of collecting descriptive data about the United States teaching force. Because it was not intended to predict who would leave the profession, the questions on the survey were not written with that purpose in mind. An instrument specifically designed to survey teachers may include more precise questions.
Subjective Variable Categorization

The variables for this study were chosen subjectively instead of empirically. Though the researcher used the perspectives of cognition framework, the researcher needed to make several subjective decisions when selecting variables for the three categories. An example of an empirical method would be using an exploratory factor analysis to determine the variables in the categories. For this reason, the variables representing the extrinsic, cognitive or situative perspective may not accurately reflect that perspective.

Relation to Past Research

Current educational theory holds that one of the causes of low school performance is the inability of schools to adequately staff classrooms with qualified teachers (Ingersoll, 2002). Educational policy analysts predicted two decades ago that two converging demographic trends: increasing teacher retirement and increasing student enrollment, will lead to difficulty staffing schools with qualified teachers and as a result possibly having a negative effect on student performance (Boe & Gilford, 1992). There are two possible solutions: increase teacher recruitment or decrease the quantity of teachers leaving. Ingersoll (2002) suggests that instead of an insufficient supply of teachers, the issue of teacher demand largely rests upon teachers leaving their jobs for reasons other than retirement. This study focused on developing a framework for addressing attrition and migration.

In order to understand why teachers leave their jobs, this study used three cognitive perspectives in an attempt to understand teachers’ career decisions. Each of the frameworks will be discussed in the context of past research and the findings of this
study. The findings of the study both confirm and challenge previous findings.

*Extrinsic Perspective*

The extrinsic perspective held that decision-making is affected by associations through reinforcements and nonreinforcements. The variables used in this perspective concentrated on external forces that affect decision-making and were supported by the literature. The results of the first analysis is interesting because the significance tests were positive, the model provided slight predictability. There were two strong indicators, perceived problem of student drop out rates and agreeing that student misbehavior interferes with teaching. In addition to this, there are a few variables that previous research identified as associated with teachers leaving the profession that were included in the model.

The extrinsic perspective highlights the importance of the external forces that teachers with which teachers work. This study found that leavers were more likely to view that (1) student drop out rates are a problem, and (2) student misbehavior interferes with teaching. These problems might be placed in a wider sociological context. For example, Ingersoll (2001) noted that teachers left urban, high-poverty schools citing student discipline problems and lack of student motivation. The extrinsic perspective or external forces that affect teachers should be considered when addressing the issue of teacher attrition.

There were variables that were not included in the regression model that provide some fodder for discussion. For example, the variable “satisfaction with teaching salary” did not enter the equation. This seems odd because researchers have linked teacher salary with teacher attrition (Murnane & Oleson, 1989; Murnane et al., 1991). Dolton and van
der Klauw (1995) and Stinebrickner (1999, 2001) devised econometric models to study the impact of wages and attrition. Dolton and van der Klauw (1995) demonstrated the importance of teacher salaries in career decisions by using flexible baseline hazard modeling. They found that the higher the opportunity wages outside of teaching the more likely teachers are to leave the profession. Their study focused on wage and exits from the field. Using a wider lens to view the problem, the present study focused on predicting teacher choices based on extrinsic perspectives. The Stinebrickner study (2001) used a dynamic discrete choice framework to model occupational decisions of teaching certified individuals. Like the previous study, he found that a teacher's career decision was very sensitive to wages. The focus of the research was to specify and estimate a model of individual decision-making which is capable of simulating the effect of potential wage changes would have on both overall teacher labor supply and the labor supply of different types of teachers. Unlike the present study, the focus was not on predicting who might leave and why. These findings seem to suggest that, although salary may play an important role in a teacher's decision to stay or leave the profession, it does not explain enough of the phenomenon to be conclusive.

Two variables (1) "Other duties interfere" which refers to whether or not a teacher agrees that routine duties and paperwork interfere with their job, and (2) "class size" which relates to a teacher's satisfaction with class size did not predict whether teachers stayed or left the workforce. Two studies on teachers tasks suggest that these variables would be significant (Borg & Riding, 1991; Guglielmi & Tatrow, 1998). One plausible explanation for the findings in this study is that, although many may chose to leave their positions after experiencing burnout (Lee & Asforth, 1990), some remain in their
position while suffering from burnout (Hughes, 2001; Jackson, Schwab, & Schuler, 1986; Lee & Asforth, 1990).

Though these analyses yield interesting results, extrinsic variables do not explain enough of the issue. Examining other variables become necessary.

Cognitive Perspective

The cognitive/rationalist perspective focuses perceptions and beliefs that affect career decisions. This perspective is supported by the belief that healthy individuals need to perceive that they can affect their surroundings. It seems that those who chose teaching as a career would be likely to have this need. The variables used in this framework attempt to explain teachers’ career decisions from the perspective that a person’s thoughts guide their decisions (Petri & Govern, 2004; Weiner, 1994). A number of studies have found general associations between teachers’ perceptions of their competence and satisfaction in the work role (Brouwers & Tomic, 2000; Friedman, 2000; Friedman & Farber, 1992). The purpose of this study is to understand if teacher beliefs and perceptions of their circumstances could predict career choices.

Though the model was not able to accurately discriminate between the groups, the findings of the cognitive set provide some interesting insight into career choices. For example, previous findings have demonstrated that student behavior is a major contributor to teacher stress (Freudengerger, 1974; Hastings & Bham, 2003; Kim & Loadman, 1994). The findings from this study suggest that how the stress is perceived may be more of an indicator of career decisions than the student behavior itself. This study suggests that the control one perceives to have or not have, as the case may be, in the classroom and governing student issues related to career decisions. One’s perception
of control in the classroom was evaluated in two ways: (1) the ability to select instructional materials, content and teaching techniques, and (2) the ability to discipline students, determining the amount of work to be assigned, and ability to evaluate and grade students. Teachers who perceived more control in their classrooms are more likely to stay in the field.

This analysis also show that teachers who reported feeling that teaching is a waste of time were more likely to leave than those who did not report such feelings. This finding may be related to research indicating that an educator’s initial degree of assurance about the decision to become a teacher might be used as a predictor in the persistence in the profession (Chapman & Green, 1986; Marso & Pigge, 1997). The assumption may be that those with a higher degree of initial assurance would be less likely to feel that teaching was a waste of time and remain in the profession longer.

This study suggests that persons attending workshops, conferences or training during the past twelve months of being surveyed were more much more likely to stay in teaching than those who did not attend professional development events. This would suggest the importance of staying professionally involved in the teaching field. Administrators may want to encourage participation in professional development as a way to increase their faculty’s cognitive connectedness with the profession. Caution should be used when interpreting this finding because although this variable may serve as a strong predictor, it may not be a variable that could be put into place to decrease attrition. Workshops, conferences and other training have been mostly a voluntary decision among educators; it may be that those who elect to attend such events are already fully invested in their profession. For this reason, it is clear if an administrator
would not want to require all faculty to attend professional development events.

The findings from the cognitive set of variables seem to highlight the need to address teacher self-efficacy and perceptions of influence. When a teacher no longer perceives the ability to influence school policy, control classroom related activities and perceives that teaching is a waste of time, the self-efficacy of the individual has been compromised and that person is more likely to leave the profession.

Situative Perspective

The situative decision mode focuses on the interactions of individuals with other people. Situative, social or contextual variables are determined through experiences with the social world. It was believed that a teacher may make a career decision based on whether or not the individual had meaningful interaction within the school environment.

The findings from this study from the perspective of the goodness of fit tests seem to suggest that situative indicators are not a viable prediction of teachers career decisions. This is puzzling because for many reasons. First the findings seem to contradict an intuitive sense one may have about the importance connecting with one’s environment. Aristotle recognized it in the fourth century when he wrote, “The human being is by nature a social animal.” Secondly, these findings appear to contradict the psychological literature that says that situative cognition is an important part of knowing, motivation, learning and decision-making (Greeno et al., 1996). A person’s interpersonal relations and identity in communities in which the person participates becomes an integral part of their perspective. This view maintains that people’s very identities derive from their participatory relationships in communities. It seems logical that this perspective would apply to teaching faculty and their decision to stay, move or leave.
Thirdly, the findings conflict with current attrition and retention literature (Johnson & Birkeland, 2003; Marlow et al., 1997; Murnane et al., 1991). One plausible explanation for the apparent contradiction may be how the studies were conducted. For example, Marlow, Inman and Betancourt-Smith (1997) focused their research on what they termed beginning teachers, that is, teachers who have taught for ten or fewer years. The present study did not make that distinction and included the all public school teachers in the sample. Another difference is the sample size, Marlow et al. reported the responses of 602 respondents, where this study analyzed the responses of 35,698. The Johnson and Birkeland study (2003) used purposive sampling and an interview approach to suggest that teachers who felt that their school system supported them were more likely to stay. Again there was a difference in sample size; Johnson et al. began with a sample of 50. The study, though, presented intriguing results, does not have the ability to generalize well.

A study of teachers in rural and isolated areas developed a profile of “long-staying” professionals who were fully integrated into the community (Boylan & McSwan, 1998). This study, though apparently supports the situative perspective, identifies an important characteristic of those they studied; the “long-stayers” enjoyed the rural lifestyle and environment. That trait may predispose the participants to the situative perspective.

The variable that was most influential was administrative support. This finding supports recent literature (Ingersoll, 2002; Marlow et al., 1997). Apparently, teachers are more likely to stay when they feel that the school administration’s behavior toward the staff is supportive and encouraging. This study does not explain what behavior signifies
supportive and encouraging to a teacher and how that affects the decision making process.

Unique Contributions

This study examines the possible predictors of teacher career decisions from three perspectives: extrinsic, cognitive, situative. The extrinsic set of analyses suggested that the external forces face educators goes beyond satisfaction with salary. Instead, the analysis suggested that external forces such as drop out rates and student misbehavior are associated with leaving the profession more than job security or satisfaction with salary.

The importance of the cognitive perspective in understanding teacher career decisions is the most distinctive finding of this study. The ability to influence his or her surroundings is important when one approaches the decision to stay or leave. This study measured influence in two ways: (1) influence over hiring decisions and evaluating peers, and (2) influence over setting performance standards for students, establishing curriculum, and determining content of professional development. The findings imply that only the second variable of influence was correlated to teachers' career decisions. Specifically, I found that those who believe they have influence over setting performance standards for students, establishing curriculum, and determining content of professional development are more likely to remain in the field.

This study illustrates the complexity of teacher retention, migration and attrition by acknowledging that none of the three perspectives predicted teacher career decisions well. This seems to suggest that there is much more to the issue than was proposed in the framework. Different types of teachers enter the field with different aspirations, motivations, personalities and opportunities. This study assumed that if a framework
could be identified, then policy makers and practitioners would be able to develop a specific set of strategies to address the problem. The issue appears more complex than originally conceived.

Implications for Practitioners

It would be nice to provide a practical set of guidelines from the present research. Although the findings regarding the cognitive findings provide interest, they must be replicated before any suggestions should be considered. If a comprehensive framework that is able to be generalized to the population can not be yet be supported, the most logical implications are to develop an individualistic approach to discourage qualified teachers leaving the profession. The approach may begin with addressing the needs of the teacher which will vary from individual to individual.

Although the situative analysis in this study was not impressive, I can think no other way to identify and meet the needs of constituent teachers than through the administrator building a relationship with his or her faculty. The variables of the situative model were not applicable, but it remains a place to begin to assess the need of the teacher. This becomes an issue of leadership. Administrators should hone their emotional intelligence and tune into people’s feelings (Goleman, Boyatzis, & McKee, 2002). Creating resonance is the key behind this philosophy. When administrators drive emotions positively, they bring out the best in their faculty; this effect is referred to as resonance. Goleman et al. (2002) suggest that leaders should develop a repertoire of approaches that create the kind of resonance that boosts performance. If administrators and other school leaders would be to adopt this approach, then they may be able to meet the needs to qualified teachers who are at-risk of ending their career prematurely.
Another proposed method of meeting teachers' needs builds on the cognitive perspective when it suggests that each person views differently the demands of a particular work situation (Hancock, 1999). To address the teacher's stress level effectively, one must determine the individual manner in which the person views that situation. Hancock proposed using the Person-Situation Model of Stress Reduction (PSIMSR) to address teachers' dysfunctional stress that may be a precursor to attrition. The fundamental premise of PSIMSR is that stress is a very individualistic phenomenon of perceived imbalance between demands and capabilities that may help educators to identify the factors that may cause them to leave the field. An individual would assess the category of stress as demand-related, capability-related or response-related and apply specific strategies to reduce it.

**Further Research**

Understanding that teacher cognition framework does not adequately explain the issues, there are new directions to explore. For example, this study used teachers' perceptions of student behavior to understand career decisions. It may be interesting to consider the difference between the perception of student behavior and actual behavior in predicting whether a teacher stays or leaves the profession.

To test the reliability and applicability of the Person-Situation Model of Stress Reduction (PSIMSR), future research should examine the extent to which the recommended strategies reduce teachers' stress and the extent to which decreased levels of dysfunctional stress lowers attrition rates. This research should attempt identify other outcome variables such as absenteeism or days of illness in addition to career decisions.

What if the key to teacher retention does not lie in the teachers themselves, but
rather in the administrator's ability to retain and develop faculty? Future research may address the type of leadership or set of leadership skills are effective in retaining and developing qualified teachers. This new focus may want to consider situational models of leadership such as the model presented by Goleman, Boyatzis, and McKee.

Summary

The study of teacher retention, migration and attrition seems complex and multifaceted. The majority of the research in this field has been conducted without establishing a comprehensive framework. The data discussed in this dissertation focused on cognitive perspectives as a way to explain teacher career choices. Such perspectives included an extrinsic, cognitive, and situative understanding retention, migration and attrition. This research contributes to the study of teacher career choices by providing a set of frameworks of cognition that do not fully explain the phenomenon of teacher career movement. This study draws attention to the complexity of exploring the reasons why teachers make the career decisions they do, while providing discussion questions previous research findings.
APPENDIX

Protocol Clearance from the Human Subjects Institutional Review Board
Date: February 6, 2004

To: Joseph Kretovics, Principal Investigator
   Tamara Rosier, Student Investigator for dissertation

From: Mary Lagerwey, Ph.D., Chair

Re: HSIRB Project Number 04-01-15

This letter will serve as confirmation that your research project entitled "Analysis of Educators' Career Decisions: A Motivational Perspective" has been approved under the exempt category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note that you may only conduct this research exactly in the form it was approved. You must seek specific board approval for any changes in this project. You must also seek reapproval if the project extends beyond the termination date noted below. In addition if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: February 6, 2005
REFERENCES


239-253.


