

ABSTRACT

CORBELL, KRISTEN ANNE. Evaluating the Perceptions of Success Inventory for Beginning Teachers and its Connection to Teacher Retention. (Under the direction of Dr. Jason Osborne and Dr. Alan J. Reiman).

This study evaluated the psychometric properties of the Perceptions of Success Inventory for Beginning Teachers (PSI-BT). The PSI-BT assessed areas that contribute to beginning teachers' perceptions of success as well as beginning teacher retention. Corbell, Reiman, and Nietfeld constructed the first version of the PSI-BT in 2005. In this study, I revised and evaluated the PSI-BT.

The PSI-BT was designed to assess ten factors associated with beginning teachers' perceptions of success: Mentor Support, Colleague Support, Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, Parental Contacts, Satisfaction, and Commitment. Each of the factors was assessed based on two categories: the beginning teacher's *current experience* and what the beginning teacher perceived to be *essential for effective teaching*. In addition to these 10 factors, the PSI-BT also assessed a beginning teacher's retention intentions.

Three research questions comprised this study. The first question addressed the psychometric properties of the *current experience* category of the PSI-BT including construct, convergent, discriminant, and predictive validity. An extensive literature review, expert opinions, and confirmatory factor analysis established the construct validity of the PSI-BT. Significant correlations between the factors of the PSI-BT with the factors of the Teacher's Sense of Efficacy Scale established convergent validity. Non-significant correlations between the PSI-BT with the e-mail subscale of the Teacher's Attitudes Toward Computers confirmed discriminant validity. Binary logistic regression ascertained the PSI-

BT factors that predicted beginning teacher retention. Retention was measured using school system retention and attrition data gathered during the school year following the administration of the PSI-BT.

The second research question used multiple regression analyses to determine the factors that predicted beginning teacher retention intentions, Satisfaction, and Commitment. The third research question addressed the gap between the *current experience* and *essential for effective teaching* categories. The final analysis investigated how the gap for each of the factors predicted beginning teacher retention.

The culmination of this research has provided a psychometrically sound instrument that school systems can use to reliably assess beginning teachers' perceptions of success. The gathered data can then be used to make informed decisions for improving induction programs and ultimately to retain beginning teachers.

Evaluating the Perceptions of Success Inventory for Beginning Teachers and its Connection
to Teacher Retention

by
Kristen Anne Corbell

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APPROVED BY:

Dr. John Nietfeld

Dr. Adam Meade

Dr. Jason Osborne
Co-Chair of Committee

Dr. Alan Reiman
Co-Chair of Committee

DEDICATION

To my parents, Anne and Thomas Corbell, your support and love have encouraged me throughout my life and specifically in completing my doctorate and this dissertation. You have instilled in me my faith in and love for Jesus Christ, without which none of this is possible. You have also encouraged me to always reach for my dreams. Reaching for my dreams is what brings me to the end of this road, and the beginning of the next. Dad, the little phone calls just to say you are proud of me means so much. Mom, you never failed to listen when I just needed to talk; your help in proof reading was invaluable! Thank you both so much!

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To my friends, Ann and Sharon, you were always ready to help celebrate the small steps along this journey. Thank you for reminding me of the importance of celebrating.

BIOGRAPHY

Kristen Anne Corbell was born in Rock Hill, South Carolina, to Thomas and Anne Corbell on June 13, 1975. The Corbell family lived in Lancaster, South Carolina, until 1979 while her father served Reformation Lutheran Church. During this time in Lancaster, Kristen's sister Jennifer was born in 1978.

In September 1979, the Corbell family moved to Lexington, South Carolina, where they made their home until February 1990. It was in Lexington that Kristen decided to be a math teacher. Kristen graduated in 1993 from Statesville High School, Statesville, North Carolina. Following graduation, she returned to South Carolina to pursue her bachelor's degree in mathematics with minors in secondary education and history at Winthrop University in Rock Hill, SC.

After graduating in May 1997, Kristen moved to Durham where she taught middle school for six years. The last five years were at Immaculata Catholic School. While teaching at Immaculata she decided to pursue Curriculum and Instruction as a master degree, and a PhD in Education Psychology.

Outside of work and school, Kristen enjoys working with her service sorority, Epsilon Sigma Alpha, to raise money for St. Jude Children's Research Hospital.

Kristen received her master's in May 2005 and doctorate in May 2008 from North Carolina State University.

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CHAPTER ONE: INTRODUCTION

The retention of beginning teachers is a continuing problem in the United States. Approximately one-third of all beginning teachers leave the profession within their first three years of teaching (National Commission on Teaching and America's Future [NCTAF], 2003). This rate of attrition increases to 50% after the first five years of teaching (Ingersoll & Smith, 2003; Murnane, Singer, Willett, Kemple, & Olsen, 1991; NCTAF, 2003). This high level of attrition prompted research into the factors that contribute to teacher attrition, and how to retain effective teachers. Teacher turnover leads to lower student achievement, and low student achievement leads to teacher turnover (Barnes, Crowe, & Schaefer, 2007). Thus, efforts must be focused on retaining teachers and increasing student achievement. This study will look specifically at measuring factors known to retain beginning teachers in their first three years of service.

Introduction to the Issue of Beginning Teacher Retention

In a national study of 6,733 teachers, Ingersoll (2001a) reported that low levels of turnover are advantageous for organizations such as schools; while, at the same time, high turnover rates in schools contributed to decreased performance and consistency across a variety of indicators including student achievement. Ingersoll (2003) and Shen (1997) found high teacher turnover led to the disruption of a program's continuity and planning, decreased student learning as measured by standardized tests, and increased costs for school districts related to recruiting and hiring teachers. High levels of turnover can also signal problems within the school community (Ingersoll, 2001a).

The problems facing school districts, in terms of teacher turnover, are not only associated with teacher attrition, but also with migration when teachers leave one school to pursue a teaching job at another school, either within or outside of the district. One-half of the overall teacher turnover rate is due to teacher migration (Ingersoll, 2001a, 2001b). Ingersoll (2001a, 2001b) and Liu and Meyer (2005) argued that teacher migration has the same effect on a school or school system as teacher attrition, because the school must fill another position which disrupts the work done at the school. Student achievement decreased when there was a shortage of qualified teachers to fill vacant positions (Liu & Meyer, 2005). Thus, it is important to understand why teachers move to other schools, and what schools and school systems could do to retain these teachers.

For the purposes of this study, I will use the terms stayers, movers, and leavers to be consistent with much of the literature reviewed and the terms used by the Schools and Staffing Survey (SASS) and the Teacher Followup Survey (TFS) reports (Whitener, Lynch, Tingos, Perona, & Fondelier, 1997). Whitener et al. (1997) defined stayers as those teachers who remained in their schools, movers as the teachers who voluntarily or involuntarily moved to a different school, and leavers as those who left teaching completely due to involuntary and voluntary reasons, such as retirement (Whitener, et al., 1997).

In 1998, the U.S. Census Bureau found that four percent of the civilian population was teachers, which was twice as large as the number of registered nurses and five times the number of lawyers and professors (cited in Ingersoll, 2002). However, the turnover rate of teachers was greater than other professions. The Bureau of National Affairs found that the attrition rate of all employees had averaged about 11% per year for more than ten years (cited

in Ingersoll, 2002). The Teacher Followup Survey showed the turnover rate of teachers to be as high as 14.3% in 1994 - 1995 compared to 13.2% in 1991 - 1992 (Ingersoll, 2002). With the large numbers of teachers and the increased rate of turnover, school systems across the nation have the burden of filling these vacancies. A National Center for Education Statistics Report found that during the period of 1999 - 2000 to 2000 - 2001 school years, 221,400 teachers left teaching with an additional 231,000 teachers moving to other schools. This accounted for a 15.1% turnover of the teaching population (Luekens, Lyter, & Fox, 2004). This study used the data from SASS and TFS, national samples of teachers. Using this data allowed for a level of generalizability that single state samples did not provide. The drawback of using this data set was that it limited the researcher(s) to the questions on the surveys and did not allow for customization of items.

The high rate of turnover created a difficulty in hiring highly qualified teachers needed in our schools; while at the same time, contributing to the cost that a school system faced for filling the vacated position. According to a US Department of Labor formula school systems across the United States spent \$4.9 billion on teacher turnover in one year, which is approximately \$12,350 per teacher (Alliance for Excellent Education, 2005). Of this \$4.9 billion, North Carolina spent \$188,565,281 in teacher turnover costs at a rate of approximately \$11,821 per teacher, lower than the national average. Teacher turnover in this analysis included those teachers who left the profession and those who transferred to other schools. The cost to replace a teacher included recruiting, hiring, and training a new teacher. The substantial cost to fill open positions is one of the reasons school systems must concentrate on retaining their teachers.

Other estimates have placed the cost of teacher turnover to range between 25% and double the leaving teacher's annual salary and benefits (Shockley, Guglielmino, Watlington, 2006). Shockley, et al. (2006) concluded that if districts would spend more money on new teacher support, they would ultimately save money from a decreased teacher attrition rate.

Barnes, et al. (2007) conducted a pilot study of actual costs, as opposed to estimated costs, to replace a teacher in five school districts of varying sizes across the United States, including Granville County Public Schools in North Carolina. The actual cost to replace a teacher in Granville County was nearly \$10,000. Barnes, et al. found that as the size of the district increased, so did the cost to replace a teacher.

Eight cost categories were included in determining the actual cost of teacher turnover in the Barnes, et al. (2007) study. These categories were:

- 1) **recruitment and advertising:** Includes all costs associated with advertising space, travel to job fairs and interview sites, designing advertisements, website design and posting costs, identifying candidates from teacher preparatory programs, etc.
- 2) **special incentives:** Includes signing bonuses, paying moving expenses, any housing allowances, day care allowances, and reduced teaching loads.
- 3) **administrative processing:** Includes criminal background checks, references checks, and all people-time associated with setting up interviews, conducting exit interviews, and processing all needed paper work.

- 4) **training for new hires:** Includes introducing new hires to the school goals, resources, benefit packages, and tours of the school.
- 5) **training for first-time teachers:** Includes the costs of induction and mentoring programs including stipends for mentors and substitute pay as needed for reduced work loads.
- 6) **training for all teachers:** Includes introduction to state testing programs, workshops and professional development, substitute pay during training, and travel.
- 7) **learning curve:** Refers to the cost of student learning that results from teacher turnover.
- 8) **transfer:** Refers to paperwork, time, and effort that must be spent to match a teacher to a new school.

It is important to note that some of the categories are not required for all new hires, and thus actual costs will differ for each new hire depending on their previous experience and school. Barnes, et al. (2007) found that the actual teacher turnover costs were substantial and surprised many school leaders. This study also found that at-risk schools, those with high poverty and low school performance, spent the fewest dollars on teacher turnover. Their findings confirmed the Texas Center for Educational Research (2000) study which found that decreasing teacher turnover recoups the funds spent on new teacher. Finding accurate costs of teacher turnover can be difficult when hidden in many departments' paperwork, though this study did provide a comprehensive method for collecting data to find teacher turnover costs. As a result of the Barnes et al. (2007) study, a teacher turnover calculator is available

on the internet to estimate the cost of turnover to a school and school system. The calculator is located at http://www.nctaf.org/resources/teacher_cost_calculator/teacher_turnover.html .

Given teacher turnover costs, money spent by school systems to provide meaningful and effective support in areas known to impact retention would in the end save money for the school district. One avenue to determine the area to fund is to use an inventory to assess beginning teachers on their current experiences. This inventory can provide implications and recommendations for areas that are most critical in the school system.

Need for the Study

The need to better understand new teacher perceptions of support and success was the basis for this inquiry. The need to support beginning teachers is a critical need; and thus, sixteen states required and funded induction programs for their beginning teachers (Millinger, 2004). Results of this investigation can assist policymakers and school leaders to better conceptualize and describe new teachers' perceptions of success, thus leading to more evidence-based strategies for retaining more beginning teachers.

Beginning teachers' perceptions of success influence their satisfaction and thus their retention decisions (Borg & Riding, 1991; Osroff, 1992). Research has shown that multiple areas influence beginning teachers' perceptions of success (e.g. Bauer & LeBlanc, 2005; Johnson & The Project on the Next Generation, 2004; Schonfeld, 1992; Youngs, 2007).

Veenman (1984) described a reality shock that beginning teachers encounter during their first year of teaching. By reality shock, Veenman referred to "the collapse of the missionary ideals formed during teacher training by the harsh and rude reality of everyday classroom life" (p. 143). Beginning teachers encounter the reality shock each day, and is not

short lived. Beginning teachers must assimilate to the reality of teaching as they face their perceptions of problems and changes in their behavior, attitudes, and personality that are precipitated by external pressures. If the disillusion is great, the reality shock can lead to attrition.

Veenman (1984) classified the perceived problems of beginning teachers into eight categories after reviewing 55 empirical studies identifying the problems beginning teachers face in their first three years of service. The eight perceived problems were: 1) classroom discipline, 2) student motivation, 3) dealing with individual differences, 4) assessment of student work, 5) relationships with parents, 6) organization of class work, 7) inadequate instructional resources, and 8) dealing with problems of individual students. As the number of problems perceived by a beginning teacher increases, so does the likelihood of the beginning teacher leaving the profession and impacting their perceptions of success (Johnson & Birkeland, 2003, Taylor & Dale, 1971).

In order for a school district and school personnel to adequately provide for beginning teachers, the personnel first need to understand a beginning teacher's experiences and to formulate a plan to make those experiences better. One way of determining this information efficiently is through the use of a survey.

As Chapter Two will discuss in detail, numerous studies exist about the factors known to influence beginning teacher retention and beginning teacher perceptions of success. One significant hole existed in the literature reviewed, and that is the lack of a psychometrically sound instrument to assess each of these factors. The only instrument

known to address beginning teacher perceptions of success is the instrument that is the focus of this investigation, the Perceptions of Success Inventory for Beginning Teachers (PSI-BT).

In 2005, I conducted a pilot study, under the direction of Reiman and Nietfeld, to measure beginning teachers' perceptions of success using a newly constructed instrument, Perceptions of Success Inventory for Beginning Teachers (Corbell, 2005). I explored the structure of this instrument using an exploratory factor analysis (EFA). The EFA found the instrument to assess the following constructs through an exploratory factor analysis:

1) Administrative Support, 2) Classroom Climate, 3) Mentor Support, 4) Colleague and Instructional Resource Support, 5) Commitment, and 6) Assignment and Workload. The 2005 study did not adequately assess Parental Support or Professional Judgment, and did not explore how the instrument predicts beginning teacher retention. As well, it utilized a sample of three rural counties in North Carolina, thus a more extensive sample would provide greater generalizability of its validity results. While the 2005 study showed great promise for the validation of the PSI-BT, I needed a follow-up study to establish the instrument as a useful tool in measuring beginning teachers' perceptions of success and its connection to teacher retention. The current study will address each of these limitations in an effort to validate a revised version of the PSI-BT.

Statement of the Problem

Results of this investigation can assist policymakers and school leaders to better conceptualize and describe new teachers' perceptions of success. Through this conceptualization of new teachers' perceptions of success, I hope there will be less teacher turnover as the needs of beginning teachers are better met.

The focus of this study was to establish the revised PSI-BT as a psychometrically sound instrument and to determine if the instrument predicted retention of beginning teachers. This instrument, in its second revision, assessed the following factors:

- 1) **Mentor Support** addresses areas that should be present in an effective mentoring relationship.
- 2) **Colleague Support** addresses areas in which colleagues can impact beginning teacher perceptions of success through coordinated and deliberate induction programs.
- 3) **Administrative support** addresses areas in which the administration can impact beginning teacher perceptions of success through coordinated and deliberate induction programs.
- 4) **Classroom Management** assesses the beginning teacher's perception of her ability to provide a well managed classroom that supports student learning.
- 5) **Student Success** addresses the beginning teacher's ability to effectively teach all students, including those with individual differences such as English as a second language, learning disabled, and diverse cultural backgrounds. Items also look at the ability of the teacher to frame instructional decisions based on students' learning.
- 6) **Instructional Resources** addresses the beginning teacher being provided with the materials, resources, and professional development needed to teach effectively. Items also address assessing student work.

- 7) **Assignment and Workload** addresses the number of preparations, uninterrupted planning periods, overall workload, and extra duties.
- 8) **Parent/caregiver contact** addresses support from and communication with parents/caregivers.
- 9) **Satisfaction** assesses the beginning teacher's satisfaction with her current job using a single likert scale item followed by an item requesting teachers to choose three factors that would increase her job satisfaction.
- 10) **Commitment** addresses the beginning teacher's commitment to teaching as a career and to her students.

The final item of the inventory assessed beginning teachers' retention intentions. This item, in addition to actual retention data gathered the following school year, assessed how well the PSI-BT predicts retention. A complete PSI-BT is located in Appendix C.

A psychometrically sound instrument assessing beginning teachers' perceptions of success will be beneficial in addressing the teacher retention problem in several ways. An instrument's data is only as good as the method used to gather that data. Items that are valid and reliable will provide quality data. This data can assess a school system beginning teacher induction program's strengths and weaknesses. Such data can bolster school systems action plans for improving targeted areas in their induction program. In order to realize the benefits of improving induction programs, the first step is studying the psychometrics of the PSI-BT, the focus of this study.

Research Questions and Hypotheses

This study will utilize the following research questions to guide the inquiry into the psychometric properties of the Perceptions of Success Inventory for Beginning Teachers.

1. What are the psychometric properties of the Perceptions of Success Inventory for Beginning Teachers?
 - (a) Hypothesis #1: The Perceptions of Success Inventory for Beginning Teachers will have clearly defined factors with adequate fit indices as assessed by a confirmatory factor analysis.
 - (b) Hypothesis #2: The Perceptions of Success Inventory for Beginning Teachers will have convergent validity with the Teacher's Sense of Efficacy Scale assessed by a significant pattern of correlations for each factor.
 - (c) Hypothesis #3: The Perceptions of Success Inventory for Beginning Teachers will have discriminant validity with the e-mail subscale of the Teachers' Attitudes Toward Computers as assessed through relatively low correlations for each factor.
 - (d) Hypothesis #4: The Perceptions of Success Inventory for Beginning Teachers factors will significantly predict teacher retention, as measured by a dichotomous 2007-2008 school year retention response from school systems.
2. How do the factors of the Perceptions of Success Inventory for Beginning Teachers predict teacher retention intentions, Satisfaction, and Commitment?
 - (e) Hypothesis #5: Mentor Support, Colleague Support, Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts will predict teacher retention intentions.

(f) Hypothesis #6: Mentor Support, Colleague Support, Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts will predict Satisfaction.

(g) Hypothesis #7: Mentor Support, Colleague Support, Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts will predict Commitment.

3. Does the gap between beginning teachers' perception of their *current experience* and what is *essential for effective teaching* predict teacher retention?

(h) Hypothesis #8: The gap between her *current experience* and what is *essential for effective teaching* in the factors assessed by the PSI-BT will significantly predict teacher retention.

Significance of the Study

Each year school systems face the task of recruiting new teachers to fill positions that are either newly created due to increases in student enrollment or those vacated by previously employed teachers. Designing a program that will support new teachers in an effort to retain them is an additional part of the recruitment task. School systems and states in the United States conduct this induction program in a variety of ways. Thus, the components of each program differ in their quantity and quality. As school systems face the task of retaining beginning teachers, it is important that they have data to make informed decisions on the success of their induction program. This study will address several of the factors known to contribute to beginning teachers' perceptions of success and teacher retention. Based on current teacher turnover rates and the associated costs, this research could indirectly lead to

cost savings in the millions of dollars because it would be able to target interventions that would have the highest effect on teacher retention.

Consistent with a Denzine, Cooney, and McKenzie (2005) recommendation for researchers to conduct a confirmatory factor analysis on instruments previously validated with EFA's, a CFA will validate the revised PSI-BT. I hypothesized the PSI-BT to measure the following factors: (1) Mentor Support, (2) Colleague Support, (3) Administration Support, (4) Classroom Management, (5) Student Success, (6) Instructional Resources, (7) Assignment and Workload, (8) Parent/Caregiver Contact, (9) Satisfaction, and (10) Commitment.

This study will further establish the validity of the PSI-BT through convergent validity with the Teachers' Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001). This instrument correlated with five of the six factors found in the original PSI-BT (Corbell, 2005). This study will aim to correlate it with the hypothesized factors that make up the PSI-BT.

Perhaps most significant for school systems is the establishment of the PSI-BT to predict teacher retention. I will conduct this analysis using data gathered on each teacher one school-year after completion of the PSI-BT. There is also an item on the PSI-BT that assesses the beginning teachers' intentions at the present time. Analyses will determine if beginning teachers differ in their perceptions of success by their level of commitment to staying in teaching.

Education desperately needs robust and quantifiable data for making decisions. This study will provide school systems with data on their beginning teachers' perceptions on each

of the ten factors. This study also will include reporting the implications of the data to participating school systems.

Limitations of the Study

While this study offered several significant contributions to the study of assessing beginning teachers' perceptions of success, there are some limitations. This study included a sample of over 400 beginning teachers from twenty rural and suburban counties in North Carolina. Only two teachers in this sample were from an urban county. The inability to secure a significant representation from an urban population is a limitation of this study.

A second limitation of this study was specific to establishing convergent validity. Denzine, et al. (2005) discussed the need to confirm the factor structures of widely used instruments with CFA that previously have only been confirmed using EFA. Tschannen-Moran and Hoy (2001) have written the Teacher Sense of Efficacy Scale (TSES). Denzine, et al. (2005) hypothesized that this instrument's hypothesized factors based on Principal Axis Factoring with Varimax Rotation may suffer the same defeat. Previous EFA studies have found the TSES to measure (1) Efficacy for Instructional Strategies, (2) Efficacy for Classroom Management, and (3) Efficacy for Student Engagement. As of this writing, a CFA has not contradicted the validation of the Teacher Sense of Efficacy Scale; therefore, is included in this study.

One participating school system had some problems with their technology, thus limiting the number of possible respondents. A closer look at our website revealed that there were no known problems on the part of the university or specific browsers. I assumed that those who had difficulties with accessing the website had a firewall preventing the page from

loading. This is one of the disadvantages that come along with a web-based survey; however, the benefits in the increased number of respondents from multiple school systems outweighed the few technology problems encountered. Some respondents from this county were able to access and submit the survey; so there is some representation from this suburban county, though on a smaller scale than otherwise would have been possible.

Definitions

1. **Construct Validity:** An assessment of how useful an instrument is in realistic use.
2. **Content Validity:** A formal assessment, often by experts in the field, to measure whether a survey assesses its intended subject matter.
3. **Factor Analysis:** A collection of statistical methods used to (a) analyze patterns in a correlation matrix, (b) reduce large numbers of variables to a smaller number of components or factors, (c) simplify analyses of highly correlated independent variables, (d) explore observed data for the presence of theoretical variables, and (e) test hypotheses about theoretical variables (Pohlmann, 2004, p. 14).
4. **Induction:** The entire program designed to aid and support teachers as they begin their career.
5. **Internal Reliability:** A psychometric measure of how different items in an instrument measure the same construct (Litwin, 1995).
6. **Leavers:** Teachers who leave the teaching profession completely.
7. **Movers:** Teachers who move to another school, but remain in the teaching profession.

8. **Perceptions of Success:** A measure of the extent to which beginning teachers feel successful in teaching.
9. **Reliability:** A statistical measure of how well the results of a survey or test can be replicated.
10. **Self Efficacy:** The judgment one has of his or her capabilities to generate a desired outcome.
11. **Stayers:** Teachers who remain at their current school another year and continue teaching.
12. **Validity:** A measure of how well a survey or test assesses the intended construct.

Summary

Within this first chapter, I introduced beginning teacher retention as a major problem affecting education. Retaining only half of all beginning teachers after five years leaves school systems with large costs each time a teacher leaves. It is no longer substituting one salary for the next; but instead, it introduces costs related to recruitment, paperwork, signing incentives, induction, and student achievement. Therefore, we must go beyond discussing why the problem exists, to looking at solutions.

This study proposed that one method to find solutions to this problem is to develop and evaluate an instrument that assesses beginning teachers' perceptions of success. Through the use of such an instrument, school systems can learn specific areas to target to increase beginning teacher retention. Therefore, this study focused on evaluating the psychometric properties of the Perceptions of Success Inventory for Beginning Teachers in an effort to

provide school systems with a valid and reliable instrument to ascertain how beginning teachers perceive their induction program and experiences in the first three years of service.

Before addressing this main focus, it was essential to understand what contributes to beginning teacher retention or attrition. The factors contributing to attrition include administration, mentors and other experienced teachers, beginning teacher workload, and discipline problems. An understanding of these and other factors can aid educators in addressing the problems and decreasing the attrition rate.

The following chapter synthesizes the research that exists on teacher retention and beginning teacher perceptions of success. This research will provide specific information concerning the development of each factor of the PSI-BT.

CHAPTER TWO: REVIEW OF LITERATURE

Methods

Selection Criteria

This literature review included studies that 1) were associated with the conceptual framework, 2) were either empirical or theory-based works from peer reviewed journals, books, or conferences, 3) provided quality to the understanding of the problem studied, and 4) were scholarly in nature.

I employed a variety of methods to review the research on beginning teacher self-efficacy and teacher retention. The search for applicable variables of teacher retention began with relevant articles from the *Review of Educational Research* journal. Searching the electronic databases (ERIC, PsychInfo, Academic Search Premier, and Dissertation Abstracts) incorporated combinations of the key words: beginning teacher, teacher attrition, and teacher retention. Additional searches included the key words: student discipline, classroom management, assignment, workload, instructional resources, curriculum, parent support, mentor support, colleague support, and administration support. Review of the resulting articles and corresponding reference lists, in addition to colleague recommendations, yielded 186 relevant studies to be evaluated, of which 74 were included in this review of literature on beginning teacher retention. Table 1 describes the 41 empirical studies in terms of methodology and sample size.

Table 1

Methodology and sample size of empirical studies

Methodology	Sample Size (number of teachers)	Number of studies
Quantitative (N=26)	< 50	0
	50-100	2
	100-200	1
	200-300	4
	300-500	2 1 with 364 schools
	500-1000	3
	1000-2000	1
	2000-3000	2
	3000-4000	2
	>4000	8
Qualitative (N=9)	<10	3
	10 to 20	1
	21-30	0
	30-40	1
	40-50	1
	>50	3
Mixed Methods (N=6)	<10	1
	10 to 30	1
	30-50	2
	>50	2

Teacher Retention

Schools and school systems each year provide induction programs for their beginning teachers in an effort to retain their new employees. Despite induction programs, the attrition rate of beginning teachers is still high. Within the first five years of teaching, approximately half of the teachers will leave the occupation (Ingersoll & Smith, 2003; Murnane et. al, 1991; NCTAF, 2003). With this rate of attrition, researchers have turned to studying individual and school characteristics that contribute to this problem. This section of the literature review will discuss the factors contributing to new teachers' retention and new teachers' perceptions of success.

Studies have found that many factors contribute to whether a teacher stays, leaves or moves from one school year to the next. In this section, I will discuss the findings of how 1) Mentor Support, 2) Colleague Support, 3) Administration Support, 4) Classroom Management, 5) Student Success, 6) Instructional Resources, 7) Assignment and Workload, 8) Parental Contacts, 9) Satisfaction with current job, and 10) Commitment to teaching contribute to an individual teacher's decision to stay in her current job, move to another school, or leave teaching in favor of another career.

Mentor Teachers

Mentoring, the assignment of a beginning teacher to an experienced teacher for support, was one of the most widely used elements in induction programs for new teachers. More than thirty states included mentor support as part of their induction program for beginning teachers (Feiman-Nemser, 1996). Mentor support should take the form of modeling good teaching, understanding of teacher learning, encouraging, and collaborating

between the mentor and beginning teacher (Feiman-Nemser, 1996; Johnson & Birkeland, 2003; Reiman & Thies-Sprinthal, 1998). Mentors should optimally teach the same subject(s) and grade(s) as the beginning teacher and teach at the same school, though this rarely exists (Bauer & LeBlanc, 2002; Ingersoll & Smith, 2004; Johnson & Birkeland, 2003; Reiman & Thies-Sprinthal, 1998).

A meta-analysis of mentoring research found shortcomings of small sample sizes or research that did not discuss the types of support mentors provided (Ingersoll & Kralik, 2004). In response to the need for further research, Ingersoll and Smith (2004) conducted a descriptive study on teacher induction and mentoring programs using the data from the 1999-2000 Schools and Staffing Survey (SASS) and its supplement, the 2000-2001 Teacher Follow-up Survey (TFS). The data was representative of the nation, and the sample size was over 3,235. The data showed that two-thirds of beginning teachers were in close contact with their mentors. Of these teachers, about 70% had mentors in their same field, and 90% said their mentors were helpful. Having a mentor in the same field was one of the strongest factors for reducing teacher attrition. The turnover rates presented below included movers and leavers. There was a 28% turnover rate when beginning teachers had the following supports: common planning time with teachers, mentor in the same field, and regularly scheduled time for collaborating on instruction with other teachers. Twenty-two percent of the teachers reported receiving these three supports. These three types of support in combination with participation in a general induction program, a seminar for beginning teachers, and supportive administration, reduced the turnover rate to 24%. Only 13% of new teachers reported receiving all six supports (mentoring, common planning time, time for

collaboration, an induction program, a seminar for beginning teachers, and administration support). In comparison, 16% reported receiving no induction or mentoring support; this group had a turnover rate of 40% (Ingersoll & Smith, 2004). Thus, the data suggested that the lack of both mentoring and a comprehensive induction program were associated with doubling the rate of attrition for beginning teachers. Despite the fact that this sample was nationwide, it does have its shortcomings, specifically in only allowing for restricted responses (Ingersoll & Smith, 2004).

Odell and Ferraro (1992) conducted a study of two groups of K-5 teachers and followed up with them four years later. The first group had eighty-one teachers, while the second had seventy-nine teachers. Each teacher received support from one of nine mentors during her first year of teaching, both inside and outside of the classroom. The support was nonevaluative; encouraged reflection; and utilized shared teaching, peer coaching, and questioning. The mentors received weekly four-hour seminars from university faculty. Four years after their mentored experiences, the researchers found and contacted 88% of the beginning teachers for retention data. Of those teachers who were located, only 4% were no longer in teaching. In the worst-case scenario, that all of the teachers not found were no longer teaching, this group would only have a 16% attrition rate. This rate is significantly less than the 50% attrition rate in the first five years of teaching as cited by Ingersoll (2003). Odell and Ferraro (1992) cited that data on teachers without mentor support showed an attrition rate of twice that found with the mentored teachers. This study was a local study of one collaborative university/school system program in which the teachers were from 76 elementary schools in the school district. Odell and Ferraro (1992) divided the sample of 170

beginning teachers into the two groups. Extraneous variables not accounted for could have impacted attrition rate of the teachers without a mentor; thus, interpreting the implications of this study with caution is imperative.

Odell and Ferraro (1992) also utilized Likert scale items for 1) the influence of the mentoring experience on attitudes toward teaching and 2) the helpfulness of the overall mentoring experience. On a scale of one being a negative influence to five being a positive influence, the average score for the first item was 4.1. The second item had a mean score of 4.2. The three top-ranked categories of mentor support were emotional support, instructional strategies, and classroom resource support. Support with student discipline and making parental contacts were the next two categories.

For three years, Spuhler and Zetler (1995) explored the effects of the Montana mentoring program. Each year they investigated matched pairs of first-year teachers, one in the mentoring program and one not in the mentoring program. Sample sizes of eleven to twelve matched pairs were low due to difficulty finding teachers who would volunteer to not receive the support of the mentor. The retention of those teachers with mentors was 97% after one year compared to 71.5% for the non-mentored peers. Spuhler and Zetler (1995) reported similar results in the second year of the program, with 91% versus 73% retention rate. No data was available for the third group of cohorts at the time of publication. The authors did not report a statistical significance test to help interpret these findings, though the differences were notable and offered preliminary evidence that the mentoring relationship has a positive effect on retention. Having a small sample size may be the reason the authors did not report a significance test.

Spuhler and Zetler (1995) measured professional growth in terms of moving from self concerns to task concerns, such as classroom management, to impact concerns about the students. The three years of data did not show compelling differences between the two groups. The mentored group did show positive growth, but no substantial gains in professional growth. On a more positive note, both administrators and mentees felt that the mentored teachers experienced fewer problems and more successes than those teachers without mentors (Spuhler & Zetler, 1995).

In a study of thirty-five beginning teachers in Jefferson Parish, Louisiana, Bauer and LeBlanc (2002) confirmed the findings of others (Feiman-Nemser, 1996; Johnson & Birkeland, 2003; Ingersoll & Smith, 2004; Odell & Ferraro, 1992; Smith & Ingersoll, 2004) that several components of a mentor relationship contribute to the beginning teachers' perceptions of success. These include (a) having the mentor in the same building, (b) spending time together to develop necessary skills, (c) talking through problems in a timely manner, (d) having a mentor who is perceived by the beginning teacher to be qualified, (e) building trust between the mentor and mentee, (f) possessing goodness-of-fit in terms of subject and grade taught as well as values, and (g) encouraging a reflective process. Cho and Kwon (2002) found in a study in Seoul, Korea, that the perceptions of the beginning teacher and mentor were often significantly different. Beginning teachers did not value the same supports as their mentors. Thus, it is important for mentors to listen to their mentees to ensure that they provide the correct support.

Huffman and Leak (1986) conducted a study of new teachers in a large school system in the southeast. One hundred nine new teachers completed a questionnaire about their

experiences in a beginning teacher program. Ninety-three percent of the beginning teachers cited having a mentor in the same grade or subject area as optimal. Ninety-six percent of the respondents noted that the role of the mentor was an important element in their induction program. The teachers continually noted the mentors as being supportive and providing encouragement. The mentors provided essential information about school procedures and policies in addition to sharing ideas, sharing instructional materials, assisting with the curriculum, and providing beneficial feedback and evaluation.

Along with mentors, other teachers in a beginning teachers' school can offer support and guidance. O'Brien and Christie (2005) discussed that mentors cannot be the sole supporter for the beginning teacher: colleague support was essential.

Colleague Support

Time to interact with colleagues was essential to beginning teachers' success (Johnson, S.M. & The Project on the Next Generation of Teachers, 2004; Louis & Marks, 1998). Darling-Hammond (2005) reported that Japan and China supported their beginning teachers with 20 hours a week for interactions with colleagues for planning and observing classes and teaching strategies. In contrast, the United States offered little to no time to work with colleagues (Darling-Hammond, 2005). The reality for many beginning teachers in the United States is teaching in isolation (Walsdorf & Lynn, 2002). One way of combating this isolation is through time to interact in a non-evaluative manner with colleagues (Walsdorf & Lynn, 2002).

Kardos, Johnson, Peske, Kauffman, and Liu (2001) used the Project on the Next Generation to carefully explore the role of colleagues and how beginning teachers perceived

their success. The framework of three professional cultures was explored as to the impact each had on the level of colleague interaction to support novices. Veteran cultures were schools in which the majority of the faculty was seasoned teachers. The seasoned teachers more often than not failed to offer support that contributed to the beginning teacher learning to teach effectively. Novice cultures were those in which the majority of teachers were novices, and thus more experienced colleagues were not around to offer advice and help the new teacher feel successful. The most productive culture for the beginning teachers was the integrated culture that successfully incorporated novice and experienced teachers. Within this culture, novice teachers found supportive colleagues who provided opportunities for the beginning teachers to collaborate on lessons, ask questions, and observe lessons. The integrated culture contributed to retaining the beginning teacher. Novice teachers often left their isolating schools in terms of little colleague interaction for a school with an integrated culture (Johnson, S.M & The Project on the Next Generation, 2004; Johnson & Birkeland, 2003; Kardos et al.; 2001).

Reiman, Bostick, Lassiter, and Cooper (1995) investigated the potential of mentor and counselor professional learning and support teams for new teachers. The qualitative study investigated 67 first-year teachers who participated in twice-monthly support meetings during the 1994-1995 academic year in a large urban-suburban school system in North Carolina. Teacher/counselor mentor teams facilitated sessions that prompted moderate personal and professional sharing between new teachers in a setting free of evaluation. As well, facilitators responded in writing to reflections from each new teacher. The researchers analyzed bi-weekly written reflections for level of concerns at six different points during the

fall and spring semesters. New teachers showed modest changes in their concerns with a shift from personal concerns in October to predominately impact concerns in February.

Additionally, 75% of the first-year teachers in a follow-up survey (189 out of 190 first-year teachers responded) indicated that participation in the professional learning and support teams was professionally rewarding, permitted feedback and discussion in a setting free of evaluation, and enhanced their opportunity to reflect on their professional experiences.

Smith and Ingersoll (2004) conducted research on induction programs in the United States using the SASS and TFS data. Among other types of induction support, the authors studied the impact of colleague support on the retention of 3,535 beginning teachers. Those beginning teachers, provided with a common planning time with colleagues and a scheduled time to interact with colleagues on instructional issues, had a 42% less likelihood of leaving as opposed to staying and a 25% less likelihood of moving as opposed to staying.

The administration is often responsible for providing a time for colleagues to interact. The support of the administration is also an important aspect of beginning teachers' success and retention decisions.

Administration Support

The administration at a school was pivotal in the satisfaction of the beginning teacher in her current position (Stockard & Lehman, 2004). Johnson and Birkeland (2003) described the extent of influence of the administration in a teacher's decision to stay, leave, or move to another school as well as a major factor in a teacher's perception of his or her success as a teacher. New teachers who had a supportive administration felt encouraged along the way, understood that they would continually improve in their career, desired to remain in their

school, and were content with their decision to do so. In contrast, teachers who experienced inconsistent, unsupportive, abusive, or neglectful principals left their schools either to pursue another career or to teach at another school (Johnson & Birkeland, 2003). At the school level, the result was the same: hiring a new teacher who was unfamiliar with the school (Ingersoll, 2003; Johnson & Birkeland, 2003).

Research conducted by Kardos et al. (2001) suggested that principals were responsible for establishing a “healthy professional culture” (p. 257) in their schools. The study examined the contribution of the principal to the professional culture that supported new teachers. In both novice and veteran-oriented cultures, beginning teachers described the principals as unsupportive. Novice oriented cultures often had principals who acted more as monitors of new teachers; whereas, in veteran-oriented cultures, principals were noticeably absent. The integrated culture was the best for sustaining new teachers. In this culture, the principals were supportive as co-educators with the teachers, attentive to the needs of beginning teachers, and instrumental in facilitating this culture (Kardos et al., 2001). Principals often served as the key to providing an environment where there was support for beginning teachers from more experienced teachers (Kardos et al., 2001; Quinn & D’Amato Andrew, 2004; Youngs, 2007).

Youngs (2007) built on the professional cultures set forth by Kardos et al. (2001) to understand the impact of principals’ ethics on beginning teachers’ actions and beliefs. In his qualitative study of three Connecticut districts, Youngs interviewed and observed meetings of principals, beginning teachers, their corresponding mentors, and colleague support groups. The beginning teachers were all part of the Beginning Educators Support and Training

Program (BEST) as a requirement for their licenses. The school districts had between 25%-70% minority students, though all served less than 10,000 students. Six principals agreed to participate along with five or fewer beginning teachers at their schools as well as corresponding support teachers in their schools. Three principals believed in the need to support beginning teachers, and thus worked to match beginning teachers with mentors in the same grade or subject areas, provided time in the school day to meet with mentors and colleagues to collaborate on instruction, understood the BEST program, and built trust between themselves and the beginning teachers. The beliefs of these principals corresponded to an integrated professional culture in which beginning teachers felt successful. In contrast, three of the principals did not match beginning teachers and mentors well, did not provide time for collaboration, emphasized other areas such as student discipline or assessment at the expense of support for beginning teachers, and did not facilitate a trusting relationship. One of the principals at this veteran oriented professional culture school had eight of his ten beginning teachers leave at the end of the year. While this study, with its small sample size, cannot be generalized to other districts, principals, and beginning teachers, it did emphasize the need to consider how an administrator's beliefs influence beginning teachers' perceptions of success. Youngs (2007) discussed the need for a larger sample to determine if the findings in this study would be consistent across districts and states.

Quinn and D'Amato Andrew (2004) investigated first-year teachers and their need for support. They emphasized the role the principal plays in supporting first-year teachers. This began with offering an orientation and introduction to new staff members. This study also emphasized the importance of providing a handbook to new teachers with information on

school procedures. Quinn and D'Amato Andrews (2004) argued that supporting first-year teachers was the most important responsibility of principals because it could result in the retention of beginning teachers.

Another longitudinal study of 255 newly hired female beginning teachers (Schonfeld, 1992) found that teachers cited school environment and lack of administrative support as major contributors to feelings of depression and disillusionment. It was reasonable to conclude that administrative support contributed to new teacher perceptions of success.

Classroom Management

Disciplining students effectively and managing classrooms confront new teachers each day. Veenman (1984) conducted an extensive review of the literature on the perceived problems of beginning teachers from 83 studies conducted in the 1960's – 1980's. The studies consisted primarily of questionnaires and surveys. Veenman (1984) noted each problem beginning teachers reported in the studies, and ranked them according to the number of times cited. Veenman (1984) found classroom management to be the “most seriously perceived problem area of beginning teachers” (p. 153). Veenman also noted that the extent to which beginning teachers cited classroom discipline as a problem varied in studies from 12% of beginning gym teachers to 83% of all beginning teachers. The reasons for the significant differences could not be determined. Veenman further discussed that classroom management and student discipline are ambiguous terms and what one teacher perceives as a problem would not be considered a problem by another teacher. What was clear was that the more problems encountered with classroom management, the more likely the beginning

teacher was to leave. Veenman also noted that student motivation was the second highest perceived problem. Secondary teachers saw this more of a problem than elementary teachers.

Hall and Loucks (1978) also identified classroom management as a primary problem for beginning teachers. They further state that unless concerns about classroom management are resolved, moving on to other issues concerning their teaching is unlikely to take place.

Huffman and Leak (1986) identified the areas beginning teachers received the most and the least support from mentors. Twenty-seven percent of respondents cited management of student behavior as the component that received the most support, while an additional 15% cited they received the least support in this area. This was the second most cited area for the least amount of support received, and thus more attention to the component is essential in beginning teacher induction programs.

Hertzog (2000) conducted a qualitative study of twelve alternatively certified beginning teachers. One of the most significant problems encountered by these beginning teachers was classroom management. The problems centered on keeping all students “busy” when working individually or with a small group of students (p. 6).

A teacher’s commitment to teaching and job satisfaction relate to student behavior (Liu & Meyer, 2005; Weiss, 1999). The following studies discuss how student discipline contributes to teacher retention and provide evidence that assistance in student discipline and classroom management is essential in developing beginning teachers’ perceptions of success.

Weiss (1999) used the SASS and TFS databases to investigate first-year teachers. Teachers reported that student behavior was a factor in their decision to stay in teaching. Problems with student behavior resulted in the teachers reporting that it was a “waste of time

to do their best” (Weiss, 1999, p. 866). Not surprisingly, those teachers who reported student discipline problems had low morale. As “unsafe and disruptive school climate” increased, the teacher’s commitment to teaching decreased (Weiss, 1999, p. 866). Therefore, as a new teacher’s self-efficacy in classroom management increases, the number of discipline problems decrease, and their commitment to teaching increases. This study is noteworthy as a national study, even though limited in that it only studied first-year teachers, but.

Using the 1993 - 1995 SASS and TFS databases, as it was the most current at the time of the study, Liu and Meyer (2005) studied 6,279 public and private school teachers. They focused on student discipline as one of five teaching components. Hierarchical Linear Modeling was used to analyze the level of satisfaction teachers felt with each construct, while analyzing the differences between public and private teachers; teacher leavers, stayers, and movers; and minority and nonminority teachers. In this study 41% of the teachers stayed in the teaching profession, 38% left the profession, and 21% accepted another teaching position between the SASS in 1993 -1994 and TFS in 1994 -1995. Student discipline was a major source of dissatisfaction among the teachers studied, second only to compensation, though similar in strength. By correlating student discipline and professional support, Liu and Meyer (2005) stated that a supportive environment among colleagues might alleviate dissatisfaction over student discipline problems. Teacher stayers were somewhat more satisfied with student discipline than teacher leavers and teacher movers. Minority and nonminority teachers differed in their satisfaction with student discipline problems, with minority teachers citing more discipline problems. This study suggested that student

discipline contributed to dissatisfaction, and ultimately, could play a role in a teacher's decision to remain in the current teaching position (Liu & Meyer, 2005).

Johnson, Baldacci, and The Project on the Next Generation of Teachers (2006) conducted a longitudinal qualitative research study of fifty first- and second-year teachers. Using interviews, Johnson and her colleagues ascertained the reasons for the success that the beginning teachers felt. These factors often influenced their decision to stay, move, or leave. One of the factors discussed was student discipline in the school. Student discipline referred to classroom management and how the administration handled discipline in the school. Far too often, Johnson et al. (2006) observed that new teachers reported being in a school without a school-wide discipline policy and in a school with administrators who did not follow through with discipline issues that were reported to them. Johnson did find some teachers in her study who reported being in schools that systematically encouraged instruction and discouraged disruption that undermined the educational goals of the school. When a teacher was in a school with an effective school-wide discipline policy, supplies, and a supportive administration, the teacher was more likely to stay in her present position. Unfortunately, Johnson did not find this to be the norm. While this study was extensive in its many findings and was longitudinal in nature, the sample included only fifty teachers from Massachusetts. The findings in this study may be different in other states. Despite this limitation, many of the findings presented in this study replicated those found by others.

Knowledge of the rules and strategies for constructing effective courses of instructional behavior provides new teachers with the tools to manage the demands of their new teaching role. The difficulties and setbacks that new teachers encounter serve a

beneficial purpose in learning that success usually requires hard work, perseverance, and ongoing assessment and reflection. Sustained effort by new teachers in a supportive climate leads to turning setbacks and initial failures into success by honing one's capabilities to exercise better control over the day-to-day complexities of teaching. Administrators, mentors, and colleagues need to persuade new teachers that they can exercise better classroom management and instructional competence by applying rules and skills consistently and persistently.

Student Success

For the purposes of this study, student success will refer to a teacher's ability to teach and motivate students of varying ability levels and diverse backgrounds, to utilize multiple effective teaching strategies, to teach students with learning disabilities and/or limited English proficiency, and to frame instructional decisions based on students' learning. Together, all of these areas make up a variety of attributes teachers need for their students to be successful.

The constant for all teachers is students and their learning needs. The hope of new teachers that they can make a difference is what can contribute to their decision to continue teaching. Johnson and Birkeland (2003) quoted Jerry, a beginning teacher they interviewed, as saying, "I'll need a sense of success, not unqualified constant success, because I know that's completely unrealistic. But, overall, you know, on average, that I'm making a difference for kids and that they're learning from me." (p. 594). Many settled stayers echoed the desire to have students feel successful in Johnson and Birkeland's study (2003).

Griffin (1989) advocated for a classroom environment that embraces multiple modes of instruction including individual, small group, and large group; thus allowing students to work in a variety of areas. An effective classroom teacher also embraces exploring new teaching strategies (Griffin, 1989).

Veenman (1984) found that “dealing with individual differences among students” was the third most cited problem in the literature reviewed on beginning teachers. The problems centered on varying the curriculum to fit the needs of the individual students. Assessing student work was the fourth most cited problem. The problems in assessing student work dealt with evaluating students and gathering reliable information to evaluate the students.

Veenman (1984) also studied the problems of beginning teachers as viewed by principals. Among the problems principals felt beginning teachers encountered were working with students with learning disabilities and working with students with individual differences. Veenman noted that for the most part, the problems beginning teachers perceived themselves to have correlated with those the principals noted as well. Only two studies did not find a significant correlation between the two (e.g. Grantham, 1961; Fitzgerald, 1972; as cited in Veenman, 1984).

Instructional Resources

Beginning teachers need many resources to feel successful. These resources include, but are not limited to, enough paper and supplies, textbooks for all students, a classroom dedicated to teaching, a school in good physical condition, a complete curriculum, knowledge of instruction, and assessment of student work. Various researchers have studied the effect these work conditions have on teacher retention.

Inadequate supplies for teachers have been documented as one aspect of poor work conditions. Beginning teachers without adequate supplies, working copiers, and sufficient, up-to-date textbooks for students often have to spend their own money providing basic resources for their students (Johnson et al., 2004; Tapper, 1995). Beginning teachers receive the lowest salaries, and often use their own money to do their job effectively. It is not surprising that beginning teachers say they would take a lower salary in favor of a school with good working conditions and adequate resources (Hanushek, Kain, & Rivkin, 2004; Johnson et al.; 2004).

Tapper (1995), in a 1991 - 1993 qualitative study of forty-five New York City teachers, found that nearly 50% of the teachers reported inadequate basic supplies such as paper, chalk, and photocopying. Teachers in this study reported having to make copies at businesses or through friends' businesses due to either broken copiers or restrictions on the use of the copier. These teachers, as well as those who reported having adequate basic supplies, still spent their own money to provide supplies for their classrooms. Fourteen out of forty-five teachers reported spending between \$300 and \$2,000 of their own money. An additional thirteen teachers spent \$50 - \$200 on supplies. Only one of the teachers spent more than \$1,000 for the purchase of her personal copier. Tapper's study is limited in its single urban geographic area studied. The supplies provided may very well be different in other school systems. Tapper's study, however, had similar findings to that reported by The Project of the Next Generation of Teachers for Massachusetts teachers who taught in urban and suburban school districts (Johnson & Birkeland, 2003).

Another critical aspect of available resources is a complete curriculum that includes state standards, curriculum guides with timelines and assistance to cover topics, and curriculum materials that enable the teacher to carry out the curriculum guides (Kauffman, 2005; Johnson & The Project on the Next Generation of Teacher, 2004; Kauffman, Johnson, Kardoes, Liu, & Peske, 2002). Beginning teachers considered the presence of a sufficient curriculum when assessing the support they received and how successful they felt as a teacher (Johnson, et al., 2004; Kauffman et al., 2002).

Kauffman et al. (2002) and Johnson and Birkeland (2003) found in their study that the majority of the teachers did not receive a complete curriculum in each subject taught. Through the interviews, Kauffman et al. (2002) synthesized that the teachers without a complete curriculum felt overwhelmed and less confident in their ability to teach effectively. Johnson and Birkeland (2003) looked specifically at the reasons teachers provided for their decision to stay, move, or leave. The lack of curricular resources needed to teach effectively was one of the various reasons given by the teachers who chose to leave teaching.

Even when provided a curriculum, beginning teachers often faced problems with implementing it. Hertzog (2000) explored how alternative licensed beginning teachers dealt with the myriad of problems they faced in the classroom. Hertzog conducted a qualitative study of twelve alternatively licensed beginning teachers from urban districts. Each teacher participated in biweekly interviews, weekly questionnaires, and six observations of their classroom teaching. The problems the teachers faced fell into seven different categories. Three of the seven categories, time management, curriculum planning, and instruction delivery (Hertzog, 2000), were aspects of a complete curriculum. Six of the twelve teachers

reported problems in time management twenty-six times. Nine teachers reported curriculum-planning problems thirty-three times. The problems centered around determining how to adapt curriculum materials to the needs of their students, finding time to cover all subjects, integrating subjects, teaching particular subjects, and covering all of the lessons in the curriculum materials. Five of the teachers reported instructional delivery problems nineteen times.

Kauffman (2005) conducted a second study of 295 beginning teachers and the support they received in a complete curriculum. This quantitative study focused on the support beginning teachers in elementary schools received when faced with a standards-based reform. Kauffman (2005) referred to standards-based reform as teachers having state-level standards that describe what students need to know in addition to a statewide assessment based on those standards. Kauffman chose three states, from different parts of the country, to participate in this study. Kauffman (2005) chose Washington, Massachusetts, and North Carolina because each state had standards set for each core subject and state criterion-referenced assessments. The pressure of “publicized school level student achievement data” was present in each state (Kauffman, 2005, p. 1). The researcher obtained comprehensive lists of the second-year teachers in each state, and randomly selected teachers to participate. The study included 295 teachers, a 67% response rate. The sample was not evenly distributed across states, so weights were used for all statistical analysis and percents reported. Ninety percent of the teachers reported receiving state standards for each subject. The majority of the teachers (over 70%) also received a curriculum guide from the district regarding the content to cover, a suggestion of the materials to be used, and a textbook and/or teacher’s

guide. The teachers also reported that the materials they received were more content related than pedagogical.

Teachers were asked “How do you feel about the amount of DIRECTION you personally are given regarding what and how to teach in each subject?”(Kauffman, 2005, p. 8). Teachers responded with Not Enough, Too much, and Okay. Over half of the teachers reported not enough direction in science and social studies, while 20 - 30% of teachers reported the same for math and science. The complete sample of teachers consistently reported far less curriculum support for science and social studies, the areas not tested on statewide assessments. The state of Washington administered a science test, and provided more science curriculum support either than Massachusetts or North Carolina (Kauffman, 2005).

Support in instruction is essential for beginning teachers. Gold (1996) believes that instructional support is more than classroom management and pedagogical assistance, but rather:

Beginning teachers need to develop the skill and understanding needed to acquire and to deliberate on their continually expanding knowledge base, to think critically and reflectively about their own practice, and to analyze how they impart the academic content to their students. They also must be assisted with evaluating their actions through the use of sound theory and research, developing the capacity to be reflective, evaluating themselves based on objective understanding, and learning how to handle the consequences of their actions. In return, the profession will, over time, gain well-prepared teachers

who are better able to assist their students. This type of instructional support must be planned around the needs of the beginning teacher and support offered in a sequence that they are able to handle (p. 562).

Beginning teachers need many instructional resources and support to perceive themselves as being successful teachers. This included the provision of basic supplies and a complete curriculum. Even with these instructional resources, beginning teachers need the support of parents/caregivers, colleagues, mentors, and the administration.

Assignment and Workload

A beginning teacher's assignment and workload appeared often in the literature as being an important factor in teacher retention and satisfaction (Darling-Hammond, 1998; Ingersoll & Smith, 2004; Johnson & Birkeland, 2003; Stockard & Lehman, 2004). Multiple aspects were considered when defining a teacher's assignment and workload including a) grade level taught; b) teaching in the certified area; c) students with disabilities; d) socioeconomic status of the student; e) class size; f) number of preparations; and g) being provided uninterrupted planning time in school. The literature has shown that each of these has an impact on a teacher's satisfaction and retention decisions (Ingersoll & Smith, 2004, Johnson & Birkeland, 2003; Stockard & Lehman, 2004).

Reiman and Parramore (1994) reported survey data that was part of an eight-year longitudinal study of undergraduate students entering their first-year of teaching. The survey examined the reasonableness of first-year teachers who were graduates of the university. Forty-six first-year teachers completed the survey (62% return rate). The survey questions requested information on the following areas: number of preparations; number of classes;

extracurricular duties; number of planning periods; assigned classroom; assignment of mentor; when mentor was assigned; proximity of mentor; and types of services rendered by the mentor. The number of preparations ranged from one to five with 2.6 being the average. Thirty-six teachers (78 percent) had extracurricular duties. All of the first-year teachers surveyed reported having a mentor who had received training for the role; and twenty-five teachers (55 percent) reported receiving support during the first week of employment. Perhaps most striking, of the forty-six first-year teachers fourteen reported not having their own classroom. This represents 30 percent of the survey respondents. All of the teachers who did not have their own classroom were science teachers.

Davis and Bloom (1998) provided principals with suggestions for supporting new teachers. Among these suggestions, he said that “new teachers should receive less difficult assignments, fewer adjunct duties and high levels of support” (p. 16). Several studies of beginning teachers substantiated these suggestions (e.g. Johnson & Birkeland, 2003; Ringstaff & Sandholtz, 2002).

Stockard and Lehman (2004) conducted two panel studies, a nationwide one using the 1993-1995 SASS and TFS as well as a mid-western statewide survey from 1998-1999. Both of these studies found that multiple areas of a teacher’s assignment influenced her decision to move schools or leave teaching altogether. Larger class sizes, teaching middle school classes, increased numbers of students with disabilities or increased numbers of low achievers significantly decreased teachers’ satisfaction. Those items known to significantly increase a teacher’s satisfaction included teaching in certified areas and teaching preferred grade levels,

such as the one she prepared for during student teaching. There were mixed findings on how these areas influenced first-year teacher retention plans in the state and national samples.

Ringstaff and Sandholtz (2002) conducted two case studies of first-year teachers who taught the same novel. One held a license in English while the other did not. In relation to assignment and workload, the licensed teacher had four preparations. The multiple preparations and other demands of teaching translated into the teacher not having time to adequately grade essays or explore implementing lessons that were more creative. This study illustrates that an assignment that is too difficult for a novice has negative impacts for the teacher and students. In this study, the out-of-assignment teacher implemented more pedagogically sound instruction than the licensed teacher, yet still struggled throughout the year due to not having a background in specific literary concepts. He did have a love for literature, and thus worked to instill this in his students. The goodness-of-fit between the teacher and class was essential in allowing beginning teachers to feel successful (Ringstaff & Sandholtz, 2002). While this study cannot be generalized to all beginning teachers, it did illustrate what can happen when a teacher is given an assignment that is too difficult for a novice.

Johnson and Birkeland (2003) found in their interviews that very few beginning teachers received novice status in the form of reduced responsibilities when compared to experienced teachers. The authors defined settled stayers as those teachers who planned to remain in their schools for extended periods of time. These settled stayers differed from the movers and leavers in their reports of receiving novice status (Johnson & Birkeland, 2003).

Ingersoll and Smith (2004) in a national study using the SASS and TFS found that only 11% of teachers reported receiving a reduced schedule, and 11% reported having reduced preparations as part of their induction program support. The study found that those who participated in induction programs with a reduced number of preparations, an external network, mentor, common planning time, scheduled collaboration with teachers, seminar for beginning teachers, and supportive administration had a turnover rate of only 18%. However, less than 1% of teachers reported receiving this level of support.

Parent/Caregiver Contacts

Teaching is a three-way process between the teacher, student, and parent. As a triangle, when one part of the triangle is not as strong as it can be, then the result is not as effective. Therefore, it is important for beginning teachers to communicate successfully with parents. Greenwood and Hickman (1991) argued, based on the literature they reviewed on parental involvement and its implications in educating teachers, beginning teachers should receive support with working with parents in beginning teacher induction programs.

Many researchers have studied the role of parental involvement; however, this review will focus specifically on the role of parental involvement for beginning teachers. Increased parent involvement corresponds with higher student achievement (Decker, Gregg, & Decker, 1994; Henderson, 1987). Given the positive influence parental involvement has on students, beginning teachers must learn how to effectively communicate with and involve parents in their children's education.

Earlier research on new teacher support revealed parental communication as a challenge for new teachers. The fifth most cited problem in the literature from 1960 – 1984

for beginning teachers was building relationships with parents (Veenman, 1984). The problems cited included beginning teachers not feeling prepared to establish and maintain relationships with parents. They lacked confidence in interactions with parents, whom, in many cases, were older than the beginning teacher. The beginning teachers also felt that the parents were not supportive of the beginning teacher's instructional decisions or in the child's well being at school.

Teacher efficacy has been associated with parents' involvement in conferences, volunteering, home tutoring, and teacher perceptions of parental support (Hoover-Dempsey, Bassler, Brissie, 1987, 1992). Scheck argued, in addition, that high parent efficacy corresponds with higher parental involvement (Greenwood & Hickman, 1991). The Hoover-Dempsey et al. study in 1992 included 390 teachers and fifty parents in four diverse schools from different school districts. Researchers developed efficacy surveys for both teachers and parents for this study. They did not report psychometric properties to validate each survey.

Martin (2003) sought to gain a deeper understanding of the effects parent involvement had on a first-year elementary teacher's success in the classroom. Martin began with a parent involvement survey to determine the extent of parent involvement the beginning teacher had in her classroom. Martin randomly selected three teachers, one each from high, medium, and low levels of parent involvement, for two follow-up interviews at the end of the year. Two of the three teachers felt that communication had the "greatest impact" in parental involvement; while one teacher had the "greatest feeling of success" (p. 76) from parent volunteering. All three teachers selected the same type of parental

involvement for both the “greatest impact” and “greatest feeling of success” categories (Martin, 2003, p. 76).

Martin also explored the reasons for communicating with parents in relationship to their importance and the time devoted to them in new teacher induction programs. From analyzing the twenty-six responses on the parent involvement survey, Martin surmised that conferences, student progress, problem contacts, and explaining goals were rated “very important” parent involvement skills for first-year teachers to possess. In contrast to the importance of each of these skills, the new teacher induction programs devoted less than thirty minutes to building these skills in their beginning teachers.

Martin conducted his study in one Northern Virginia school district with a student population from the middle to upper class. He discussed this limitation in generalizing to other school districts. Despite this limitation, the results he found in the types of parent involvement discussed in new teacher induction programs were alarming. Given that this school district had more resources than other districts with higher percentages of poverty, this was alarming given the need for beginning teachers to communicate with parents throughout the year.

Job Satisfaction

Job satisfaction is a measure of how content a person is with her current job. This is in contrast to organizational commitment which relates to a person’s commitment to company or career. Job satisfaction relates to how happy a person is in his/her job. Salary, benefits, promotion possibilities, interactions with colleagues, and working conditions are areas known to contribute to job satisfaction. Holdaway (1978, as cited in Bogler, 2002)

studied job satisfaction in teaching as an overall and as a facet construct. Overall satisfaction corresponded to “working with students, societal attitudes, status of teachers, recognition, and achievement” (p.46). Teacher job satisfaction as a general measure was a significant predictor of effective schools and teacher retention (Hall, Pearson, & Carroll, 1992; Ostroff, 1992; Zigarreli, 1996). Those planning to leave teaching had lower levels of job satisfaction (Hall, et al., 1992; Ostroff, 1992).

Gold (1996) identified several areas that impact career satisfaction including: “1) meeting teachers’ unmet psychological needs, 2) amount of education, 3) new teachers’ initial commitment to teaching , 4) teacher preparation programs, 5) professional and social integration into teaching, and 6) the role of the administrator in teacher retention” (p. 552). I have discussed the role of the administration in a previous section, and thus will not reiterate this literature here. Meeting a teachers’ psychological needs go beyond providing a caring mentor, to addressing the emotional-physical, psychosocial, and personal-intellectual (Gold & Roth, 1993) in an effort to improve the beginning teachers’ career satisfaction.

Bogenschild, Lauritzen, and Metzke (1988) found that Wisconsin traditionally prepared teachers were more likely to remain in teaching than those who enter teaching without proper certification or completion of a teacher education program. A New Jersey State Board of Education study in 1984 found similar results (Ellis, Klagholz, Schechter, & Newman, 1991; cited in Gold, 1996). Thus, it implies that while hiring individuals without proper certification provides a teacher in the short term, it does not address the problem of retaining teachers in the long term. In addition to a higher probability of teacher attrition,

teachers without proper certification when entering teaching have lower satisfaction with their job than do traditionally prepared teachers (Lutz & Hutton, 1989).

Bogler (2002) studied 222 teachers in Israel with high and low levels of job satisfaction as measured by an inventory of Likert scale items. Those items predicting teacher's job satisfaction included teacher's occupational perception, principal's transformational leadership, principal's transactional leadership, school level, and gender. The researchers assessed teacher's occupational perception using twenty-eight items on the teaching occupation including items of perceived status, perception of the profession, professional identity, perceived autonomy, and professional competence. Principals' transformational leadership included items that assessed principals who were role models and presented positive beliefs in his teachers. In contrast, principals' transactional leadership included items that discussed a principal seeking out weaknesses in his teachers and did not seek out teachers who were not a problem for the principal. Those teachers with high levels of satisfaction were more likely to report principals with transformational leadership as opposed to transactional leadership. The opposite was true for teachers with low levels of satisfaction, who reported principals with more transactional leadership. In addition, elementary teachers were more likely to fall in the high satisfaction category than low satisfaction. In contrast, high school teachers were more likely to fall in the low level of satisfaction. Those with high satisfaction viewed teaching as a profession; this was not true for teachers with low satisfaction levels.

Chapman (1984) studied 1,282 University of Michigan teaching certificate recipients from 1946-1978 to determine if those who remained in teaching differed from those who left

teaching after 5 years or never entered teaching. The most significant predictor of remaining in teaching was initial commitment to teaching. Chapman additionally found that teachers were less satisfied with their jobs and with their life overall than those who were not in teaching. Teachers also thought it was not as easy to find another job. Those who left teaching were slightly less satisfied with their job than those who never taught, though there was no difference in overall life satisfaction. It is a concern that teachers reported less job satisfaction than the other groups. Unfortunately, this study does not provide an insight into why this might be the case.

Chapman found that the group of former teachers cited their college teacher preparation as less helpful in their job as a teacher than those who remained in teaching. When comparing former teachers to those who never taught, the former teachers had a higher initial commitment to teaching, but a less favorable view of their satisfaction in their first position (teaching for this group).

Bogler's study was conducted in Israel, which on the positive side shows that teacher satisfaction is a salient and trans-national construct for success in the profession of teaching. The study may not be generalizable to the United States, but it did replicate findings of studies conducted in the United States (e.g, Ostroff, 1992). Bogler's study did not analyze the group of teachers that fell in the middle level of satisfaction; thus, we do not know which variables contributed to the middle range of satisfaction.

Ostroff (1992) researched how satisfaction and attitudes at the organizational level influenced intentions to quit teaching. Though previous research had found no relationships between levels of satisfaction and performance at the individual level, Ostroff researched the

relationships at an organizational level. In his study of 364 junior high and high schools from thirty-six states and Canada, satisfaction, commitment, adjustment, student satisfaction with teachers, and overall student satisfaction negatively correlated with the intention to quit teaching. He also found that stress and percent of students on free and reduced lunch positively correlated with the intention to quit. Satisfaction, commitment, adjustment, and stress were the strongest correlations of those found to be significant. After accounting for school characteristics (percent minority, public vs. private school, age of school building, students on free and reduced lunch, student to teacher ratio, and average per pupil expenditure), Ostroff found that the satisfaction of school faculty (administration and teachers) explained most of the organizational performance indices. Ostroff measured organizational performance by academic achievement, student behavior, student satisfaction, teacher turnover, and administrative performance.

Ostroff's (1992) study did not look at elementary schools, so the findings may differ for elementary schools. Since Bogler (2002) found levels of satisfaction to be different for elementary and high schools in Israel, it would be interesting to see the results if Ostroff (1992) had included elementary schools. Ostroff did provide us with a North American study of the United States and Canada, but did not report the differences between the two countries or the number of schools from each country.

Borg and Riding (1991) conducted a study on stress and satisfaction in teaching among 545 Maltese teachers. A negative association existed between job satisfaction and frequency of absences, total days absent, career intention, and career commitment. As expected, a positive association existed between job satisfaction and self-image as teacher.

The researchers measured career intention by asking the likelihood of the teachers remaining in the field in 10 years. Only teachers younger than 51 ($n = 472$) were included in this analysis. Of these teachers, 61% stated that they were “very unlikely” or “fairly unlikely” to be a teacher in 10 years. Career commitment revealed that 46% of the 545 teachers were “very unlikely” or “fairly unlikely” to choose to teach again as a career. An additional 16% were undecided. The authors found that approximately 98% of the teachers rated themselves as effective teachers (average to very effective), with nearly 48% rating themselves as moderately effective. This study concentrated for the most part on correlations and not prediction of job satisfaction.

Organizational Commitment

Organizational commitment is the employee’s psychological commitment to the organization. Meyer and Allen (1991) identified three “mind sets” that account for an employee’s commitment to her organization: affective, continuance, and normative commitment. The emotional attachment an employee has to the organization is her affective continuance. When an employee considers the costs, both financial and social, of leaving an organization, the employee is taking into account continuance commitment. As an employee considers feelings of obligation to organization, she exemplifies normative commitment. An employee may have one or more of these mind sets of organizational commitment.

Louis (1998) reported that there was an assumption that a change in the structure of the school and teaching profession would result in teachers feeling more success and remaining in teaching for the long term. In this study a change in structure refers to a non-conventional organizational structure. The following studies illustrated how commitment to

teaching, beginning teacher perceptions of success, and retention are related. Education literature often reported that teachers exemplify commitment through specific behaviors and attitudes (Louis, 1998).

The Project of the Next Generation of Teachers at Harvard University conducted a longitudinal, qualitative study of fifty teachers in their first two years of teaching. This extensive study found that commitment to teaching impacted beginning teacher retention. They found that those who left often planned only to teach for a short time. At the same time, their dissatisfaction with the school made their decision to leave occur much faster than originally planned. Conversely, those who moved wanted to give teaching another try at a different school. Movers had a commitment to teaching as a profession and did not want to consider their long-term teaching plans based solely on their experience at one school. The settled stayers reported being very happy with their decision to teach and could see themselves teaching for a long time (Johnson & Birkeland, 2003; Johnson and The Project on the Next Generation of Teachers, 2004).

Weiss (1999) compared the effects of workplace conditions on first-year teachers in 1987 - 1988 (n = 2,676) and 1993 - 1994 (n = 2,412) using SASS surveys. The dependent variables measured in this study were work and career choice commitment and planned retention. A single item, "If you could go back to your college days and start over again, would you become a teacher again?," measured career commitment (Weiss, 1999, p. 864). The item, "How long do you plan to remain in teaching?," measured Planned Retention (Weiss, 1999, p.864). Perceived school leadership/culture, perceptions of salary, perceived autonomy and discretion, math/science/computer teachers, humanities/social science

teachers, and other teachers were significantly predictive of career choice commitment using the 1987 - 1988 data. In 1993 - 1994, the SASS surveys did not measure perceived autonomy. Discretion and the discipline area of the teacher were no longer significant. The other predictors remained the same with the addition of social climate/student behavior, perceived socio-economic status, education degree, certification in area of teaching, and gender. Within the perceived school leadership/culture items were administrative support, teacher participation in decision-making and policies, student discipline, and professional judgment. Factor analysis with varimax rotation confirmed these items. A comparative analysis of two SASS surveys providing two national samples strengthened this study.

Louis (1998) conducted a mixed methods study of eight secondary schools that had improved teacher working conditions for at least three years prior to the research beginning, as well as a high at-risk-student population. During this study, Louis observed 120 classrooms and interviewed 180 teachers, administrators, and students. In addition, 528 teachers completed surveys.

Louis (1998) studied commitment and sense of efficacy as dependent variables in stepwise multiple regression. Respect from colleagues, students, administration, and the community, the ability to develop and use skills related to teaching, and feedback from the principal and colleagues were significant predictors of commitment. The development and use of skills included engaging in valuable teaching strategies and the effectiveness of professional development offered by the district (Louis, 1998). An analysis of variance found that levels of commitment were significantly different for schools with low, medium, and high ratings of school restructuring as measured by sense of respect, influence on decision

making, collegiality, develop/use of skills, opportunities for feedback on performance, available resources, goal congruence, and sense of efficacy. A linear relationship between the levels existed in the above areas of working conditions. A generalization to all schools is not plausible with this selected sample; however, the findings suggest that improved working conditions increase teacher commitment. Internal consistency of the factors ranged from .52 through .85, with two below .70.

In addition to this exploration of the working conditions that influence commitment to teaching, the review will examine how these same qualities will influence beginning teacher retention. Schools and districts can restructure to optimize conditions known to retain more beginning teachers.

Conclusion and Recommendations for Future Research

Policy makers, researchers, school districts, administrators, and teachers must be aware of those factors that can lead to greater retention of teachers. Increasing mentor interactions, administrative support, and colleague support; decreasing beginning teachers' assignment and workload; assisting with implementation of effective classroom management procedures; and providing adequate instructional resources increased the likelihood of retaining beginning teachers. This literature review of teacher retention has revealed that many of the same factors that influence teacher retention also contribute to beginning teachers' perceptions of success. The planned study will look specifically at the factors that influence beginning teachers' perceptions of success.

This literature review of beginning teachers' retention has encountered challenges. Due to the focus of this literature review, I eliminated several studies that focused on types of

induction programs without referencing teacher retention. Another limitation is the small number of intervention studies included in the literature. Thus, although the literature illuminates the nature of teacher attrition/retention and the nature of beginning teacher perceptions of success, we know much less about effective interventions. A further review on a specific factor, such as mentor support, may yield more intervention studies that did not meet the search criteria used in this literature review. This search also did not yield studies that explored the effects of multiple school level supports on beginning teacher retention (e.g., grade level team, professional learning teams, mentoring). This may be due to the lack of an instrument to measure the multiple factors contributing to beginning teacher retention.

The PSI-BT is hypothesized to measure the following factors: (1) Mentor Support, (2) Colleague Support, (3), Administration Support, (4) Classroom Management, (5) Student Success, (6) Instructional Resources, (7) Assignment and Workload, (8) Parent Contact, (9) Satisfaction, and (10) Commitment.

The following chapter will discuss in detail the sample and methods used to explore the psychometric properties of the PSI-BT and its connection to beginning teacher retention. With the validation of this instrument, the PSI-BT can function as a benchmarking tool to assess beginning teachers' perceptions of success. Reports from the administration of the instrument provide school systems with specific implications of the positive aspects of beginning teachers' experiences as well as recommendations for improvement.

CHAPTER THREE: METHODOLOGY

Introduction

After a review of the research questions and hypotheses, I will describe the proposed methodology employed in this study. I also will present a description of the construction, administration, and evaluation of the Perceptions of Success Inventory for Beginning Teachers (PSI-BT). The first part of this chapter will briefly discuss the construction of the PSI-BT and results from a previous study using exploratory factor analysis. I used this background study to revise the PSI-BT. I will also present a description of the sample of beginning teachers participating in this study, along with a discussion of how well the sample approximates the population of beginning teachers. This chapter will also focus on the modes of administration employed by various school systems in this study.

The last portion of this chapter will focus on the research design used to evaluate the PSI-BT. This will include a description of methods for assessing the validity and reliability using confirmatory factor analysis, correlational studies for convergent and discriminant validity, and regression analyses for establishing predictive validity.

Research Questions and Hypotheses

This study utilized the following research questions to guide the inquiry into the psychometric properties of the Perceptions of Success Inventory for Beginning Teachers.

1. What are the psychometric properties of the Perceptions of Success Inventory for Beginning Teachers?
 - (a) Hypothesis #1: The Perceptions of Success Inventory for Beginning Teachers will have clearly defined factors with adequate fit indices as assessed by a confirmatory factor analysis.
 - (b) Hypothesis #2: The Perceptions of Success Inventory for Beginning Teachers will have convergent validity with the Teacher's Sense of Efficacy Scale assessed by a significant pattern of correlations for each factor.
 - (c) Hypothesis #3: The Perceptions of Success Inventory for Beginning Teachers will have discriminant validity with the e-mail subscale of the Teachers' Attitudes Toward Computers as assessed through relatively low correlations for each factor.
 - (d) Hypothesis #4: The Perceptions of Success Inventory for Beginning Teachers factors will significantly predict teacher retention, as measured by a dichotomous 2007-2008 school year retention response from school systems.
2. How do the factors of the Perceptions of Success Inventory for Beginning Teachers predict teacher retention intentions, Satisfaction, and Commitment?
 - (e) Hypothesis #5: Mentor Support, Colleague Support, Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts will predict teacher retention intentions.
 - (f) Hypothesis #6: Mentor Support, Colleague Support, Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts will predict Satisfaction.

(g) Hypothesis #7: Mentor Support, Colleague Support, Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts will predict Commitment.

3. Does the gap between beginning teachers' perception of their *current experience* and what is *essential for effective teaching* predict teacher retention?

(h) Hypothesis #8: The gap between her *current experience* and what is *essential for effective teaching* in the factors assessed by the PSI-BT will significantly predict teacher retention.

Construction of the PSI-BT

In a pilot study, I developed the PSI-BT in conjunction with Reiman and Nietfeld (Corbell, 2005) using the Beginning Teacher Inventory (Reiman & Parramore, 1994) and a synthesis of the literature in the areas that contribute to beginning teachers' perceptions of success. An exploratory factor analysis (EFA) found the PSI-BT to assess Mentor Support, Colleague and Instructional Resource Support, Administrative Support, Student Success, Assignment and Workload, and Commitment. A seventh factor assessed Parental Support, but was only comprised of two items.

Content Validity

The results of the EFA provided the items to drop from the PSI-BT, and which areas needed to have additional items. To determine the content validity of the PSI-BT and to provide the items for the revised PSI-BT, a sample of 34 experienced teachers, initially licensed teacher coordinators, and administrators participated in rating each item. Each expert rated each item according to the following scale: (1) Not necessary, (2) Useful, but not

essential, (3) Essential. I applied Lawshe's Content Validity Ratio (CVR) (Lawshe, 1975), and included all items with a CVR above .5 in the final PSI-BT.

$$\text{Content validity ratio (CVR)} = \frac{n_e - N/2}{N/2}$$

Where: n_e = number who responded essential (#3)

N = Total number of respondents

This analysis provided forty-one items to include in the analysis. Comments from the experts provided thirteen additional items to ensure that each factor had at least four items. Satisfaction and Commitment had only two items each.

PSI-BT Item Format

Fifty-one of the items used a Likert scale. One item, "Do you have a mentor assigned to you by the school or another experienced teacher to provide you with assistance?," was a dichotomous choice of yes or no. The second item asked teachers to choose three areas, which if changed, would improve their overall job satisfaction. The final item on the inventory determined retention intentions through four possible choices. See Appendix A for the Perceptions of Success Inventory for Beginning Teachers used in this study.

For the Likert scale items, teachers responded to each item in two ways:

(1) "This is my current experience in my school." and (2) "This item is essential for effective teaching." Beginning teachers responded to each item on a six point Likert scale as follows:

(1) *Strongly Disagree*, (2) *Disagree*, (3) *Slightly Disagree*, (4) *Slightly Agree*, (5) *Agree*, and (6) *Strongly Agree*.

Acquisition of Sample

I purposefully sought out participation from school systems in North Carolina by utilizing presentations, e-mails, and phone calls. I contacted school districts of varying size and geographic location were contacted. A presentation of the results from my thesis at the North Carolina Mentor's Conference generated interest in the PSI-BT. In addition, I gave a presentation to the SUCCEED network partners. Finally, I made phone calls and sent e-mails to counties in an effort to generate interest from suburban counties in the Foothills region of the state. A presentation of the PSI-BT to twenty-two school systems throughout the state resulted in twelve school systems opting to participate in the 2007 study. In addition, a marketing education program for lateral-entry teachers at North Carolina State University took part in the study, providing a small sample of teachers representing a possible fifty-three additional districts from across the state.

The twelve school districts that participated as a whole ranged in size from eleven beginning teachers to 263 beginning teachers, thus representing rural and suburban districts. Representation from an additional 8 counties came from using a sample of business and marketing lateral entry teachers enrolled in an initial licensing program at North Carolina State University. Four hundred-fifty beginning teachers in their first three years of teaching have participated in this study, with 439 having complete current experience data on the PSI-BT. The beginning teachers in this study were from different races, male and female, taught a variety of grades and subjects, and held initial, lateral entry, and provisional licenses.

Demographic Characteristics of the Sample and Population

Discussion of the characteristics of the population and sample are below to illustrate the representativeness of the sample. The National Center for Education Statistics (NCES) Digest of Education Statistics and Figures identified characteristics of the teaching population for the United States as well as specific information on North Carolina. Identifying the population characteristics aided in comparing the characteristics of the sample to that of the entire population. In 1999-2000, the Schools and Staffing Survey reported 12.9% of the teaching force was beginning teachers in public schools.

Beginning teachers in the study completed a demographic page. Participants provided information about gender, race, number of years teaching including the present year, subject areas taught, grade level taught, license type, age, county and state in which they teach, name of their school, and the highest degree they held. The options provided for race are those provided by the United States Census. Items also addressed the information about the beginning teacher's mentor. In three separate questions, she was first asked if she had a mentor, if her mentor taught the same grade, and finally, if the mentor taught the same subject. The separate items eliminated the possibility of two possible answers for one question.

Some of the teachers opted not to provide demographics, while one county of 10 beginning teachers failed to give the demographic page to the beginning teachers. This resulted in a total of 398 (91%) completing the demographics. The online form only required the ID for the teacher for matching purposes, so some teachers chose not to answer a couple items. I chose the option of only one required field since a paper version was also available

for use, and there was not a possibility of requiring items. The beginning teachers in this sample ranged in age from 21 – 60 with a mean age of 29.5. The median was 25.5, indicating that half of the teachers were in their early 20's. Table 2 presents the results from the other demographic variables. When available, Table 2 also compares the sample demographics with the demographics of all North Carolina (North Carolina Public Schools, 2004) and United States teachers (National Center of Educational Statistics, 2000).

Table 2

Demographics of Sample (N = 439)

Demographic Item	n	% of sample (beginning teachers)	% of N.C. teachers	% of US teachers
What is your Gender?				
Male	77	17.6%	19.8%	25.6%
Female	318	72.4%	80.2%	74.4%
Missing response	44	10.0%	n/a	n/a
What is your race?				
White	302	68.8%	83.2%	90.7%
Black/African American	79	18.0%	14.6%	7.3%
American Indian/Alaska native	1	0.2%	n/a	n/a
Spanish/Hispanic	4	0.9%	n/a	n/a
Asian	4	0.9%	n/a	n/a
Hawaiian/Pacific Islander	0	0.0%	n/a	n/a
Multiracial	4	0.9%	n/a	n/a
Other race	1	0.2%	2.2%	2.0%
Missing responses	44	10.1%	n/a	n/a

Table 2 (continued)

Demographic Item	n	% of sample (beginning teachers)	% of N.C. teachers	% of US teachers
What is the highest degree do you have?				
Bachelor	335	76.3%	67.5%	52.0%
Master	52	11.8%	29.5%	41.9%
6 th year	3	0.7%	1.0%	4.7%
Doctorate	0	0.0%	0.4%	0.7%
Missing Response	49	11.2%	n/a	n/a

Table 2 (continued)

Demographic Item	N	% of sample (beginning teachers)
<hr/>		
Does your mentor teach the same grade level(s) as you?		
Yes	180	45.6%
No	200	41.0%
Missing response	59	13.4%
Does your mentor teach the same subject as you? (if applicable)		
Yes	134	30.5%
No	213	48.5%
Missing response	92	21.0%
How many years, including this year, have you been teaching?		
1	168	38.0%
2	128	29.2%
3	93	21.2%
Unknown	49	11.2%
Are you teaching in the area you are licensed in?		
Yes (all day)	428	97.5%
Yes (half day)	5	1.2%
No	6	1.4%

Table 2 (continued)

Demographic Item	N	% of sample (beginning teachers)
What grade level(s) do you teach		
Pre-K – 2 nd	95	21.6%
3 rd – 5 th	98	22.4%
6 th – 8 th	113	25.8%
9 th – 12 th	121	27.5%
What grade level(s) do you teach? (only classroom teachers teachers, n= 384)		
Pre-K – 2 nd	81	21.1%
3 rd – 5 th	83	21.6%
6 th – 8 th	88	22.9%
9 th – 12 th	104	27.1%

Table 2 (continued)

Demographic Item	N	% of sample (beginning teachers)
Which of the following areas do you teach?		
Language Arts/English (secondary teachers, n = 227)	56	24.7%
Math (secondary teachers, n = 227)	36	15.9%
Science (secondary teachers, n = 227)	36	15.9%
Social Studies/History (secondary teachers, n = 227)	34	15.0%
Music (all grades, n = 439)	15	3.4%
Art (all grades, n = 439)	20	4.6%
Foreign Language (all grades, n = 439)	7	1.6%
English as a Second Language (all grades, n = 439)	3	0.7%
Special Education (all grades, n = 439)	41	9.3%
Physical Education (all grades, n = 439)	20	4.6%
Technology (all grades, n = 439)	40	9.1%
Business (all grades, n = 439)	22	5.0%
Media Specialist (all grades, n = 439)	1	0.2%
Other (all grades, n = 439)	19	4.3%

Table 2 (continued)

Demographic Item	N	% of sample (beginning teachers)
What type of license do you hold?		
Initial	236	53.8%
Provisional	54	12.3%
Lateral Entry	98	22.3%
Other	1	0.3%
Missing Response	50	11.4%

This sample was representative of initially-licensed teachers and lateral-entry teachers. Despite the use of the lateral-entry business and marketing teachers, there was not overrepresentation of lateral-entry teachers for the state of North Carolina. In 2006-2007, 29% of the beginning teachers without experience were lateral entry, as provided by the North Carolina Department of Public Instruction's *Number of Teachers Employed for the First Time in North Carolina* (2007).

In 1999, the percentage of public school teachers with less than 5 years of experience who participated in a teacher induction program was 59.6% (National Center of Educational Statistics, 2000). Only 46.8% of these teachers worked with a mentor teacher in the same subject area (National Center of Educational Statistics, 2000). This was slightly more than our sample in which 30.5% of the sample had a mentor teacher in the same subject area.

The population statistics were for all teachers, and thus account for the discrepancies between the sample and population for the highest degree held. As the sample had a median age of 25, there was a significant proportion of the sample that had just completed an undergraduate degree.

The missing responses in the sample demographics were also a contributing factor to some of the differing percentages between the sample and population. This aside, the beginning teachers in this sample were diverse in gender, race, grade level taught, specialty area, size of school district, and type of licensure.

Materials

This study included several forms including (1) school system consent form, (2) beginning teacher consent form, (3) PSI-BT, (4) Teacher's Attitudes Toward Computers e-mail subscale, (5) Teacher's Sense of Efficacy Scale, and (6) demographics. A copy of each of these forms is in the appendices. A second portion of this study included a list of all teachers in each school system in their second through fourth year. This provided the retention data used for predictive validity. In this study, remaining in the same school system as the year before defined retention.

Both modes asked participants to provide an ID for linking the PSI-BT and subsequent forms. This ID was the county name followed by a four digit number of their choosing such as the last four digits of their social security number. This ID was a required field in the online version and on each subsequent form.

The Teacher Attitudes Toward Computers (TAC) was a questionnaire that measured teacher attitudes toward various technology uses. Gerald Knezek and Rhonda Christensen

developed the TAC from a collection of fourteen various attitude-related scales, where each scale focused on items most directly related to computers and to eliminate apparent redundancies (Christensen & Knezek, 1996). The TAC has undergone numerous versions. The version utilized in this research is 5.11. Only the e-mail subscale determined discriminant validity with the PSI-BT. There were ten five-point Likert scale items on this section of the TAC, found in Appendix E.

The Teachers' Sense of Efficacy Scale (TSES) is an inventory that measured teacher self-efficacy. The scale had 24 items that addressed three factors: 1) Efficacy for Instructional Strategies, 2) Efficacy for Classroom Management, and 3) Efficacy for Student Engagement. Research supported the validity and reliability of this instrument through multiple factor analyses producing the same factors (Tschannen-Moran & Hoy, 2001).

Each teacher provided information on the demographic page about their mentor, the grade and subject she taught, the county she taught in, the type of licensure she held, and the type of degree she had. In addition, each teacher provided her gender, race, age, and school name. I requested for the teachers to provide their names in order to match their names with the list provided by school systems in September – December, 2007.

Internal Review Board Approval

The SUCCEED program at North Carolina State University funded the research on beginning teachers' perceptions of success including the PSI-BT. The North Carolina State University Internal Review Board granted approval for this study in January 2006, and continuations on December 12, 2006, and December 7, 2007, under expedited review procedures. The IRB approval number was 036a-06-12.

Administration of the Survey

This study utilized a mixed mode survey design including pencil and paper and web-designed survey. School systems chose the mode that would best fit their technology and induction programs. Allowing for this choice enabled me to ascertain school systems, otherwise inaccessible due to lack of available technology or the beginning teachers not meeting together on a regular basis. The latter occurred in larger school systems and counties without adequate facilities to accommodate all beginning teachers in one location.

Those who chose the paper and pencil mode administered the PSI-BT and related materials in their previously scheduled meetings with their beginning teachers. The administration of the surveys included a scripted set of directions and all school system personnel left the room as the beginning teachers participated in the study. To ensure confidentiality and follow IRB guidelines, all beginning teachers sealed their blank or completed study in a manila envelope. This ensured that the school system did not know who participated and who declined.

I constructed the web design mode using Dreamweaver 8 and North Carolina State University InForm, the system that collected data without IP addresses in a spreadsheet. Due to the limitations of the InForm system, teachers did not use a password to submit the PSI-BT and subsequent forms. This did present the possibility of a person submitting a form twice; however, the possibility of a person taking the survey twice was small and the risk outweighed the efficiency of data collection using the web.

School system leaders emailed or provided a hard copy of directions containing the link to the website of the consent form for the study to the beginning teachers. On this page,

beginning teachers could read and print a copy of the consent form. To agree to participate, beginning teachers selected yes which linked to the PSI-BT. Once the beginning teacher submitted this page, she accessed the validity surveys. Upon submitting this, the demographics page automatically loaded for completion. This completed the survey; pressing submit brought up a thank you page.

Missing Data

Intermittently, teachers skip or neglect individual items on the PSI-BT, TSES, and TAC. Analyses determined if beginning teachers neglected any items more often than others. This aided in determining if the pattern is due to the wording of the item, placement of the item, or a random situation unable to be determined.

Individuals with more than one missing data point per factor were removed from further analysis. Where individuals had a single missing data point from a factor, multiple imputation (predicting scores via multiple regression from other items on the same factor) replaced the missing data to retain these individuals. Having a complete data set aided in the ability to analyze modification indices for modifying the factor structure in the confirmatory factor analysis.

Two variables had significant missing data, defined as greater than 10%. The first variable was the teacher's name. This variable ultimately impacted the second variable, actual retention in the 2007-2008 school year. The retention variable had even more missing data than the teacher's name due to two school systems not providing retention data despite multiple attempts to obtain the information. The significant missing data indicated a need to determine if those individuals with missing data differed significantly than those without

missing data. Each factor mean, Satisfaction item 50, Commitment item 52, sex, and race were tested for significant differences. ANOVA analyses found only one significant difference, providing a name and mentor support factor mean ($F_{(1,426)} = 4.50, p < .05$). The analysis found that the beginning teachers who did not provide a name reported less satisfactory mentor support than those teachers who provided their name.

Data Cleaning

An essential element in any quantitative study is cleaning the data to ensure that only valid data points are in the analyses. In this study, data cleaning began with ensuring that all data points were within the acceptable range of one to six for all Likert scale items. Finding the minimum and maximum for each variable completed the data cleaning. I studied any variable with values for these variables outside of one to six to determine which entry was the problem. As it was only possible for this to happen with hand entry, I consulted the original survey to determine the correct number. I double checked other data points in this entry as well. Finding only one problem in the data, a 66 instead of a 6, I corrected and retained this entry. This was the only problem found, as I double checked the data entry after every 10 – 20 entries for each survey.

I did not retain responses for any teachers with more than three years experience or where there was a reason to believe there was misunderstanding. I observed one misunderstanding in which a beginning teacher assessed each item for *current experience* as six, and the *essential for effective teaching* as one. While this might have been an accurate entry, there was enough doubt to indicate there was a problem, and I deleted it from the final data set.

A third step to the data cleaning was only retaining surveys that had no more than one item missing from each factor. Multiple imputations as described above was used in an effort to obtain as large of a sample size as possible and still have data that adequately reflected the perceptions of the beginning teacher.

I removed a total of 37 subjects for having more than one data point missing in a factor, more than three years of experience, or misunderstandings. Following data cleaning, the sample was then ready to complete the analyses to answer each of the research questions and hypotheses. Discussion of the methods utilized in this study follows.

Evaluating the Perceptions of Success Inventory for Beginning Teachers

The focus of this study was to evaluate the PSI-BT for its psychometric properties. This analysis included a confirmatory factor analysis, correlation analyses with the TAC e-mail subscale, TSES, and regression analyses to predict retention.

Confirmatory Factor Analysis

The first research hypothesis focused on the factor structure of the PSI-BT. As a study that focused on narrowing the number of variables in the PSI-BT to a smaller number of factors, it fit a correlational research design (Gall, Gall, & Borg, 2003). Gall, et al. (2003) discussed the importance of the rationale behind a correlational study. An extensive literature review of beginning teachers' perceptions of success, expert teachers' opinions on items and comments, and previous research on the first version of the PSI-BT including an exploratory factor analysis (Corbell, 2005) provided items for the PSI-BT.

The factor structure hypothesized for the PSI-BT included fifty-two items assessing ten factors. The CFA did not include the first and last item of the PSI-BT due to the items not

following the same format as the other items. The first item asked if the beginning teacher had a mentor teacher to verify that beginning teacher answered each item under the Mentor Support factor with her mentor teacher in mind, and not another teacher. The last item assessed teacher retention intentions, explored in the third research question.

While the literature discussed the importance of both colleague support and instructional resource support, the PSI-BT exploratory factor analysis found that these two factors correlated with each other and made up one factor. Due to the limitation of the exploratory factor analysis only having a 3:1 ratio of respondents to items, this study looked at two models, one with ten factors, and one with nine factors in which Colleague Support and Instructional Resources combine into one factor. Additional models were considered as indicated by modification indices as long as the changes are consistent with the literature known about beginning teacher perceptions of success and teacher retention. The factor analysis included the responses to the current experience category for each item. Appendix A includes the Perceptions of Success Inventory for Beginning Teachers.

The ten factors tested in the confirmatory factor analysis include:

1. Mentor Support
2. Colleague Support
3. Administration Support
4. Classroom Management
5. Student Success
6. Instructional Resources
7. Assignment and Workload

8. Parental/Caregiver Contact
9. Satisfaction
10. Commitment

Confirmatory factor analysis (CFA) is an analysis recognized as one way to evaluate construct validity (Pett et al., 2003; Royse et al., 2006). Therefore, CFA was an appropriate test for investigating the psychometric properties of the PSI-BT, along with subsequent analyses outlined in the sections below. CFA provided the ability to test a hypothesized factor structure. For the purposes of this analysis, several criteria evaluated the adequacy of the fit.

The Chi Square statistic is the first measure of how well a model fits the data; however, sample size greatly influences it and thus is rarely non-significant in samples sufficiently large to legitimately perform CFA (Thompson & Daniel, 1996). Therefore, the Root Mean Square Error (RMSEA), the comparative fit index (CFI), the Tucker-Lewis index also known as the non-normed fit index (TLI) or (NNFI) (Bentler & Bonett, 1980), the normed fit index (NFI) and the relative fit index (RFI) assessed an appropriate fit. The following six criteria assessed the fit of the model: (a) Chi Square must be within three times the degrees of freedom (Segars & Grover, 1993), (b) $RMSEA \leq .06$ (Hu & Bentler, 1999) (c) $CFI \geq .95$, (d) TLI or $NNFI \geq .95$ (Hu & Bentler, 1999) (e) $NFI \geq .90$ (Segars & Grover, 1993) and (f) RFI close to 1.0 (Bollen, 1986).

Since the subscales within each measure should correlate, latent factors correlated. When computing the CFA via AMOS (version 6.0), modification indices were examined to determine if items loaded on appropriate factors, if there were cross-loading items, and which

items within factors should be allowed to correlate. Items within factors correlated freely, but items were not allowed to correlate across factors. Items with a modification index over $\chi^2 = 10.0$ were examined for determining the appropriate factor structure of the PSI-BT.

SPSS, a statistical analysis package analyzed internal consistency of the PSI-BT. Cronbach coefficient alpha assessed the internal consistency of each factor. Each of the factors identified by the factor analysis had a coefficient alpha, which indicated the degree of internal consistency of each factor. Researchers have not established a consensus on an acceptable level for Cronbach's alpha. Many researchers have set .70 as the cutoff for acceptable or unacceptable, while others have discussed that an acceptable internal consistency is dependent upon the use of the measure (Cortina, J.M., 1993; Kerlinger, F.N. & Lee, H.B., 1992; Nunnally; 1978). Kerlinger and Lee (1992) proposed that instruments not used to make final decisions, and those that can be compared to other types of data gathering, can withstand having lower internal consistency.

Convergent Validity

Correlation of the sum scores of the responses to each inventory assessed convergent validity between the PSI-BT and Teachers' Sense of Efficacy Scale. The current experience factors from the PSI-BT correlated with the factors of the Teachers' Sense of Efficacy Scale, an instrument of a similar construct. A high, significant correlation between the two scales indicated that the PSI-BT has convergent validity with the Teachers' Sense of Efficacy Scale.

Multiple instruments evaluate teacher efficacy; and yet, many have problems with validity or reliability. At this point in time, Tschannen-Moran and Hoy's (2001) instrument, Teachers' Sense of Efficacy Scale (TSES), has been validated using an exploratory factor

analysis and each factor has internal consistency above .70. Through factor analysis, they found three factors: 1) Efficacy for Instructional Strategies, 2) Efficacy for Classroom Management, and 3) Efficacy for Student Engagement (Tschannen- Moran & Hoy, 2001). A strong positive correlation should exist between the PSI-BT and the TSES due to the similar factors.

Although one study, (Denzine, et al, 2005) questioned if the TSES would stand up to a CFA, researchers have not conducted this analysis. Therefore at this time, the TSES is the best instrument measuring teacher efficacy, whose factors should correlate with the PSI-BT, and therefore establish convergent validity.

Discriminant Validity

A low, non-significant correlation of the sum scores of the responses to the *current experience* on the PSI-BT and the e-mail subscale of the Teachers' Attitudes Toward Computers (TAC) inventory assessed discriminant validity. Discriminant validity needed assessing with a sound instrument measuring a construct that should not correlate with a construct that is similar, but distinct. The TAC is similar in that it measured teachers' attitudes. Teachers' attitudes toward their teaching environment affect their perceptions of success. The TAC should be distinct due to it measuring Teachers' Attitudes Toward Computers and e-mail.

The TAC is a psychometrically sound instrument for measuring Teachers' Attitudes Toward Computers. Shattuck, Corbell, Osborne, Knezek, and Christensen (2007) found the TAC e-mail subscale to have an internal consistency of .95 and .96 on North Carolina and Nevada/Texas data respectively. In addition, adequate fit was found for the TAC using

confirmatory factor analysis ($\chi^2_{(709)} = 786.20, p < .05, RMSEA = .03, CFI = .98, TLI = .98, NFI = .98, RFI = .95$).

Predictive Validity

Evaluating the predictive validity is one aspect for evaluating an instrument's criterion validity. Gall, et al (2003) proposed multiple ways for evaluating predictive validity including correlations and multiple regressions. For the purposes of this study, teacher retention was the criterion for which factors of the PSI-BT were the predictors. Each participating school district provided teacher retention data in fall, 2007. School systems provided me with all second-through-fourth-year teachers. I then matched the names with the demographics and subsequently their PSI-BT data. Retention was a dichotomous variable of “yes” being the teacher remained in the district as a teacher and “no” being the teacher did not stay in the district as a teacher.

Since retention is a dichotomous variable, binary logistic regression evaluated predictive validity. The predictors used in this analysis were the factors obtained from the confirmatory factor analysis. A significant logistic regression analysis was a method for evaluating predictive validity for the PSI-BT. Gall, et al. (2003) cautioned that a different sample may reveal differences in predictive validity. Thus, they suggested additional samples be used to further evaluate predictive validity, though large samples have less of a problem with Type I error. This is a validity analysis is an example of future research.

Predicting Retention Intentions, Satisfaction, and Commitment

Three items on the PSI-BT were outcomes for retention, Satisfaction, and Commitment. The factors of the PSI-BT predicted each of these outcomes.

Predicting Retention Intentions

The last item, number 54 on the PSI-BT, asked beginning teachers to indicate their retention intentions, revealing the beginning teachers' overall intentions about their commitment to teaching next year and in the future. School districts did not receive data on this item. The item assessing retention intentions is below. The number in parentheses is the value assigned to the response in SPSS, and not part of the item.

Think about your intentions of teaching. Which category best fits your intentions?

- *I am not considering leaving teaching. (4)*
- *I have considered the possibility of leaving teaching, but have decided to teach next year. (3)*
- *I am making preparations to leave the profession of teaching at some time in the future. (2)*
- *I have made the decision to leave teaching after this year. (1)*

The first step to determine if the factors of the PSI-BT predicted retention intentions was to conduct a multiple regression analysis using each of the factors as an independent variable. This analysis allowed for an understanding of the variance in retention intentions explained by the factors of the PSI-BT and the influence of a factor while controlling for others. An alpha level of .05 determined significance. A mean score of each factor was computed as a separate variable. These variables were predictors in the regression analyses. The dependent variable was the beginning teacher's selection of retention intentions. The response options to this item are on a continuum of definite retention decisions to plans to leave teaching at the end of the year, and thus was a continuous.

Predicting Satisfaction

The PSI-BT assessed Satisfaction with the beginning teacher's current job with the following item: "In general, I am satisfied with my current job". The *current experience* response was the outcome in the multiple regression analysis to measure the ability of the factors of the PSI-BT to predict job satisfaction and explain the amount of variance in job satisfaction accounted for by the various factors.

Predicting Commitment

The following item, "I consider teaching to be my ideal career," assessed a beginning teacher's commitment to the career of teaching. The *current experience* for this item was the outcome in a third set of regression analyses, this time to measure the extent to which the factors of the PSI-BT predict commitment to teaching. The multiple regression analysis determined how much variance in commitment is accounted for by all of the factors of the PSI-BT. In addition, the analysis provided the extent to which a single factor predicted commitment when other factors are controlled.

Predicting Retention using the Gap between Current and Essential Categories

The third research question of this study related to how well the gap between the essential and effective categories predicted retention of beginning teachers. The following formula calculated the gap by computing a new variable for each item:

$$\textit{essential for effective teaching} - \textit{current experience}.$$

The mean of the gaps for each item within a factor provided a score for the gap in the factor. I hypothesized that the teachers whose perception of the gap between the *current experience* and what is *essential for effective teaching* was large will be more likely to leave their school

districts. School districts in fall 2007 provided the retention data used in this. Retention was a dichotomous variable of “yes” being the teacher remained in the district as a teacher and “no” being the teacher did not stay in the district as a teacher.

Since retention is a dichotomous variable, binary logistic regression evaluated predictive validity. The predictors used in this analysis were the factors obtained from the confirmatory factor analysis. A significant logistic regression analysis was the method for evaluating predictive validity for the PSI-BT. Gall, et al. (2003) cautioned that a different sample may reveal differences in predictive validity. Thus, they suggested additional samples be used to further evaluate predictive validity, though large samples have less of a problem with Type I error. This additional validity analysis is an example of future research.

Summary

The description of the steps taken to answer the research questions were in this chapter. This study included a sample of 439 beginning teachers in their first three years of teaching, from diverse backgrounds, and in diverse teaching specialties. This investigation focused primarily on the PSI-BT and its psychometric properties. This study focused on confirming the factor structure of the PSI-BT, analyzing each factor’s internal consistency using Cronbach’s coefficient alpha, assessing its convergent and discriminant validity using correlations with the Teachers’ Sense of Efficacy Scale and e-mail subscale of the Teachers’ Attitudes Toward Computers respectively, establishing its predictive validity with teacher retention using logistic regression, predicting beginning teacher retention intentions, Satisfaction, and Commitment from the PSI-BT factors, and predicting teacher retention

from the gap for each of the PSI-BT factors. The following chapter focuses on the findings of the analyses and provides answers to the research questions posed in this investigation.

CHAPTER FOUR: FINDINGS

Introduction

This chapter presents the findings from each of the research hypotheses. Evaluation of the psychometric properties used a confirmatory factor analysis, correlational analyses to determine convergent and discriminant validity, and regression analyses to predict retention. Multiple regression, mediation, and path analyses determined the factors of the PSI-BT that predict satisfaction, commitment, and retention intentions of the beginning teachers. I used the gap between a beginning teacher's *current experience* and what is *essential for effective teaching* to further evaluate predictive validity using logistic regression.

Evaluating the Psychometric Properties

Confirmatory Factor Analysis

Confirmatory factor analysis tested the hypotheses that the PSI-BT assessed: 1) eight factors after making Satisfaction and Commitment as outcome variables, and 2) one factor with all items loading on one PSI-BT factor.

When computing the CFA, all factors correlated and items were allowed to correlate with other items on that same factor. To be conservative (and keep the number of estimated parameters to a minimum), only correlations whose modification indices were 10 or greater were included in the model. In addition, only items that correlated at $r > .30$ were correlated on the CFA model.

Professional Judgment as a factor had cross loading problems as well as not being very informative to a school system in the final report of the PSI-BT. The multiple cross

loadings occurring for the items in the Professional Judgment factor as well as the factor itself was the reason to delete this factor from the confirmatory factor analysis.

Testing of Satisfaction as an individual factor was not possible since it was only comprised of one item. Satisfaction and Commitment items were outcome variables, rather than factors. Therefore, the items were not included in the CFA, thus leading to the testing of an eight factor model.

There were a few items that cross-loaded on several other items in different factors. The items were not a better fit under other factors, and thus deleted from the final model. Table 3 presents the deleted items from the eight factor model.

Table 3

Items deleted from the final eight-factor CFA

Factor	Item
Administration Support	16. I am satisfied with the contact I have with my administration.
Instructional Resources	36. I have the curriculum materials I need to teach effectively.
Parental Contacts	46. The parents or caregivers of my students are supportive of their child's progress in school. 48. I have adequate guidance and support in working with parents or caregivers.

For the one factor model, all items loaded onto one factor with the same decision rules in place for using modification indices. The items used in the one factor model were the same ones used in the eight factor model.

In addition to the eight factor model and one factor model using the complete data set, the eight factor model was tested using a data set that excluded the business and marketing initially licensed program to determine if this subgroup was affecting the fit of the data.

Table 4 provides the fit indices for the eight factor model, one factor model, and eight factor model without the business and marketing initially licensed program cohort. As discussed earlier, the following six criteria assessed the fit of the model: (a) Chi Square must be within three times the degrees of freedom (Segars & Grover, 1993), (b) RMSEA \leq .06 (Hu & Bentler, 1999) (c) CFI \geq .95, (d) TLI or NNFI \geq .95 (Hu & Bentler, 1999) (e) (NFI) \geq .90 (Segars & Grover, 1993) and (f) RFI close to 1.0 (Bollen, 1986).

Table 4

Confirmatory Factor Analysis Fit Indices

Factor Structure	χ^2	<i>df</i>	CFI	TLI	NFI	RFI	RMSEA
Eight Factor model	907.81	589	.96	.96	.90	.89	.04
One Factor model	1492.37	590	.89	.88	.84	.82	.06
Eight Factor model without business and marketing initially licensed program	889.98	589	.96	.96	.90	.88	.04

This table shows that for the eight-factor model, the ratio of chi-square to degrees of freedom is 1.54, thus meeting the guideline for less than three times the ratio as

recommended by Segars and Grover (1993). All of the other fit indices were within the guidelines. The one fit index that was below .90 was the RFI. The guideline for this index is non-specific as to how close to 1.0 it should be. Thus, overall, the eight factor structure is appropriate for this sample of beginning teachers. The data set without the business and marketing program provided almost the exact overall fit as the whole data set. Therefore, all subsequent analyses will use the business and marketing program cohort.

The one factor model was not as good of a fit with CFI, TLI, NFI, and RFI all failing to meet the specified criterion. The RMSEA was at .06, so it was very close to meeting the requirement of less than .06. The ratio of chi square to degrees of freedom was less than 3.0, but was greater than that for the eight factor model. Therefore, the eight factor model is the best fit for the data. All latent factors correlated in the eight factor model. For ease of reading, the diagram does not present these correlations and instead are presented in table 5.

Table 5

Correlations of the Eight Latent Factors in the CFA

	1.	2.	3.	4.	5.	6.	7.	8.
1. Mentor Support	--	.58	.32	.25	.36	.35	.30	.28
2. Colleague Support		--	.61	.35	.28	.40	.57	.48
3. Administrative Support			--	.52	.41	.52	.53	.68
4. Classroom Management				--	.78	.68	.49	.34
5. Student Success					--	.66	.42	.34
6. Instructional Resources						--	.46	.53
7. Parental Contacts							--	.55
8. Assignment and Workload								--

Figure one provides the eight factor model of the PSI-BT. Figure one provides the standardized regression weights and correlations of the error terms.

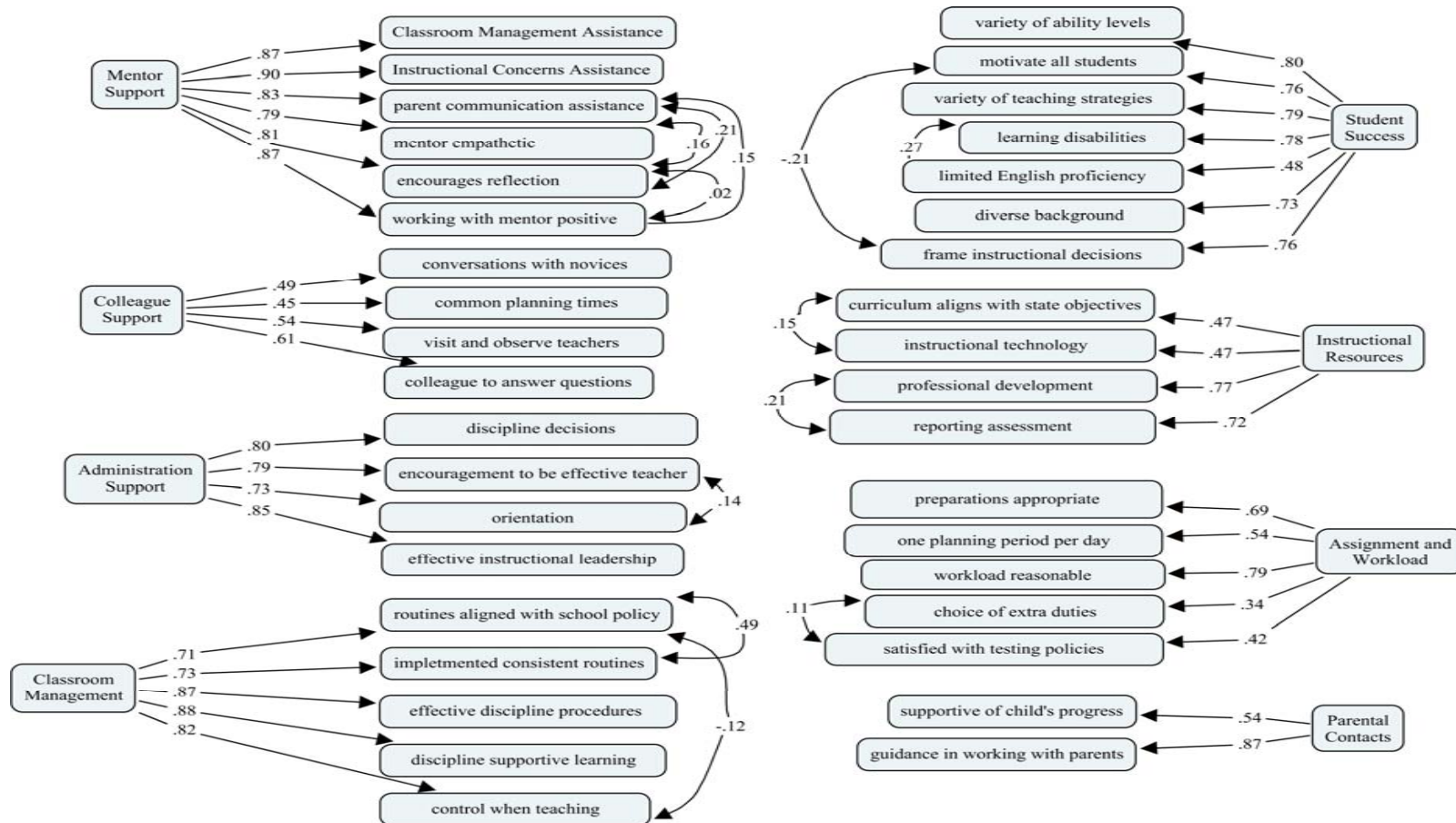


Figure 1

The Eight Factor Model. Please note that all factors correlated in the model, though this is not shown in the figure.

Table 6 provides the items found in each of the eight factors. Presented beside each of the items are the standardized regression weights or factor loadings for each of the items on the designated factor. The last column of the table provides the squared multiple correlations (R^2) which describe the amount of shared variance between the item and composite factor.

Table 6

Items in the Eight Factor Model

Factor	Item	Standardized Regression Weights	Squared Multiple Correlations
Mentor Support			
	3. My mentor has provided assistance with classroom management.	.87	.76
	4. My mentor has provided assistance with instructional concerns.	.90	.81
	5. My mentor has provided assistance related to communication with parents or caregivers of my students.	.83	.69
	6. My mentor is empathetic.	.79	.63
	7. My mentor encourages me to reflect about my teaching.	.81	.66
	8. Working with my mentor has been a positive experience.	.87	.76

Table 6 Continued

Factor	Item	Standardized Regression Weights	Squared Multiple Correlations
Colleague Support			
	9. I have opportunities for meaningful conversations with other novice teachers in a setting free of evaluation.	.49	.37
	10. I have common planning times with other teachers at my same grade level or subject area.	.45	.29
	11. I have opportunities to visit and observe exemplary teachers.	.54	.21
	12. I have a colleague in my same subject area (secondary) or grade level (elementary) who will answer my questions.	.61	.24
Administration Support			
	13. The administration at my school provides appropriate feedback for my discipline decisions.	.80	.64
	14. The administration at my school encourages me to be an effective teacher.	.79	.63

Table 6 (continued)

Factor	Item	Standardized Regression Weights	Squared Multiple Correlations
	15. The administration has oriented me to the school and staff.	.73	.53
	17. The administration provides me with effective instructional leadership.	.85	.73
Classroom Management			
	18. I have developed clear routines and procedures for my classroom that are aligned with school policy.	.71	.50
	19. I have implemented consistent routines and procedures in my classroom.	.73	.53
	20. The discipline procedures in my classroom are effective.	.87	.75
	21. The discipline in my classroom is supportive of a good learning environment for my students.	.88	.78
	22. I feel in control when I am teaching.	.82	.67

Table 6 (continued)

Factor	Item	Standardized Regression Weights	Squared Multiple Correlations
Student Success			
	28. I am able to successfully teach students with a variety of ability levels.	.80	.65
	29. I am able to motivate all students.	.76	.57
	30. I am able to use a variety of teaching strategies to provide my students with instruction that is effective for them.	.79	.63
	31. I am able to effectively teach students with learning disabilities.	.78	.61
	32. I am able to effectively teach students with limited English proficiency.	.48	.23
	33. I am able to effectively teach my students from diverse backgrounds.	.73	.54
	34. I am able to frame my instructional decisions based on my students' learning.	.76	.57

Table 6 (continued)

Factor	Item	Standardized Regression Weights	Squared Multiple Correlations
Instructional Resources			
	35. I have been provided with curriculum that aligns with the state's objectives for my grade level or subject area.	.47	.22
	37. I feel confident in my ability to use the instructional technology available to me.	.47	.22
	38. The school provides professional development that is valuable to my instruction in the classroom.	.77	.60
	40. I feel confident in my ability to grade student work.	.72	.51
Assignment and Workload			
	41. I think the number of preparations I have for my classes is appropriate for a beginning teacher.	.69	.48

Table 6 (continued)

Factor	Item	Standardized Regression Weights	Squared Multiple Correlations
	42. I have at least one period per day that I can devote without interruption to planning for my classes.	.54	.29
	43. My overall teaching workload is reasonable.	.79	.62
	44. Beginning teachers are allowed to choose whether to take on extra duties or not.	.34	.12
	45. I am satisfied with state and national testing policies.	.42	.18
Parental Contacts			
	46. The parents or caregivers of my students are supportive of their child's progress in school.	.54	.30
	48. I have adequate guidance and support in working with parents or caregivers.	.87	.76

The items all loaded on their designated factor greater than .40 with the exception of item number 44, "Beginning teachers are allowed to choose whether to take on extra duties or not." The squared multiple correlations ranged from .12 for item number 44, "Beginning

teachers are allowed to choose whether to take on extra duties or not” to .81 for item number four, “My mentor has provided assistance with instructional concerns.”

I conducted internal consistency analyses on all factors confirmed in the CFA. Table 7 provides the Cronbach coefficient alpha for each factor.

Table 7

Internal Consistency for each factor

Factor	Cronbach Coefficient Alpha
Mentor Support	.94
Colleague Support	.60
Administration Support	.91
Classroom Management	.91
Student Success	.88
Instructional Resources	.71
Assignment and Workload	.68
Parental Contacts	.76

Six of the eight factors had an internal consistency above .70. Many researchers have supported the benchmark of .70 as the acceptable level for internal consistency, though Kerlinger and Lee (1992) have acknowledged that acceptable levels of internal consistency fluctuate dependent upon the outcome of the measure. Assignment and Workload was slightly below .70, with a Cronbach Coefficient Alpha of .68. The major problem was in the Colleague Support category, in which the reliability was only .60.

School system leaders should not use the PSI-BT to make final decisions, but instead use it in conjunction with other sources of data make informed decisions on possible changes for an induction program. Thus, lower levels of internal consistency can be tolerated in some of the factors such as Assignment and Workload and Colleague Support. Chapter five discusses these findings in more detail with specific attention to what the Colleague Support factor means.

A Spearman - Brown prophesy formula found that with the addition of two more items, for a total of six items, for the Colleague Support factor and all other things considered equal, the internal consistency could be .69. An additional four items would result in a coefficient alpha as high as .75. By increasing the number of items in the Assignment and Workload factor from 5 to 6, the internal consistency would increase to .71. The assumption in this formula is that the correlations between the items in the original factor are equal to the correlations with the longer versions.

Convergent Validity

The second hypothesis of this study was that the PSI-BT correlated with the Teachers' Sense of Efficacy Scale (TSES) to establish convergent validity. Using the factors that Tschannen-Moran and Hoy (2001) reported for the TSES exploratory factor analysis, I computed sum scores for each of the factors. These factors include Efficacy for Instructional Strategies, Efficacy for Classroom Management, and Efficacy for Student Engagement. I derived the sum scores for the *current experience* responses to Mentor Support, Colleague Support, Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts from the PSI-BT data for 437

beginning teachers. I hypothesized that all factors of the PSI-BT and TSES would be significantly correlated. I expected some of the factors to be stronger, such as Classroom Management of the PSI-BT and Efficacy for Classroom Management of the TSES, while others I expected to be weaker, such as Assignment and Workload.

Multiple imputations provided complete PSI-BT and TSES data for 391 beginning teachers. Each variable assessed for convergent validity met the three assumptions for correlations. The skewness statistic for each variable was less than two, and therefore met the assumption of normality. In addition, scatter dot plots showed that each pair of variables was linear and homoscedastic.

Table 8 provides the correlation and significance level for each of the factors of the PSI-BT with the factors of the TSES. Appendix F provides the items of the TSES.

Table 8

Pearson Correlations between Current Experience factors of PSI-BT and TSES factors

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Mentor Support	--	.39***	.30***	.21***	.32***	.32***	.22***	.21***	.11*	.17***	.09
2. Colleague Support		--	.41***	.23***	.19***	.31***	.34***	.26***	.18***	.16***	.15**
3. Administrative Support			--	.41***	.30***	.43***	.53***	.36***	.27***	.18***	.26***
4. Classroom Management				--	.67***	.49***	.46***	.20***	.41***	.36***	.53***
5. Student Success					--	.46***	.41***	.18***	.46***	.46***	.42***
6. Instructional Resources						--	.46***	.34***	.25***	.30***	.25***
7. Parental Contacts							--	.37***	.41***	.28***	.33***
8. Assignment and Workload								--	.16***	.12**	.17***
9. Efficacy for Student Engagement									--	.64***	.65***
10. Efficacy for Instructional Strategies										--	.59***
11. Efficacy for Classroom Management											--

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Table 8 presented evidence that significant correlations exist between the factors of the PSI-BT itself and the factors of the TSES with all eight factors of the PSI-BT. The correlations between the individual factors of the PSI-BT were all significant at the alpha level of $p < .001$.

All of the factors of the PSI-BT significantly correlated with at least two of the factors of the TSES at the alpha level of $p < .05$. As hypothesized, the strength of the correlations varied for the different factors. The significant correlations between the TSES and PSI-BT were not strong, and thus did not establish strong convergent validity with the TSES. Since the PSI-BT was the first instrument hypothesized to measure beginning teacher's experiences across these multiple areas, there was not an instrument that fit well for each of the factors of the PSI-BT. It was not surprising, therefore, to find variations in correlation coefficients between the factors. As more instruments emerge to measure a beginning teacher's experiences in each of these areas, future research could further evaluate convergent validity.

The Classroom Management and Student Success factors had the strongest correlations overall with the TSES ($r = .36 - .53$). Classroom Management and Efficacy for Classroom Management correlated at $r = .53$. Classroom Management correlated with Efficacy for Student Engagement at $r = .41$. Student Success and Efficacy for Student Engagement correlated at $r = .46$, and Efficacy for Instructional Strategies at $r = .46$.

Mentor Support did not correlate with Efficacy for Classroom Management, and only slightly more correlated with Efficacy for Instructional Strategies ($p < .05$) and Efficacy for Student Engagement ($p < .001$). Colleague Support and Assignment and Workload weakly correlated with the factors of the TSES, and thus the minimal effects do not provide

convergent validity for these factors. These findings were not surprising given the nature of the items within each construct, however, it does point to the need for another instrument meant to specifically look at each of these factors to establish convergent validity for these factors.

The significant correlations provided evidence that convergent validity exists between some factors of the Perceptions of Success Inventory for Beginning Teachers and Teacher's Sense of Efficacy Scale. Since the correlations are not consistently strong, there is evidence that the PSI-BT is not duplicating the TSES, but also provides avenues for further research to establish convergent validity with other scales measuring Mentor Support, Colleague Support, and Assignment and Workload. At this point in time, there are not known validated instruments measuring all factors of the PSI-BT, and therefore this was not a possibility with this research.

Discriminant Validity

The third hypothesis of this study was that the PSI-BT would have weak correlations with the e-mail subscale of the Teachers' Attitudes Toward Computers to establish Discriminant Validity. I derived the sum scores for the *current experience* responses to Mentor Support, Colleague Support, Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts from the PSI-BT data for 437 beginning teachers. I used the composite scores for the TAC and factors of the PSI-BT in the correlation analyses.

Multiple imputations provided complete PSI-BT and TAC data for 378 beginning teachers. Each variable assessed for convergent validity met the three assumptions for correlations. The skewness statistic for each variable was less than two, and therefore met the

assumption of normality. In addition, scatter dot plots showed that each pair of variables was linear and homoscedastic.

Table 9 provides the correlation and significance level for each of the factors of the PSI-BT with the e-mail subscale of the TAC. The items of the TAC are in Appendix D. The correlations between the factors of the PSI-BT and the TAC e-mail subscale consisted of a sample size of 381, while the correlations between the factors of the PSI-BT consisted of a sample size of 437.

Table 9

Pearson Correlations between Current Experience factors of PSI-BT and TAC

	TAC (e-mail subscale)
1. Mentor Support	.01
2. Colleague Support	.03
3. Administrative Support	.08
4. Classroom Management	.03
5. Student Success	.12*
6. Instructional Resources	.11*
7. Assignment and Workload	.07
8. Parental Contacts	.09#
9. TAC (e-mail subscale)	--

Note: * $p < .05$, ** $p < .01$, # $p < .10$

Table 9 provides evidence that the factors of the PSI-BT do not correlate significantly with the e-mail subscale of the TAC. There were two subscales that were significant, but the correlations were low, as indicated in the table. The significance found is very likely to be due to the size of the sample, as correlations are sensitive to sample size. The lack of significance and low correlations provided evidence that the PSI-BT has discriminant validity with the e-mail subscale of the TAC.

Predicting Beginning Teacher Retention

Retention data gathered the school year following administration of the PSI-BT established predictive validity for the PSI-BT. School system personnel provided the names

of the teachers currently teaching in their district. These names were matched with the teachers who took the PSI-BT the previous year. Those who remained in their district had a code of 1, and those not in the district had a code of 0. Binary logistic regression tested the ability of factors of the PSI-BT to predict the likelihood of a beginning teacher remaining in her district one year after taking the PSI-BT.

I collected retention data for a total of 284 of the 427 beginning teachers in the data sample with complete PSI-BT data. This was 66.5% of the surveyed teachers. Of the 427 beginning teachers, only 359 provided their name. Within the 359 beginning teachers, 24 had incomplete names such as only one part of their name, an initial, or a fictitious name entered on-line in the name blank. The incomplete names prevented accurate matching, and thus excluded from the analysis. Of the names with possible matches, the retention data response rate was 85%.

The retention data found that 72 of the 284 teachers did not remain in their school districts, which is a 25.4% attrition rate. Conversely, 212 beginning teachers remained in their district, for a 74.6% retention rate after one year of completing the PSI-BT.

The hypothesis going into this analysis was that The Perceptions of Success Inventory for Beginning Teachers factors would significantly predict teacher retention, as measured by a dichotomous 2007-2008 school year retention response from school systems. Mean composite scores of Mentor Support, Colleague Support, Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts were independent variables entered into a binary logistic regression in Block 1. In order to determine how the addition of the Satisfaction and Commitment responses to items 50 and 52 aided in predicting retention, I added these responses to the

binary logistic regression analysis in Block 2. This analysis provided the probability of a beginning teacher remaining in her school district based upon the factor scores from the PSI-BT, Satisfaction, and Commitment.

In block one, the overall model correctly classified 74.3% of the sample, but was not significant. The overall model for Block 2 was able to accurately classify 77.8% of the sample. This overall model was significant with $\chi^2_{(10)} = 26.54, p < .01$.

Table 10 shows the logistic regression coefficient, Wald test, and odds ratio for each of the predictors in Block 1 and Block 2. Employing a .05 criterion of statistical significance, Administration Support had a significant partial effect in Block 1, and Satisfaction had a significant partial effect in Block 2. The addition of Satisfaction as a predictor of retention mediated the effect of Administration Support on teacher retention.

Table 10

Predicting Beginning Teacher Retention from the PSI-BT

Predictors	Block 1				Block 2			
	B	SE	Wald	Exp(B)	B	SE	Wald	Exp(B)
Satisfaction					.48	.14	11.10***	1.62
Commitment					.04	.13	.10	1.04
Mentor Support	-.26	.14	2.44	.80	-.22	.15	2.17	.80
Colleague Support	.07	.17	.16	1.07	.08	.18	.19	1.08
Administration Support	.31	.16	3.90*	1.36	.12	.17	.49	1.13
Classroom Management	.33	.25	1.72	1.39	.20	.27	.56	1.22
Student Success	.24	.25	.93	1.27	.17	.27	.39	1.18
Instructional Resources	-.35	.27	1.76	.70	-.29	.28	1.11	.75
Assignment and Workload	-.06	.15	.14	.95	-.23	.17	1.95	.80
Parental Contacts	-.19	.15	1.53	.83	-.26	.16	2.50	.77
Constant	.62	1.29	.23	1.86	.62	1.29	.23	1.86

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Since Block 1 was not overall significant, I will only Block 2 significant predictors.

Satisfaction having a significant partial effect means that for every one point increase (on the

Likert scale) of a beginning teacher's satisfaction with her current job, her likelihood of remaining in her school district the following school year increases by 62%. As was previously shown, the factors of the PSI-BT were highly correlated to the Satisfaction item 50; and thus, it is not surprising to find that the individual factors do not have significant partial effects when controlling for their overall job satisfaction.

Predicting Beginning Teacher Retention Intentions

I hypothesized that Mentor Support, Colleague Support, Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts would predict teacher retention intentions. The PSI-BT item 54 measured beginning teacher retention intentions. The number in parentheses represented the score assigned to each response. Therefore, a positive beta would mean that the more positive support perceived by the beginning teacher in each factor, the more likely the beginning teacher was to consider not leaving the teaching field. Item 54 read as follows:

Think about your intentions of teaching. Which category best fits your intentions?

- *I am not considering leaving teaching. (4)*
- *I have considered the possibility of leaving teaching, but have decided to teach next year. (3)*
- *I am making preparations to leave the profession of teaching at some time in the future. (2)*
- *I have made the decision to leave teaching after this year. (1)*

The overall model with each factor as a predictor of beginning teacher retention intentions was significant ($F_{(8,433)} = 10.29, p < .01$), and together the predictors accounted for 16.2% of the variance (R^2). This model had an R of .40. Table 11 provides the

unstandardized b weights, standard error (SE), beta weights (β), and t statistics for each predictor in the regression analysis.

Table 11

Multiple Regression Analyses Predicting Beginning Teacher Retention Intentions

Predictor	<i>B</i>	SE	<i>B</i>	<i>t</i>
(Constant)	1.64	.30		5.54**
Mentor Support	.00	.01	.00	-.07
Colleague Support	-.02	.01	-.08	-1.51
Administration Support	.04	.01	.20	3.42**
Classroom Management	.02	.01	.10	1.52
Student Success	.01	.01	.07	1.06
Instructional Resources	.00	.02	.01	.15
Assignment and Workload	.02	.01	.12	2.43*
Parental Contacts	.03	.02	.10	1.72 [#]

[#] $p < .10$, * $p < .05$, ** $p < .01$

This analysis provided evidence that some of the factors predicted beginning teacher retention intentions, though there was a lot of variance not accounted for by the factors. Thus, factors other than those entered in this analysis account for the remaining variance in beginning teacher retention. Further analyses tested Satisfaction and Commitment as two possible factors. Individual analyses found that each factor significantly predicted beginning teacher retention intentions. When controlling all other factors, the influence of each individual factor on beginning teacher retention was reduced.

Predicting Satisfaction

The overall model with each factor as a predictor of satisfaction was significant ($F_{(8,433)} = 42.32, p < .01$), and together, the predictors accounted for 43.3% of the variance ($R^2 = .43, R = .66$). A correlation analysis found that Satisfaction and Commitment were highly correlated at $r = .48$; and thus, a second multiple regression analysis controlling for Commitment was run. This analysis found that the overall model was significant ($F_{(8,433)} = 46.17, p < .001$) and together the predictors accounted for 49.5% of the variance ($R^2 = .50, R = .71$). Table 12 provides the unstandardized b weights, standard error, beta weights, and t statistics for each predictor in both analyses.

Table 12

Multiple Regression Analyses Predicting Satisfaction

Predictors	<i>B</i>	SE	β	<i>t</i>	<i>B</i>	SE	<i>B</i>	<i>t</i>
Constant	-.42	.42		-1.0	-.36	.40		-.91
Mentor Support	-.01	.01	-.04	-.89	-.01	.01	-.03	-.85
Colleague Support	.001	.01	.004	.08	.00	.01	.01	.12
Administration Support	.10	.01	.32	6.66**	.09	.01	.30	6.52***
Classroom Management	.06	.02	.18	3.36**	.05	.02	.14	2.63**
Student Success	.01	.01	.04	.86	-.00	.01	-.01	-.12
Instructional Resources	-.03	.02	-.05	-1.14	-.04	.02	-.09	-2.04*
Assignment and Workload	.07	.01	.27	6.51**	.06	.01	.25	6.31***
Parental Contacts	.08	.03	.14	3.07**	.07	.03	.12	2.80**
Commitment					.28	.04	.27	6.58***

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

The first multiple regression analysis provided evidence that Administration Support, Classroom Management, Assignment and Workload, and Parental Contacts all significantly predicted Satisfaction with a teacher's current job. By controlling for Commitment, the second analysis found Instructional Resources and Commitment to be significant predictors of Satisfaction. Instructional Resources was a negative predictor of Satisfaction. Therefore, Mentor Support, Colleague Support, and Student Success were the only factors that did not significantly predict job Satisfaction.

Predicting Commitment

The multiple regression analysis to predict Commitment utilized the same independent variables in the first Satisfaction analysis. The regression analysis to predict Commitment was also significant ($F_{(8, 433)} = 19.87, p < .01$), accounting for 25.9% of the variance in commitment ($R^2 = .30, R = .55$). Satisfaction was an additional dependent variable in a second multiple regression analysis. The overall model with Satisfaction was significant ($F_{(9, 433)} = 24.23, p < .01$), accounting for 34.0% of the variance in Commitment ($R^2 = .34, R = .58$). Table 13 provides the unstandardized b weights, standard error, beta weights, and t statistics for each predictor in both analyses.

Table 13

Multiple Regression Analyses Predicting Commitment

Predictors	<i>B</i>	SE	β	<i>t</i>	<i>B</i>	SE	B	<i>t</i>
Constant	-.20	.45		-4.5	-.06	.43		-.15
Mentor Support	-.00	.01	-.01	-.27	.00	.01	.00	.00
Colleague Support	-.00	.02	-.01	-.09	-.00	.02	-.01	-.12
Administration Support	.02	.02	.08	1.40	-.01	.02	-.03	-.62
Classroom Management	.05	.02	.17	2.71**	.03	.02	.10	1.75 [#]
Student Success	.04	.01	.19	3.19**	.04	.01	.17	3.07**
Instructional Resources	.07	.02	.14	2.72**	.07	.02	.16	3.21**
Assignment and Workload	.02	.01	.08	1.57	-.01	.01	-.02	-.41
Parental Contacts	.04	.03	.07	1.29	.01	.03	.02	.37
Satisfaction					.33	.05	.35	6.58***

Note: # $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

This analysis found that Mentor Support, Colleague Support, Administration Support, Assignment and Workload, and Parental Contacts did not significantly predict Commitment. The important part of this analysis was that Mentor Support and Colleague Support did not significantly predict Satisfaction or Commitment when controlling for the other variables. Due to the fact that mentors and colleagues often work with beginning teachers on the other factors, I suspected that the variance explained in Satisfaction and Commitment by Mentor and Colleague Support may be mediated by the presence of the other factors. Mentor Support and Colleague Support were significantly correlated at $r = .41$, and thus were both used as independent variables in each of the mediation analyses. In addition, I suspected that

Satisfaction and Commitment were mediating variables for the influence of Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts on beginning teacher retention intentions. Therefore, I conducted a mediation analysis and path analysis as post hoc analyses. Figure 2 provides a diagram of the factors of the PSI-BT predicting beginning teacher retention intentions and the standardized beta weights.

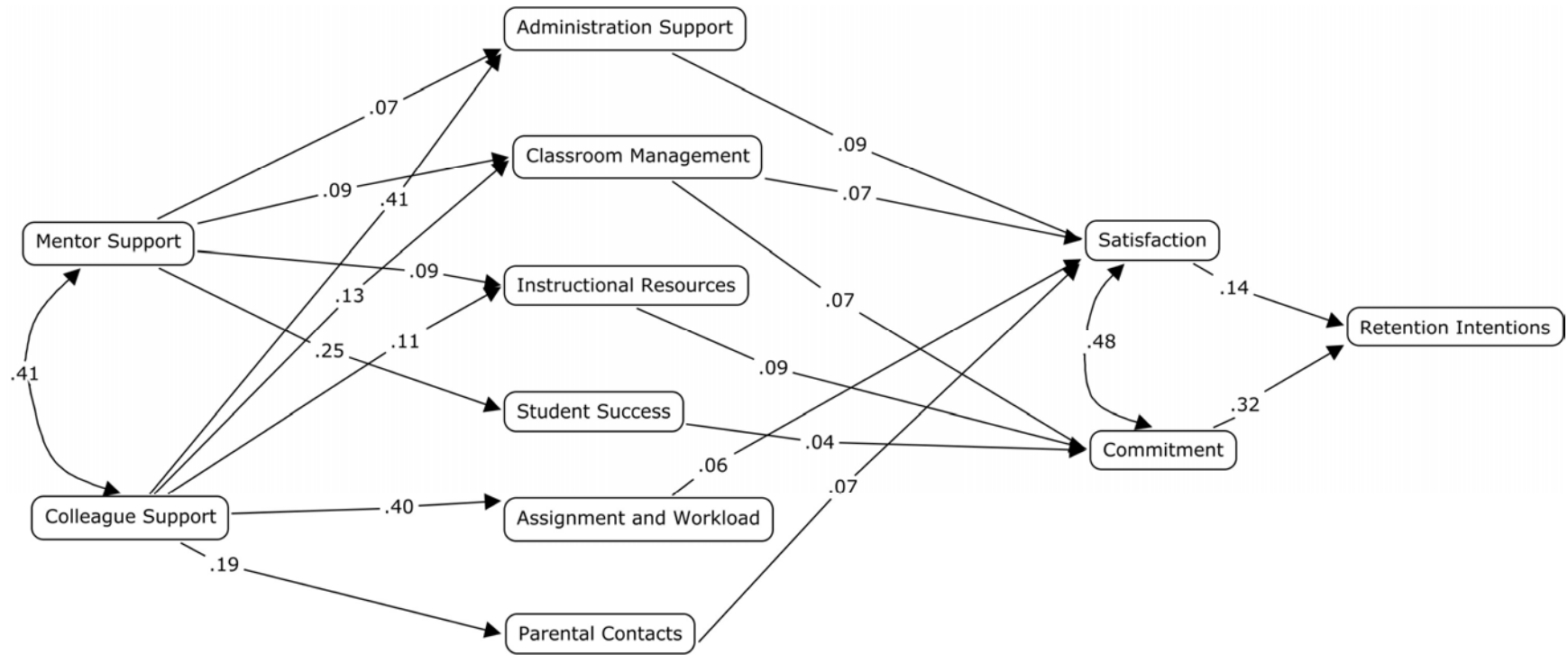


Figure 2

PSI-BT Factors Predict Beginning Teacher Retention Intentions. All paths included in the model were significant.

Mediation Analyses

Prior to conducting any mediation analyses, I computed a composite score based on the weight of each factor. This composite score included the factors Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts. A one factor exploratory factor analysis provided the factor weights. Mean scores for each of the factors were computed and used as the factor score for each individual. Therefore, the equation used to compute the composite weighted score was as follows:

$$\begin{aligned} \text{Composite Weighted score} = & .661(\text{Administration Support}) + .749(\text{Classroom Management}) \\ & + .682(\text{Student Success}) + .662(\text{Instructional Resources}) + .465(\text{Assignment and Workload}) \\ & + .595(\text{Parental Contacts}) \end{aligned}$$

The composite weighted score was an independent variable representing each of the above factors of the PSI-BT. A mediation analysis determined if Satisfaction and Commitment mediated the effect of the composite score on beginning teacher retention intention. This composite score also served as the mediator of Mentor Support and Colleague Support on Satisfaction and Commitment.

Satisfaction and Commitment as Mediators

The steps of Baron and Kenny (1986) established mediation. The first step showed that the composite score correlated with ($r = .38, p < .01$) and predicted teacher retention intentions ($F_{(1, 433)} = 72.78, p < .001, R^2 = .14, R = .38$). The second step in establishing

mediation was correlating the composite factor score with the mediating variables of Commitment ($r = .52, p < .01$) and Satisfaction ($r = .60, p < .01$). Regression analyses with the composite score predicting the mediating variables, Commitment ($F_{(1, 433)} = 156.00, p < .001, R^2 = .27, R = .52$) and Satisfaction ($F_{(1, 433)} = 246.11, p < .001, R^2 = .36, R = .60$), were both significant. This was followed by regression analyses with each mediating variable as a predictor of beginning teacher retention intentions.

The third step was establishing that the mediating variables predicted beginning teacher retentions. The overall model with Satisfaction predicting beginning teacher retention intentions was significant ($F_{(1, 433)} = 142.78, p < .001$) and explained 24.8% of the overall variance ($R^2 = .25, R = .50$). The overall model with Commitment predicting beginning teacher retention intentions was significant ($F_{(1, 433)} = 295.95, p < .001$) and explained 40.7% of the overall variance ($R^2 = .41, R = .64$).

The fourth step was establishing that Satisfaction and Commitment significantly reduced the effect of the composite weighted score on beginning teacher retention intentions. This step was accomplished using multiple regression analyses with the composite score and Satisfaction ($F_{(2, 433)} = 75.06, p < .001, R^2 = .26, R = .51$) and the composite score and Commitment ($F_{(2, 433)} = 149.04, p < .001, R^2 = .41, R = .64$) as predictors of beginning teacher retention intentions. These analyses were significant as well; however, the composite score was no longer significant when controlling for Commitment ($t = 1.62, p < .18$). The significance of the composite score when controlling for Satisfaction was reduced ($t = 2.40, p < .05$). Thus, I suspected complete mediation with Commitment and partial mediation in the case of Satisfaction.

Complete mediation occurred when the relationship is no longer significant, as in this case. Sobel’s test established if the indirect effect of the composite factor score on beginning teacher retention intentions in the presence of the mediating variables is significantly different from zero.

Table 14 presents the results from the Sobel tests. In this table, a is the raw regression coefficient for the association between the independent variable and the mediator, and s_a is the standard error of a . The abbreviation b represented the raw coefficient for the association between the mediator and the dependent variable while controlling for the independent variable. The abbreviation s_b represented the standard error of b . The test statistic used for the Sobel Test was a z-score based on the formula: $z\text{-value} = a*b/\text{SQRT}(b^2*s_a^2 + a^2*s_b^2)$.

Table 14

Sobel Test for Determining Satisfaction and Commitment as Mediators

Mediator	a	s_a	b	s_b	Z
Satisfaction	.073	.005	.244	.030	7.11***
Commitment	.059	.005	.368	.026	9.06***

*** $p < .001$

The Sobel test provided further evidence through a formal test that the change in the indirect effect of the Composite factor score on beginning teacher retention intentions was significantly different from zero when controlling for Satisfaction and Commitment. The next step established the composite factor score as a mediator of Mentor Support and Colleague Support’s effect on Satisfaction and Commitment. The steps of Baron and Kenny (1986) established mediation.

Composite Factor Score as a Mediator

The first step in establishing the composite factor score as a mediator was showing the correlation of Mentor Support, Colleague Support, the composite score, Satisfaction and Commitment. Table 15 provides these correlations.

Table 15
Correlations Used for Mediation Analyses

	1	2	3	4	5
1. Mentor Support	---	.41***	.37***	.18***	.18**
2. Colleague Support		---	.42***	.30***	.19***
3. Composite Factor Score			---	.60***	.52***
4. Satisfaction				---	.60***
5. Commitment					---

Note: *** $p < .001$

After establishing correlations between the variables, it was necessary to show that the independent variables (Mentor Support and Colleague Support) predicted the mediator, composite factor score. Mentor Support was a significant predictor of the composite score ($F_{(1,433)} = 70.08, p < .001, R^2 = .14, R = .37$). A separate regression analysis found Colleague Support as a significant predictor of the composite score ($F_{(1,433)} = 91.47, p < .001, R^2 = .18, R = .42$). The second step established the factor composite score as a significant predictor of Commitment and Satisfaction. Regression analyses with the composite score predicting Commitment ($F_{(1,433)} = 156.00, p < .001, R^2 = .27, R = .52$) and Satisfaction ($F_{(1,433)} = 246.11, p < .001, R^2 = .36, R = .60$) were both significant. A third set

of regression analyses found that Mentor Support predicted Satisfaction ($F_{(1, 433)} = 14.11, p < .001, R^2 = .03, R = .18$) and Commitment ($F_{(1, 433)} = 14.63, p < .001, R^2 = .03, R = .18$).

The fourth step was establishing that controlling for the composite factor score significantly reduced the effect of Mentor Support and Colleague Support had on Satisfaction and Commitment. Multiple regression analyses accomplished this fourth step. When controlling for the composite factor score, Mentor Support was no longer a significant predictor of Satisfaction ($t = -1.33, p = .19$) or Commitment ($t = -.33, p = .77$), though both overall models were significant. Colleague Support was also found to not be a significant predictor of Satisfaction ($t = 1.43, p = .15$) or Commitment ($t = -.58, p = .56$) when controlling for the composite score.

Complete mediation was established when the relationship was no longer significant, as in each of these cases. The Sobel test provided further evidence through a formal test that the change in the indirect effect of Mentor Support and Colleague Support on Satisfaction and Commitment was significantly different from zero when controlling for the composite score. Table 16 presents the results from the Sobel tests.

Table 16

Sobel Test for determining Composite Factor Score as a Mediator

Model	<i>A</i>	<i>s_a</i>	<i>B</i>	<i>s_b</i>	<i>Z</i>
Mentor Support effects Satisfaction	.031	.008	.059	.005	3.68***
Mentor Support effects Commitment	.033	.009	.075	.005	3.56***
Colleague Support effects Satisfaction	.031	.008	.070	.005	3.73***
Colleague Support effects Commitment	.033	.009	.060	.005	3.81***

*** $p < .001$

The composite factor score of Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts completely mediated the effect of Mentor Support on Satisfaction and Commitment as well as the effect of Colleague Support on Satisfaction and Commitment. With the mediation analyses complete, a path analysis followed to test the goodness of fit of the proposed model.

Path Analysis

A path analysis tested the adequate fit of the previous multiple regression analyses. This path analysis allowed for the composite scores of Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts to correlate. In addition, the composite scores of Mentor Support and Colleague Support correlated, and Satisfaction and Commitment correlated. The path used in AMOS to determine the adequacy of fit was the same one provided in Figure 2 on page 104.

Modification indices and correlations of the factors determined the correlations allowed in the path analysis. To be conservative (and keep the number of estimated

parameters to a minimum), only correlations whose modification indices were 10 or greater are in the model. In addition to this requirement, only those modification indices that had correlations above .30 were allowed to be correlated. Table 17 provides information about the adequate fit for the diagram specified.

Table 17

Path Analysis Comparative Fit Indices for Predicting Teacher Retention Intentions

Model	χ^2	<i>df</i>	CFI	TLI	NFI	RFI	RMSEA
Predicting Retention Intentions	40.2	21	.99	.97	.98	.94	.05

The fit indices provided above offer evidence that the PSI-BT does predict beginning teacher retention intentions. This model has Mentor Support and Colleague Support predicting Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts. These factors in turn predict Satisfaction and Commitment. Satisfaction and Commitment, as measured by two items on the PSI-BT, predicted beginning teacher retention intention.

One might ask how Mentor Support and Colleague Support predict Administration Support. It was my hypothesis that a mentor or colleague, that finds her administration responsive, may communicate to the administration a need of the beginning teacher which, in turn, would culminate in support for the beginning teacher from the administration. The converse would also be true; an environment that did not support mentors and colleagues talking to the administration would more than likely not provide administration support to beginning teachers.

Path Analysis Predicting Teacher Retention

As I reflected on the regression analyses conducted during this study, I saw the need of an additional path analysis predicting beginning teacher retention. This path analysis added the beginning teacher retention as the final outcome variable. Beginning teacher retention intentions significantly predicted actual retention ($\chi^2_{(1)} = 4.79, p < .05$). When adding Satisfaction to the analysis, Satisfaction and beginning teacher retention intentions predicted beginning teacher retention ($\chi^2_{(2)} = 15.30, p < .001$) using binary logistic regression. From previous analyses, Satisfaction and Commitment predicted beginning teacher retention intentions. In addition, Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts predicted Satisfaction and Commitment. Mentor Support and Colleague Support predicted Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts. I combined these regression analyses into one path analysis to determine the adequacy of fit. Figure 3 provides the diagram for this path analysis including the standardized beta weights for each path. The odds ratio are provided for Satisfaction and beginning teacher retention intentions predicting actual teacher retention.

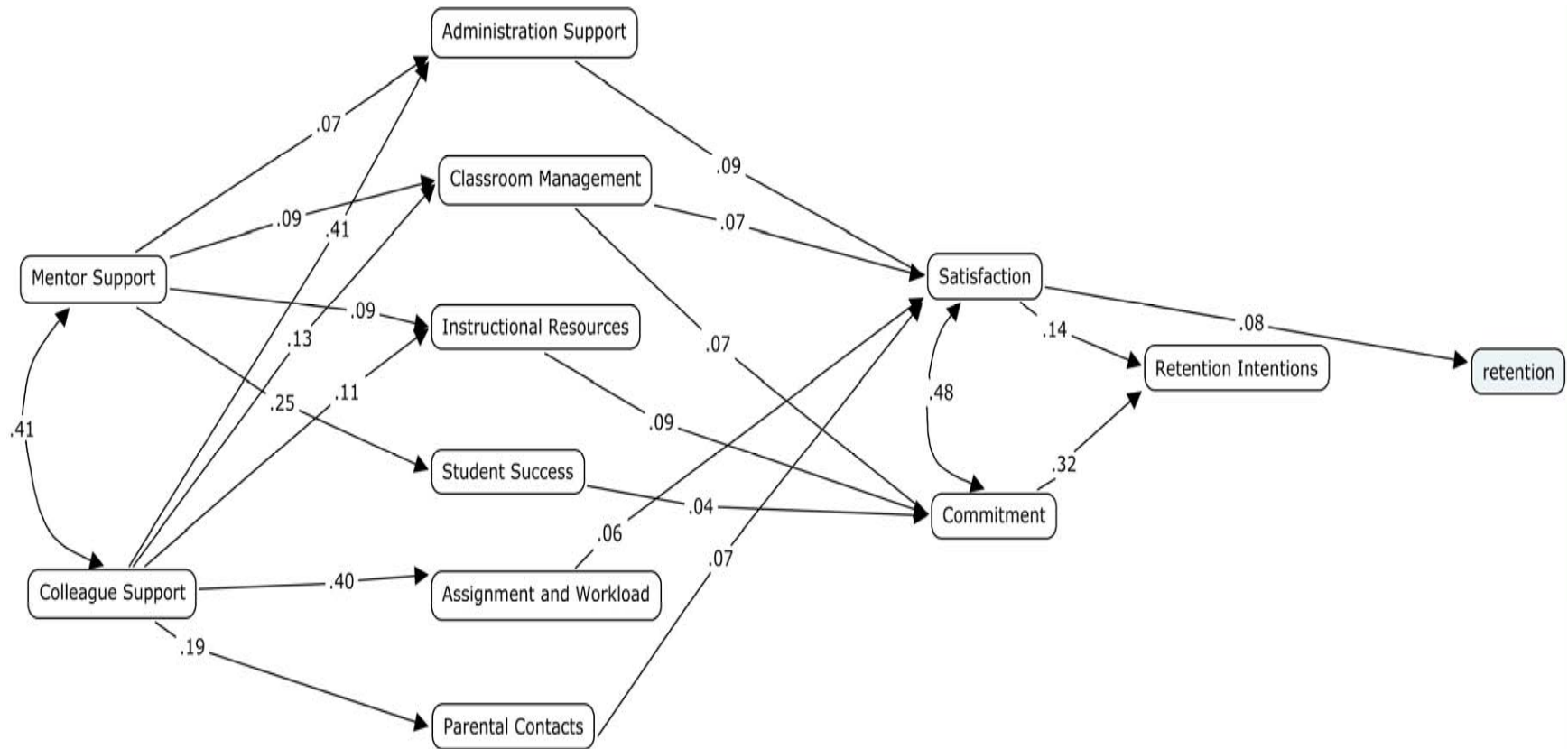


Figure 3

Path Analysis Diagram Predicting Beginning Teacher Retention. The model included beginning teacher retention intentions predicting beginning teacher retention, though this path was not significant when taking all other paths into account. All paths pictured were significant at $p < .05$.

This figure illustrates that predicting teacher retention from the PSI-BT is best achieved through Satisfaction and beginning teacher retention intentions. The odds ratio of 1.47 for Satisfaction means that for every one point increase on the Likert Scale in Satisfaction a beginning teacher is 47% more likely to remain in teaching than those teachers with one point lower level of Satisfaction. The beginning teacher retention intentions indicates that those who responded “*I am making preparations to leave the profession of teaching at some time in the future*” are 46% more likely to be retained one year after administration of the PSI-BT than those that responded “*I have made the decision to leave teaching after this year.*” The teachers who responded “*I have considered the possibility of leaving teaching, but have decided to teach next year*” are 46% more likely to be retained one year after administration of the PSI-BT than those who responded “*I am making preparations to leave the profession of teaching at some time in the future*”. Finally, the teachers who responded “*I am not considering leaving teaching*” are 46% more likely to be retained one year after administration of the PSI-BT than those that responded “*I have considered the possibility of leaving teaching, but have decided to teach next year.*”

All other paths are represented by the standardized beta's for each regression analysis. I used AMOS to draw the path depicted in figure 3. Table 18 provides the fit indices for this model as found from the path analysis. The following six criteria assessed the fit of the model: (a) Chi Square must be within three times the degrees of freedom (Segars & Grover, 1993), (b) RMSEA $\leq .06$ (Hu & Bentler, 1999) (c) CFI $\geq .95$, (d) TLI or NNFI $\geq .95$ (Hu & Bentler, 1999) (e) NFI $\geq .90$ (Segars & Grover, 1993) and (f) RFI close to 1.0 (Bollen, 1986).

Table 18

Path Analysis Comparative Fit Indices for Predicting Teacher Retention

Model	χ^2	<i>df</i>	CFI	TLI	NFI	RFI	RMSEA
Predicting Teacher Retention	58.5	31	.98	.96	.97	.92	.05

With these fit indices there was evidence that this model was a good fit for the data. Thus there is evidence that satisfaction and beginning teacher retention intentions explained some variance in teacher retention. The same path from the path analysis predicting beginning teacher retention intentions was confirmed for predicting Satisfaction and beginning teacher retention intentions.

Predicting Retention from the Gap

The third hypothesis of this study was to test the effect of the gap, between each factor's *current experience* and *essential for effective teaching*, on actual teacher retention one year after the completion of the PSI-BT. The following formula calculated the gap by computing a new variable for each item:

$$\textit{essential for effective teaching} - \textit{current experience}.$$

The mean of the gaps for each item within a factor provided a score for the gap in the factor. The hypothesis going into this analysis was that the gap between her *current experience* and what is *essential for effective teaching* in the factors assessed by the PSI-BT would significantly predict teacher retention. From this point forward, I will refer to this as

the gap. A dichotomous 2007-2008 school year retention response from school systems measured teacher retention. Mean composite scores of the gap for Mentor Support, Colleague Support, Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts were independent variables in Block 1 of a binary logistic regression. In addition, I added the Satisfaction gap and Commitment gap to the binary logistic regression analysis in Block 2 to determine their effect on beginning teacher retention. This analysis predicted the probability of a teacher remaining in the same school district one year after taking part in the PSI-BT study based on the factors of the PSI-BT, Satisfaction, and Commitment.

In Block 1, the overall model correctly classified 76.0% of the sample, but was not significant. The overall model for Block 2 accurately classified 78.2% of the sample. This overall model was significant with $\chi^2_{(10)} = 21.18, p < .05$.

Table 19 shows the logistic regression coefficient, Wald test, and odds ratio for each of the predictors in Block 1 and Block 2. Employing a .05 criterion of statistical significance, Mentor Support had a significant partial effect. In addition to Mentor Support, the gap for Administration Support and Instructional Resources were on the verge of significance. Satisfaction had a significant partial effect in Block 2. Mentor Support and Parental Contacts gaps were on the edge of significance in Block 2.

The mean of the gaps for each item within a factor provided a score for the gap in the factor. The larger the gap for a factor meant that there was more discrepancy between what the teacher believed was essential for effective teaching and her current experience. Satisfaction having a significant partial effect means that for every one point increase (on the Likert scale) in the gap, her likelihood of remaining in her school district the following school year decreased by 35%. Thus, the larger differences between what is *essential* and *current experience* resulted in an increased likelihood of teacher attrition. As was previously shown, the factors of the PSI-BT were highly correlated to the Satisfaction item 50; and thus, it was not surprising to find that the individual factors do not have significant partial effects when controlling for their overall job satisfaction when employing $p < .05$ criteria.

This analysis revealed once again that it was a difference in job satisfaction that best explained teacher retention and attrition. This research has shown areas that predict job satisfaction, and thus, decreasing the Satisfaction gap and increasing retention is possible with a concentrated effort in the areas that predict Satisfaction.

Summary

This chapter focused on evaluating the psychometric properties of the PSI-BT including confirming the factor structure and investigating convergent, discriminant, and predictive validity. This chapter also investigated the ability of the factors of the PSI-BT to predict beginning teacher retention intentions.

A confirmatory factor analysis found the PSI-BT to have 8 factors: Mentor Support, Colleague Support, Administration Support, Classroom Management, Student Success,

Instructional Resources, Assignment and Workload, and Parental Contacts. I rejected a one factor solution in favor of the 8 factor solution due to the goodness-of-fit indices.

The PSI-BT has convergent validity with the Teacher's Sense of Efficacy Scale (TSES) with significant correlations between the PSI-BT factors and TSES factors. The e-mail subscale of the Teacher Attitudes Toward Computers (TAC) was the instrument used to establish discriminant validity. The correlations were not significant between the PSI-BT factors and the TAC e-mail subscale, and thus established discriminant validity.

Binary Logistic Regression found that Satisfaction, when controlling for the factors of the PSI-BT and Commitment to teaching, was the best predictor of beginning teacher retention. This overall model was significant and explained 13% of the variance.

Multiple regression analyses and a path analysis found that Mentor Support and Colleague Support predicted Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts. These six factors in turn predicted Satisfaction and Commitment. Satisfaction and Commitment predicted beginning teacher retention intentions. Mediation analyses determined that Satisfaction and Commitment mediated the effects of the factors of the PSI-BT on beginning teacher retention intentions.

The last analysis predicted beginning teacher retention from the gap using binary logistic regression. Satisfaction was the greatest predictor of beginning teacher retention intentions when controlling for the other factors.

In its entirety, these analyses found that the PSI-BT was a valid and reliable instrument for assessing beginning teacher perceptions of success. In addition, the PSI-BT

had factors and items that predicted beginning teacher retention intentions and, to some extent, beginning teacher actual retention one school year after administering the PSI-BT.

CHAPTER FIVE: CONCLUSIONS AND IMPLICATIONS

Introduction

This study sought to establish the Perceptions of Success Inventory for Beginning Teachers (PSI-BT) as a psychometrically sound instrument that evaluates beginning teachers' perceptions of success and predicts beginning teacher retention intentions and actual retention one school year later. This chapter will provide a summary of the study, the implications of this research, and recommendations for future research.

The summary of the study will not be a complete recap, but instead will highlight the important outcomes of the research. I will present the implications in the light of how this research can aid school system administrators in their quest to support and retain their beginning teachers. The recommendations for future research will explore areas that researchers can pursue in subsequent studies using the PSI-BT.

Summary of Findings

This study sought to further establish the PSI-BT as a psychometrically sound instrument to measure beginning teachers' perceptions of success. This work has grown out of years of research on beginning teachers' perceptions of success including Reiman and Parramore's (1994) Beginning Teacher Inventory. This study used recommendations from my previous research on the PSI-BT to make improvements to the inventory and then establish this revised PSI-BT as psychometrically sound using a confirmatory factor analysis. This research also went a step further to establish predictive validity of the PSI-BT.

A thorough review of the research provided evidence that the PSI-BT factors related to beginning teacher perceptions of success and retention and provided the background from

which to answer the research questions and hypotheses. In this section I will state the research hypothesis and a summary of the findings related to it. The first four hypotheses evaluated the psychometric properties of the PSI-BT.

The first hypothesis stated that “The Perceptions of Success Inventory for Beginning Teachers will have clearly defined factors with adequate fit indices as assessed by a confirmatory factor analysis”. A confirmatory factor analysis confirmed that the PSI-BT measured the factors found in the review of the literature. These factors included: Mentor Support, Colleague Support, Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts. Researchers recognize confirmatory factor analysis as one method to establish construct validity (Pett et al., 2003; Royse et al., 2006). The fit indices for the eight factor model met the criteria set forth in the methodology. The RFI fit index was .89, which one can argue for or against if it is close to 1.0, as Bollen (1986) suggested for an adequate fit. However, with other indices within the more specific guidelines, the eight factor structure was appropriate for this sample.

After the confirmatory factor analysis, I conducted internal consistency analyses. While six of the eight factors met the hypothesized .70, Assignment and Workload was slightly lower at .68 and Colleague Support was substantially lower at .60. One possible explanation for this was scheduling set by administrators, such as having opportunities to observe exemplary teachers. Whereas others, such as “I have a colleague in my same subject area (secondary) or grade level (elementary) who will answer my questions” was more dependent on the colleagues themselves. A beginning teacher could very likely not be given

opportunities to observe exemplary teachers, even though they could ask that teacher questions. Each of these items was essential to a beginning teacher's perceptions of success; and therefore, should remain in the inventory, with attention to what each item meant for a school system.

The second hypothesis stated that "The Perceptions of Success Inventory for Beginning Teachers will have convergent validity with the Teacher's Sense of Efficacy Scale (TSES) assessed by a significant pattern of correlations for each factor." Each factor of the PSI-BT significantly correlated with at least two of the TSES factors. It was important to note that while the PSI-BT factors correlated with TSES factors, the correlations were not consistently strong, and thus the two instruments were not a duplication of each other.

The third hypothesis stated that "the Perceptions of Success Inventory for Beginning Teachers will have discriminant validity with the e-mail subscale of the Teachers' Attitudes Toward Computers as assessed through relatively low correlations for each factor." Non-significant correlations between the PSI-BT factors and the TAC e-mail subscale confirmed this hypothesis.

The last hypothesis for the first research question stated "the Perceptions of Success Inventory for Beginning Teachers factors will significantly predict teacher retention, as measured by a dichotomous 2007-2008 school year retention response from school systems." The factors of the PSI-BT combined with Satisfaction and Commitment significantly predicted beginning teacher retention. Satisfaction had a significant partial effect in predicting the likelihood of a beginning teacher remaining in their school district one year after completing the PSI-BT.

These analyses provided some predictive power of the PSI-BT, though I recognize that the results are not as strong as one would like. One of the problems with longitudinal research is the possibility that other factors not being assessed are influencing the outcome. In this case, I assessed teacher retention on the school system level due to confidentiality reasons. Thus retained teachers included those who moved from one school to another in the same school system, even though some parts of the current job may have been unsatisfactory. In addition, this inventory by design does not assess personal issues like moving, having children, etc. Therefore, these factors account for some variance in attrition. The reason the inventory does not assess these factors is that it is designed to assess those factors that school systems can make improvements in or change in order to increase retention. Even though the variance explained is only 13% of beginning teacher retention, if school systems across North Carolina were to implement a concentrated improvement plan on one specific area highlighted by the PSI-BT and retain just 1% more of their beginning teachers (in their first 3 years of teaching), the state would save over \$2,000,000.

The second research question asked if the factors of the Perceptions of Success Inventory for Beginning Teachers predict beginning teacher retention intentions, Satisfaction, and Commitment. The fifth hypothesis stated that “Mentor Support, Colleague Support, Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts will predict beginning teacher retention intentions.” A multiple regression analysis found that Administration Support and Assignment and Workload had significant partial effects when controlling for all eight factors of the PSI-BT.

Multiple regression analyses analyzed the sixth hypothesis that “Mentor Support, Colleague Support, Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts will predict Satisfaction.” With all factors of the PSI-BT included, Administration Support, Classroom Management, Assignment and Workload, and Parental Contacts had significant partial effects. The addition of Commitment as a predictor resulted in Instructional Resources and Commitment as significant partial effects.

The seventh hypothesis stated that “Mentor Support, Colleague Support, Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts will predict Commitment.” Multiple regression analyses found that Classroom Management, Student Success, and Instructional Resources had significant partial effects. The addition of Satisfaction as a predictor decreased the significance of Classroom Management, and Satisfaction emerged as a significant predictor. These three findings warranted an analysis to determine if Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts mediated the effects of Mentor Support and Colleague Support on Satisfaction and Commitment. The steps outlined by Baron and Kenny (1986) confirmed this hypothesis. The mediation analyses found that Satisfaction and Commitment mediated the effect of the factors on beginning teacher retention intentions through a factor composite score. These analyses replicated previous research that identified these factors as contributing to beginning teacher retention. However, the present study goes a step further

than some studies by using regression and path analyses to establish predictive validity for the PSI-BT.

A path analysis also provided evidence that beginning teacher retention intentions predicted beginning teacher retention. Satisfaction and beginning teacher retention intentions predicted the likelihood of teacher retention. Satisfaction and Commitment predicted beginning teacher retention intentions. Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts predicted Satisfaction and Commitment. Mentor Support and Colleague Support predicted these factors.

The third research question asked if the gap between beginning teachers' perception of their *current experience* and what is *essential for effective teaching* predicted teacher retention. The hypothesis stated that "the gap between her *current experience* and what is *essential for effective teaching* in the factors assessed by the PSI-BT will significantly predict teacher retention." A binary logistic regression analysis found that the gap between a beginning teacher's current job satisfaction and what she felt was *essential for effective teaching* was a significant partial effect in predicting the likelihood of beginning teacher retention. Therefore, school systems must implement strategic initiatives to increase beginning teacher's satisfaction with their current job in an effort to retain beginning teachers.

One possible area for a strategic effort is Mentor Support, given that the school system has a substantial gap between *current experience* and what is *essential for effective teaching*. The gap for Mentor Support was a significant predictor when not controlling for

Satisfaction. This finding suggests that increasing the beginning teacher's satisfaction with her Mentor Support would decrease the gap and increase the likelihood of remaining in the classroom. School systems leaders must use existing literature to inform the Mentor Support initiatives to be implemented. Ingersoll and Smith (2004) found Mentor Support was one of the strongest predictors for reducing teacher turnover given that the assigned mentor is in the same field and provided planning time with teachers in the same area. While Mentor Support is important, it is not the complete picture. Therefore, school systems must look at each of the factors to determine the area initiate a reform based on their complete PSI-BT data.

Implications

This research has contributed to school system's strategic planning for new teacher support. It is also my hope that this research, and in particular the PSI-BT inventory as a benchmarking tool for policy makers and school systems.

One of the benefits for school system personnel that agreed to participate was a full report on their individual system's results. This report included not only means for each item and factor, but also provided specific information about both teacher induction components to celebrate and teacher induction components to change to more effectively support beginning teachers. Many of the school system personnel took the report to their superintendent, principals, and mentors. School system personnel have been particularly interested in the differences between the beginning teacher's *current experience* and what the beginning teachers say is *essential for effective teaching*.

Some of the school systems went a step further and started making plans to implement changes recommended from the PSI-BT. The effect these changes had remains to

be seen, but the important point is that this tool has been used by school systems to initiate changes that beginning teachers themselves say are important.

As school system personnel make changes in their induction programs as recommended by PSI-BT data, the ultimate goal is to retain more teachers. Retaining an additional 1% of teachers through systemic changes recommended by the PSI-BT can translate into substantial savings for the school system and tax payers. According to data from the North Carolina Department of Public Instruction, there were a total of over 17,000 teachers in their first three years of experience during the 2006-2007 school-year. If only one additional percent of these teachers were retained (170 teachers), North Carolina school systems and tax payers would save over \$2,000,000.

Limitations of the Study

Despite the implications of this research, as with all research, there are some limitations. In the first chapter of this dissertation, limitations presented included the lack of an urban sample, the lack of a confirmatory factor analysis to confirm the TSES as a three factor instrument, and technology problems for one participating school system. In this final chapter, I will discuss additional limitations that presented themselves throughout this research.

One limitation of this research was its potential to promulgate beginning teachers' fears of reprisals because they answered the survey. While I did my best to assure confidentiality, I cannot be sure that this did not play a part in the responses. This is a part of the error that is not controllable in survey research.

A second limitation was that 59 teachers did not provide names or complete names that I could match from the retention data received in the fall of 2007. This, in addition to two school systems that did not provide retention data, meant a decreased response in retention data. Those that did not provide names or incomplete names may have had reservations about their responses. An analysis did find that this group of teachers did have lower mean scores than those who provided complete names. Mentor Support did have a significant difference. If any of these teachers slightly inflated their responses, then more significant differences are possible. This would therefore impact the analyses on predicting retention, possibly providing more significant partial effects in the binary logistic regression. Unfortunately, I could not substantiate this hypothesis by the existing data, and thus was part of the error and a limitation in this study.

Recommendations for Future Research

I put forethought into the demographic items to include in this study. Therefore, further research includes disaggregating by many of these items including grade level taught, licensure type, number of years of experience, and having a mentor who teaches the same subject and grade level. By disaggregating by the grade level the beginning teacher teaches, I can determine if the supports needed and wanted differ by elementary, middle, and high school teachers. Disaggregating by licensure type would enable a school system to determine if those without a degree in education need more specialized help in an area as opposed to those with a degree in education. The same is true for years of experience. A first-year teacher may need help in one area that a third-year teacher has mastered. This research would enable school systems to think about how they should design their induction programs.

Very few induction programs provide mentors in the same grade level and/or subject area (Ingersoll, 2003). Do the teachers given this support differ in their perceptions of success from those with a mentor outside of their area?

Another line of research would use the PSI-BT as a benchmarking tool. A school system would administer the PSI-BT to their beginning teachers. After going over the recommendations for improvement, the researchers and school system would work together to develop a comprehensive program to improve one of the areas of support. The school system leaders would administer the PSI-BT at the end of that program along with customization options to look specifically at the program implemented. Retention would be another variable that could be measured to see if retention improved with the implementation of the program recommended by the PSI-BT data.

Conclusion

The Perceptions of Success Inventory for Beginning Teachers (PSI-BT) evaluated the areas that literature throughout the past several decades have found to contribute to beginning teachers' perceptions of success and beginning teacher retention. The PSI-BT measured Mentor Support, Colleague Support, Administration Support, Classroom Management, Student Success, Instructional Resources, Assignment and Workload, and Parental Contacts. In addition the PSI-BT has outcome factors of Satisfaction, Commitment, and Beginning Teacher Retention Intentions.

Why invest so much effort in evaluating an instrument when so many researcher-designed surveys are without validations, yet still used? The reason is that school system personnel need assurance that the data they receive is based on a validated instrument

measuring beginning teachers' perceptions of success. If the instrument is not psychometrically sound, then the resulting data is not valid or reliable. With valid data, the school system personnel can make decisions based on the PSI-BT results in an effort to improve their induction programs and retain beginning teachers.

The PSI-BT offers more than just the ability to measure each of its factors reliably, even though some have higher internal consistency than others. It also has proven to predict beginning teacher retention intentions, and to some extent, beginning teacher retention. Thus, the PSI-BT is more than just a survey to measure a school system induction program; it also has some predictive power in terms of teacher retention.

Why is it critical for school system personnel to evaluate their induction program? Retaining teachers is a national problem with 50% of all teachers leaving the profession in their first five years in the career. Additionally, the cost to school systems and tax payers to replace one teacher is at least \$12,350 (Alliance for Excellent Education, 2005). The total yearly cost of new teacher turnover is in the millions. Therefore, now is the time to act, and that includes gathering data from the ones that make the decision on whether to remain in teaching or leave, the beginning teachers themselves. The PSI-BT offers a way for school systems to achieve this aim.

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APPENDICES

APPENDIX A: SCHOOL SYSTEM CONSENT FORM

North Carolina State University INFORMED CONSENT FORM for RESEARCH

School System Consent Form

Title of Study: The Perceptions of Success Inventory for Beginning Teachers

Principal Investigator: Kristen Corbell
Osborne

Faculty Sponsors: Alan Reiman and Jason

We are asking you to participate in a research study. The purpose of this study is to continue the evaluation of the Perceptions of Success Inventory for Beginning Teachers. This inventory has been designed to evaluate levels of support that beginning teachers feel they are receiving from their school and school system. For this study, we are interested in the population of beginning teachers as a whole, and thus individual responses will not be reported. Names are requested, but not required, for the purpose of clarification. School systems will be provided with a report on the mean responses to the inventory with the exception of no information will be reported regarding the last item on the inventory, number 54. Percentage of teachers selecting each item will be reported for item 50. No individual responses will be reported to the school system for any item.

INFORMATION: If you agree to participate in this study, you will be asked to:

Help in either coordinating a common time for ILT's to meet and participate in the research or help in disseminating e-mails to ILT's with information on how to access the surveys on-line. A consent form specifically for ILT's will be given. If the online option is chosen, participants will have a user name and password to access the consent form which they will be asked to accept that they will participate in the study. Participants will be prompted to print a copy of the consent form for their records, and then they can access and submit the PSI-BT, Teacher's Sense of Efficacy Scale, e-mail subscale of the Teachers' Attitudes Toward Computers, and demographics. After one year we would like to follow up and find out if the teachers are still teaching in your school system. We will ask that you provide a list of the teachers currently teaching in your system, who were teaching at the time of the administration. We ask this so that the participants are kept anonymous. This will be asked to establish how well the PSI-BT can predict retention of teachers.

RISKS

There are no foreseeable risks by completing this research.

BENEFITS

It is anticipated that the responses to this inventory will provide school systems with quantitative data to evaluate how beginning teachers in their schools are supported. Thus, the school system can use the data to make improvement in their induction program and support beginning teachers more effectively.

CONFIDENTIALITY

The information in the study records will be kept strictly confidential. Data will be stored securely in a locked area. A four digit code will be given to each response and the demographic page will be kept separate from the inventory. The demographic page does ask for the ILT's name, if they are comfortable giving it. Their name is asked for so that we can follow up in one year to find out if they are still teaching. The only response that will be asked is a yes or no from your district. No information will be given regarding individual responses to any question on the surveys. No reference will be made in oral or written reports which could link ILT's to the study. The only reports given will be on the sample as a whole, and not individual responses. The ILT's name is asked only to establish if this scale can be used to help retain teachers.

CONTACT

If you have questions at any time about the study or the procedures, you may contact the researcher, Kristen Corbell (address and phone number were given). If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact Dr. Matthew Zingraff, Chair of the NCSU IRB for the Use of Human Subjects in Research Committee, Box 7514, NCSU Campus (919/513-1834) or Mr. Matthew Ronning, Assistant Vice Chancellor, Research Administration, Box 7514, NCSU Campus (919/513-2148)

PARTICIPATION

Your participation in this study is voluntary; you may decline to participate without penalty. If you decide to participate, you may withdraw from the study at any time without penalty and without loss of benefits to which you are otherwise entitled. If you withdraw from the study before data collection is completed, your data will be returned to you or destroyed at your request.

CONSENT

“I have read and understand the above information. I have received a copy of this form. I agree to participate in this study with the understanding that I may withdraw at any time.”

Subject's signature _____ Date _____

Investigator's signature: _____ Date: _____

APPENDIX B: BEGINNING TEACHER CONSENT FORM

North Carolina State University
INFORMED CONSENT FORM for RESEARCH
Consent for Beginning Teachers

Title of Study: The Perceptions of Success Inventory for Beginning Teachers

Principal Investigator: Kristen Corbell Faculty Sponsors: Alan Reiman and Jason Osborne

We are asking you to participate in a research study. The purpose of this study is to continue the evaluation of the Perceptions of Success Inventory for Beginning Teachers. This inventory has been designed to evaluate levels of support that beginning teachers feel they are receiving from their school and school system. For this study, we are interested in the population of beginning teachers as a whole, and thus individual responses will not be reported. Names are requested, but not required, for the purpose of establishing predictive validity. Schools and school systems will not be notified who participated in the study. School systems will be provided with a report on the mean responses to the inventory with the exception of the last item in which no information will be reported to schools and school systems. Percentage of respondents selecting each choice on item 51 will be given to school systems. No individual responses will be reported to the school system.

INFORMATION

If you agree to participate in this study, you will be asked to

- Complete a demographic (5 minutes)
 - Complete the Perceptions of Success Inventory for Beginning Teachers (PSI-BT) (20 - 25 minutes)
 - Complete the Teachers Sense of Efficacy Scale (5 - 10 minutes)
 - Complete the E-mail subscale of the Teachers' Attitude Toward Computers (5 minutes)
- If you participate via pencil and paper, please seal your packet once you are finished in the attached envelope.

RISKS

There are no foreseeable risks by completing this research.

BENEFITS

It is anticipated that the responses to this inventory will provide school systems with quantitative data to evaluate how beginning teachers in their schools are supported. Thus, the school system can use the data to make improvements in their induction program and support beginning teachers more effectively.

CONFIDENTIALITY

The information in the study records will be kept strictly confidential. Data will be stored securely in a locked area. A four digit code will be given to each response and the demographic page will be kept separate from the inventory. The demographic page does ask for your name, if you are comfortable giving it for the purposes of getting retention data. Your school system will be asked to provide a list of those teaching in their system who taught at the time of the administration of the research. The investigator will match this with the names on the demographic page. The code for your demographics will then be used to match up your responses with whether you are teaching in the school system at that time. Your individual demographic information will not be reported from this study. No information will be given to the school system regarding your individual responses to any question on the surveys. **No reference will be made in oral or written reports which could link you to the study. The only reports given will be on the sample as a whole, and not individual responses. Your name is asked only to establish if this scale can be used to help retain teachers. No report will be given to school systems or schools regarding answers to item 54 on the PSI-BT.**

COMPENSATION

For participating in this study you will be entered into a drawing for door prizes you can use in your classroom.

CONTACT

If you have questions at any time about the study or the procedures, you may contact the researcher, Kristen Corbell (address and phone number were given). If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact Dr. Matthew Zingraff, Chair of the NCSU IRB for the Use of Human Subjects in Research Committee, Box 7514, NCSU Campus (919/513-1834) or Mr. Matthew Ronning, Assistant Vice Chancellor, Research Administration, Box 7514, NCSU Campus (919/513-2148)

PARTICIPATION

Your participation in this study is voluntary; you may decline to participate without penalty. If you decide to participate, you may withdraw from the study at any time without penalty and without loss of benefits to which you are otherwise entitled. If you withdraw from the study before data collection is completed, your data will be returned to you or destroyed at your request.

CONSENT

“I have read and understand the above information. I have received a copy of this form. I agree to participate in this study with the understanding that I may withdraw at any time.”

Subject's signature _____ Date _____

Investigator's signature: Kristen A. Corbell

Date 10/2/2006

APPENDIX C: PSI-BT

Perceptions of Success Inventory for Beginning Teachers

© Corbell, K.A., Reiman, A.J., Nietfeld, J., Osborne, J.

Directions:

This inventory will ask you to consider several aspects of your experience as a beginning teacher. **Your individual responses will not be given to your school or school system, so please answer each question honestly.** Your participation in this survey is valuable as we attempt to better understand beginning teachers' perceptions of success. **The last item on this inventory, number 54, will not be reported in anyway to your school or school system.** Please rank each of the items in the following two ways:

- 1. This is my current experience in my school:*
- 2. This is essential for effective teaching:*

Use the following scale to answer each of the questions.

- 1: strongly disagree
- 2: disagree
- 3: slightly more disagree than agree
- 4: slightly more agree than disagree
- 5: agree
- 6: strongly agree.

Mentor Support

Instructions: Please think about your mentor assigned to you or another experienced teacher who provides you with assistance. **If your response to question 1 is no, only answer question 2 and move to the next section.**

1. Do you have a mentor assigned to you by the school or another experienced teacher to provide you with assistance?

Yes No

2. The mentoring relationship is or would be important to me.

1 2 3 4 5 6

3. My mentor or an exemplary teacher has provided assistance with classroom management.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

4. My mentor or an exemplary teacher has provided assistance with instructional concerns.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

5. My mentor or an exemplary teacher has provided assistance related to communication with parents or caregivers of my students.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

6. My mentor or an exemplary teacher is empathetic.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

7. My mentor or an exemplary teacher encourages me to reflect about my teaching.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

8. Working with my mentor has been a positive experience.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

Colleague Support

Instructions: For the following questions think about your experiences this year with your colleagues, both experienced and novice teachers as indicated.

9. I have opportunities for meaningful conversations with other novice teachers in a setting free of evaluation.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

10. I have common planning times with other teachers at my same grade level or subject area.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

11. I have opportunities to visit and observe exemplary teachers.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

12. I have a colleague in my same subject area (secondary) or grade level (elementary) who will answer my questions.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

Administration Support

Instructions: For the following questions consider your experiences this year with the principal and assistant principal(s) in your school.

13. The administration at my school provides appropriate feedback for my discipline decisions.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

14. The administration at my school encourages me to be an effective teacher.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

15. The administration has oriented me to the school and staff.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

16. I am satisfied with the contact I have with my administration.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

17. The administration provides me with effective instructional leadership.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

Classroom Management

Instructions: For the following items think about the management of your classroom in terms of routines, procedures, and discipline.

18. I have developed clear routines and procedures for my classroom that are aligned with school policy.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

19. I have implemented consistent routines and procedures in my classroom.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

20. The discipline procedures in my classroom are effective.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

21. The discipline in my classroom is supportive of a good learning environment for my students.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

22. I feel in control when I am teaching.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

Professional Judgment

Instructions: For the following items think about your professional interactions, judgments, and decisions.

23. I think about my professional conduct in light of moral and ethical standards.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

24. I feel empowered to take action when I see vulnerable students that need my attention.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

25. I communicate with parents in a professional manner.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

26. I communicate with other faculty and staff in a professional manner.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

27. I feel like I have autonomy in making decisions about my class.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

Student Success

Instructions: Answer the following items by reflecting on how successful your students are in your classroom.

28. I am able to successfully teach students with a variety of ability levels.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

29. I am able to motivate all students.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

30. I am able to use a variety of teaching strategies to provide my students with instruction that is effective for them.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

31. I am able to effectively teach students with learning disabilities.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

32. I am able to effectively teach students with limited English proficiency.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

33. I am able to effectively teach my students from diverse backgrounds.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

34. I am able to frame my instructional decisions based on my students' learning.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

Instructional Resources

Instructions: For the following items think about the instructional resources your school has provided you with to facilitate effective planning and instruction.

35. I have been provided with curriculum that aligns with the state's objectives for my grade level or subject area.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

36. I have the curriculum materials I need to teach effectively.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

37. I feel confident in my ability to use the instructional technology available to me.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

38. The school provides professional development that is valuable to my instruction in the classroom.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

39. I feel confident in my ability to grade student work.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

40. I feel comfortable with reporting the assessment of my students' work.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

Assignment and Workload

Please respond to the following items about your teaching assignment and current workload.

41. I think the number of preparations I have for my classes is appropriate for a beginning teacher.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

42. I have at least one period per day that I can devote without interruption to planning for my classes.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

43. My overall teaching workload is reasonable.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

44. Beginning teachers are allowed to choose whether to take on extra duties or not.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

45. I am satisfied with state and national testing policies.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

Parental Contacts

Instructions: For this section, consider the experiences you have had with the parents or caregivers of your students.

46. The parents or caregivers of my students are supportive of their child's progress in school.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

47. I feel comfortable with communicating with the parents or caregivers of my students.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

48. I have adequate guidance and support in working with parents or caregivers.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

49. It is important to communicate with all of my students' parents or caregivers.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

Satisfaction

Instructions: For this section, consider your satisfaction with your current job.

50. In general, I am satisfied with my current job.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

51. If someone could change any of the following items, which ones would be most important to improve your satisfaction with your job? Choose the THREE most important items only.

- salary
- health and retirement benefits
- mentor support
- colleague support
- Administration Support
- student discipline
- your professional judgment
- teaching students with varied abilities
- Assessing student progress
- student motivation
- your instructional resources
- your teaching assignment
- your overall workload
- parental support
- professional development

Commitment

For this section, consider your level of commitment to teaching as a profession.

52. I consider teaching to be my ideal career.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

53. I feel inspired to instruct students to the best of my ability.

Current Experience: 1 2 3 4 5 6

Essential for effective teaching: 1 2 3 4 5 6

School systems will not receive any information from the following item. Your response to this question is needed only for validation purposes of the survey.

54. Think about your intentions of teaching. Which category best fits your intentions.

1. I am not considering leaving teaching.
2. I have considered the possibility of leaving teaching, but have decided to teach next year.
3. I am making preparations to leave the profession of teaching at some time in the future.
4. I have made the decision to leave teaching after this year.

APPENDIX D: TEACHERS' SENSE OF EFFICACY SCALE (SHORT FORM)

Teacher Beliefs									
<p>Directions: This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinion about each of the statements below. Your answers are confidential.</p>		Nothing		Very Little		Some Influence		Quite a Bit	A Great Deal
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. How much can you do to control disruptive behavior in the classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2. How much can you do to motivate students who show low interest in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3. How much can you do to get students to believe they can do well in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
4. How much can you do to help your students value learning	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
5. To what extent can you craft good questions for your students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
6. How much can you do to calm a student who is disruptive or noisy?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
7. How well can you establish a classroom management system with each group of students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
8. How much can you use a variety of assessment strategies?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
9. To what extent can you provide an alternative explanation or example when students are confused?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
10. How well can you respond to defiant students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
11. How much can you assist families in helping their children do well in school?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
12. How well can you implement alternative strategies in your classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing and elusive construct. *Teaching and Teacher Education*, 17, 783-805. Scale retrieved from <http://www.coe.ohio-state.edu/ahoy/TSES.pdf>

APPENDIX E: TEACHER'S ATTITUDE TOWARD COMPUTERS

**Teacher's Attitude Toward Computers E-mail Subscale
Developers: Gerald Knezek and Rhonda Christensen**

Directions: Respond to each item with the following scale:

1 = strongly disagree 2 = disagree 3 = undecided 4 = agree 5 = strongly agree

1. The use of Electronic mail (E-mail) makes the student feel more involved.

1 2 3 4 5

2. The use of E-mail helps provide a better learning experience.

1 2 3 4 5

3. The use of E-mail makes a class more interesting.

1 2 3 4 5

4. The use of E-mail helps the student learn more.

1 2 3 4 5

5. The use of E-mail increases motivation for class.

1 2 3 4 5

6. More courses should use E-mail to disseminate class information and assignments.

1 2 3 4 5

7. The use of E-mail creates more interaction between students enrolled in the course.

1 2 3 4 5

8. The use of E-mail creates more interaction between student and instructor.

1 2 3 4 5

9. E-mail provides better access to the instructor.

1 2 3 4 5

10. E-mail is an effective means of disseminating class information and assignments.

1 2 3 4 5

9. What type of license do you hold?

Initial Provisional Lateral Entry

other (please specify) _____

10. How old are you? _____

11. What county and state do you teach in? _____

12. What is the name of your school? _____

13. What is the highest degree do you have?

Bachelor Master Advanced (6th year) Doctorate