The Perceptions of Success Inventory for Beginning Teachers:
Measuring its psychometric properties

Kristen A. Corbell*, Alan J. Reiman, John L. Nietfeld
Curriculum & Instruction, North Carolina State University, Poe Hall Campus, Box 7801, Raleigh, NC 27695, USA

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Abstract

This study investigated the construction and evaluation of an instrument called the Perceptions of Success Inventory for Beginning Teachers (PSI-BT) intended to measure factors documented in research that contribute to beginning teachers’ perceptions of success. The PSI-BT was found to assess the following factors using 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. Internal reliability, content validity, and concurrent validity were also measured in the validation process. Our findings suggest that the PSI-BT provides a reliable and valid instrument that can provide schools with valuable feedback to ensure the success of their beginning teachers.

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1. Introduction

This research focuses on beginning teachers in the United States and their perceptions of success as a classroom teacher. School systems utilize a variety of methods to retain their teachers, including induction programs. In the United States, induction programs are designed to provide beginning teachers with supports such as an experienced teacher who will mentor the teacher during the first critical years. Despite induction programs, the attrition rate of beginning teachers is still very high. Ingersoll and Smith (2004) reported that many studies have found the attrition rate of United States teachers in the first 5 years of their career to be as high as 50%. Just as with other occupations, some teacher turnover can be good in terms of hiring teachers with fresh ideas and approaches or retaining only those who excel at teaching (Ingersoll, 2003). However, problems arise in schools when the turnover rate affects the school’s performance and consistency. When teachers left, the new teachers coming in must be introduced to a school’s policies, and thus decreasing consistency existed (Ingersoll, 2003).

Many countries are currently researching beginning teachers. The United States is not alone in its dilemma with teacher retention. Great Britain is also facing teacher retention problems (Weiss, 1999). In addition, Borg and Riding (1991) conducted research in Malta on beginning teacher’s satisfaction.
Ingersoll (2003) found that teacher shortage was attributed in part to increasing student enrollment and teacher retirement, but this only explained part of the teacher shortage. With over half of all teachers leaving within their first 5 years of teaching, there were other reasons for this teacher shortage (Ingersoll, 2003). Ingersoll reported reasons teachers gave for leaving their present school for 1994–1995. Retirement represented 12.9% of the turnover, while school-staffing actions such as layoffs, school closings, and reorganizations made up 20.4% of the turnovers. The predominant reason for leaving was family or personal. This included those who left to care for their children, those who had health problems, and those who moved. Those who left for other jobs, both in or out of education, accounted for 26.8% of the turnover and 28% left due to being dissatisfied with their current job. The reasons given for the dissatisfaction were low pay (54.3%), little administration support (42.7%), discipline problems with students (22.8%), and not being included in making decisions that affected them (16.5%). The remaining reasons given were poor student motivation, classroom interruptions, insufficient time, and large class sizes (Ingersoll, 2003).

The Ingersoll (2003) study illustrated the complexity of teacher attrition. However, it did not offer much beyond the specific reasons for why teachers left or remained in the profession. Still needed are ways of discerning what schools and school districts are doing to support new teachers and whether novice teachers believe these efforts are useful.

Preliminary studies by Reiman and Parramore (1994) investigated new teachers’ challenges and perceptions of support as they began their professional careers and found that a sense of support ameliorated some of the challenges of new teaching. Reiman and Parramore (1994) surveyed 74 first-year teachers. Objectives of the study were to assess new teacher perceptions of support and workload. First year teachers noted adequate planning time, having curriculum resources available, interaction with mentors and beginning teachers, and administrative support as most important to their perceptions of success. The survey examined the discrepancy between new teachers’ perceptions of “what is” and “what should be”. The “what is” related to what the beginning teachers perceived as what was currently occurring. The “what should be” dealt with what beginning teachers perceived as being what should be occurring for them in their situation. The greatest congruence between “what is” and “what should be” was related to support from mentors and the importance of feedback about their instruction. With respect to assignment, 30% of the new teachers did not have a regular classroom assigned to them. Instead, they floated from classroom to classroom with their curriculum and materials on a cart. This study on The Perceptions of Success Inventory for Beginning Teachers (PSI-BT) was an extension of the Reiman and Parramore (1994) study as it also investigated “what is” occurring for beginning teachers in their current situation, and was the basis from which many items were created.

In order for school districts and school personnel to adequately provide for their beginning teachers, the personnel first need to know what a beginning teacher is experiencing and how school leaders can make that experience better. One way of determining this information efficiently is with a survey. Constructing a survey that reliably assesses new teacher perceptions of success was the goal of this investigation. New teacher perceptions of success are defined as the factors that influence a new teacher’s perception of how successful they are in teaching and how they are addressed in his/her job. These factors influence teacher retention. These factors pertain to working conditions and overall satisfaction with teaching. We synthesized the literature on beginning teacher satisfaction, support, attrition, efficacy, and induction to eight predominant factors: (1) Resource Support, (2) Administrative Support, (3) Mentor Support, (4) Colleague Support, (5) Assignment and Workload, (6) Commitment, (7) Student Outcomes, and (8) Efficacy and Professionalism.

Building on the Reiman and Parramore (1994) work a new instrument called the PSI-BT was designed and evaluated to assess new teachers’ perceptions of success. This instrument was then administered to beginning teachers to establish its psychometric properties and measure the degree of perceived success by novice teachers in our sample.

2. Factors of beginning teachers’ success

Previous research has found numerous factors that contribute to the success of beginning teachers. Weiss (1999) found that “first-year perceptions of school leadership and culture and teacher autonomy and discretion shape the extent of their willingness to do their best work, to commit to teaching as a
career choice again, and to plan to stay in teaching” (p. 869).

2.1. Teacher efficacy

Tschannen-Moran and Hoy (2001) gave the following definition of teacher efficacy. “A teacher’s efficacy belief is a judgment of his or her capabilities to bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated” (p. 783). Research has shown that a teacher’s efficacy is related to how teachers’ decisions are made, how goals are shaped, how planning and organization are implemented, and how teachers react in the classroom and relate to students (Tschannen-Moran & Hoy, 2001). In addition, teachers with high self-efficacy embrace new ideas and methods for teaching (Tschannen-Moran & Hoy, 2001). Most significant to the PSI-BT study was that teachers with a greater sense of efficacy also tended to stay in teaching and have “a greater commitment to teaching” (Tschannen-Moran & Hoy, 2001, p. 784). Woolfolk (2000) has found that self-efficacy for teaching typically rises during teacher training programs but then shows a decline in the first year of teaching. Level of support in the first year of teaching is critical to maintaining high self-efficacy and Woolfolk (2000) argues that this support should be continue over an extended period of time.

2.2. Resource support

Kauffman, Johnson, Kardos, Liu, and Peske (2002) investigated the relationships between curriculum and new teacher perceptions of success. They noted “complete curriculum specifies content, skills, or topics for teachers to cover which suggests a timeline and incorporates a particular approach that offers instructional materials” (Kauffman et al., 2002 p. 274). A framework of standards, or a list of what students are expected to achieve during the year is important, but this must be presented in conjunction with other resources to be helpful for new teachers (Kauffman et al., 2002). Kauffman et al. also reported that new teachers welcomed guidance in the use of textbooks and preferred frequent feedback about curriculum.

Johnson and Birkeland (2003) found in a longitudinal study that the success teachers felt was often related to school site issues such as the availability of resources, among others. Brewster and Railsback (2001) report that one of the most important components in supporting beginning teachers is providing the elements that face beginning teachers every day including where to find needed supplies and essential classroom materials. Berry and Hirsch (2005) argue that teachers tend to stay in schools that provide resources that allow for effective teaching. In addition, they emphasize the need for action to be taken at the state level to analyze resources and working conditions at individual schools.

2.3. Administrative support

Johnson and Birkeland (2003) described in a second article based on their study of 50 beginning teachers from Massachusetts how influential the administration can be in a teacher’s decision to stay, leave, or move to another school. In this study, 13 of the teachers were called “settled stayers” (Johnson & Birkeland, 2003, p. 603) due to their satisfaction with their career and school, and thus were expected to stay in their position for several years. The settled stayers consistently spoke of an administration that supported their teachers and was available, advocated that improvement, as a teacher was continual, and provided feedback on their teaching. The teachers, called “movers”, who voluntarily moved to other schools did so because they did not feel that their dissatisfaction was endemic of teaching itself. Instead, they believed a different school would provide them with the satisfaction they sought in teaching. As a group, these teachers reported that the principals of schools from which they transferred were “absent, punitive, or controlling” (Johnson & Birkeland, 2003, p. 599). When seeking a new school, these teachers consistently reported seeking a school in which the administration was supportive, encouraging, and willing to find time for colleagues to work together. The teachers who left teaching gave several factors that contributed to their decision. One predominant theme was the administration in which the principal was “arbitrary, abusive, or neglectful” (Johnson & Birkeland, 2003, p. 594).

Quinn and D’Amato Andrews (2004) investigated first year teachers and the support they needed using a mixed method design. They emphasized the role the principal plays in supporting first year teachers. 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. They conclude that principals must support their beginning teachers and encourage the other teachers to do the same.

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

2.4. Mentor support

One of the most widely used elements in induction programs for new teachers was that of mentoring where a beginning teacher was assigned an experienced teacher for support. Mentors should optimally teach the same subject(s) and grade(s) in the same school as the beginning teacher (Ingersoll & Smith, 2004; Johnson & Birkeland, 2003). Johnson and Birkeland (2003) described this mentoring situation as one that rarely exists. In their study, Johnson and Birkeland found inappropriate pairings of mentors and novice teachers in regards to subject, grade, and school as well as to conflicts in personality and few observations between novices and mentors due to schedule conflicts.

Ingersoll and Kralik (2004) conducted a meta-analysis of research conducted on mentoring programs and their impact on teacher retention. Only 10 studies met criteria for inclusion. These criteria included quantitative data, evaluation of effects of mentoring using specific outcomes, and comparisons of a group receiving mentors and a group that did not receive mentors. All of these studies had shortcomings, but taken as a whole, mentoring programs had positive effects on the retention of teachers (Ingersoll & Kralik, 2004). Many of these studies did not describe the types of support included or did not have large sample sizes, and therefore further research was needed (Ingersoll & Kralik, 2004).

In response to this meta-analysis, Ingersoll and Smith 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 Followup Survey (TFS). The data were representative of the nation, and the sample size was over 3235. The data showed that two-thirds of beginning teachers were in close contact with their mentors. Of these teachers, about 70% were matched with mentors in their same field, and 90% said their mentors were helpful. One of the strongest factors for reducing teacher attrition was having a mentor in the same field. 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. When these three types of support were joined with an induction program, a seminar for beginning teachers, and supportive administration the turnover rate reduced to 24%. Only 13% of new teachers reported receiving all six supports (mentoring, common planning time, time for collaboration, an induction program, seminar for beginning teachers, and administration support). In comparison, 16% reported receiving no induction or mentoring support, and this group had a turnover rate of 40% (Ingersoll & Smith, 2004). Thus, the data suggested that the lack of mentoring and a comprehensive induction program was associated with doubling the rate of attrition for beginning teachers.

Odell and Ferraro (1992) conducted a study of two groups of K-5 teachers and followed up with them 4 years later. The first group had 81 teachers, while the second had 79 teachers. Each teacher received support from one of nine mentors inside and outside of the classroom during his or her first year of teaching. The support was nonevaluative; encouraged reflection; and utilized shared teaching, peer coaching, and questioning. The mentors received weekly 4h seminars from university faculty. Four years after their mentored experiences, the beginning teachers were contacted for retention data. Eighty-eight percent of the teachers were found and contacted. 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 5 years of teaching cited by Ingersoll (2003). Odell and Ferraro cite that data on teachers without mentor support show an attrition rate of twice that found with the mentored teachers.

Odell and Ferraro (1992) also utilized a Likert scale items for (1) the influence of the mentoring
experience on attitudes toward teaching and (2) the helpfulness of the overall mentoring experience. The average score was 4.1 for the first item on a scale of 1 being a negative influence to 5 being a positive influence. The second item had a mean score of 4.2. The three top ranked categories of mentor support were emotional support, instruct strategies, and classroom resource support. These three categories were followed by support with student discipline and making parental contacts.

2.5. Colleague support

Time to interact with and support of colleagues can also be critical to a new teacher’s perception of success (see Feiman-Nemser & Beasley, 1997; Paisley, 1990). Johnson and Birkeland (2003) reported a number of interesting findings related to the importance of colleague support for beginning teachers. Colleagues who willingly shared advice and strategies for teaching effectively were respected by the new teachers. In addition, having colleagues who shared effective instructional strategies were part of the reason beginning teachers felt successful and that they were supported. Colleagues and schools that promoted learning as a continual process were instrumental in contributing to the satisfaction the new teachers felt in their positions. Furthermore, new teachers appreciated the opportunity to investigate and contribute to practice-centered conversations. Teachers who were movers or leavers described teaching in isolation as one factor that contributed to their dissatisfaction. Movers left the schools where they worked in isolation for schools where colleagues interacted and shared ideas for teaching. Those teachers, titled “settled stayers”, described their supportive colleagues as a reason for their decision to stay at their school (Johnson & Birkeland, 2003). In sum, these studies point to the need for the sharing of ideas as important components in the teacher development process.

Smith and Ingersoll (2004) conducted research using the SASS and TFS data. Among other types of induction support, the authors studied the impact of colleague support on the retention of teachers. Those beginning teachers provided 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.

3. Assignment and workload

Numerous studies have addressed the role of a reduced teaching assignment and workload in retaining teachers (Birkeland & Johnson, 2002; Ingersoll & Smith, 2004; Johnson & Birkeland, 2003; Reiman & Parramore, 1994). Ingersoll and Smith (2004) 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. While studies investigating this factor highlight the importance of a reduced workload (Birkeland & Johnson, 2002; Ingersoll & Smith, 2004; Johnson & Birkeland, 2003; Reiman & Parramore, 1994), very few beginning teachers receive a reduced workload.

3.1. Commitment

Johnson and Birkeland (2003) found a difference in the commitment teachers felt toward their school and whether they continued teaching. 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 (Johnson & Birkeland, 2003). Kareem, a leaver in the study, emphasized this point by saying, “A better experience may have delayed my decision to leave, but I doubt it would have changed it” (Johnson & Birkeland, 2003, p. 594). Conversely, those who moved wanted to give teaching another try at a different school. Jerry, a mover, said, “I’d like to reconsider my long-term plan based more on my general attitude and relationship with teaching and with students, not so much on my particular fit with one school or another, because I know that I can always improve that” (Johnson & Birkeland, 2003, pp. 597–598). The settled stayers reported being very happy with their decision to teach, and could see themselves teaching for a long time (Johnson & Birkeland, 2003). The Johnson and Birkeland (2003) study emphasized the importance that individual differences in level of commitment to
the teacher profession can have upon the retention of teachers.

Weiss (1999) compared the effects of workplace conditions on first year teachers in 1993–1994 and 1987–1988 using SASS surveys. Dependent variables of work and career choice commitment and planned retention were measured in this study. Career commitment was measured with a single item “If you could go back to your college days and start over again, would you become a teacher again” (p. 864). Planned Retention was measured with “How long do you plan to remain in teaching?” (p. 864). Perceived school leadership/culture, perceptions of salary, perceived autonomy and discretion, math/science/computer teachers, Humanities/social science teachers, and other teacher were significantly predictive of career choice commitment using the 1987–1988 data. In 1993–1994, perceived autonomy and discretion was not measured and discipline area of the teacher was no longer significant. The other predictors remained the same with the addition of social climate/student behavior, perceived socio-economic status, education degree, certified 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. These items were confirmed using a varimax rotation factor analysis.

These studies found several workplace conditions that contribute to career commitment. These workplace conditions are measured by the PSI-BT.

3.2. Student outcomes

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). The teacher’s desire to have feel successful with his students was echoed by many of the settled stayers in Johnson and Birkeland’s study (2003).

Johnson and Birkeland (2003) also discussed the importance of good discipline at a school. Principals, teachers, and parents must work together on discipline measures, both in response to misbehavior and in developing preventative strategies. Teachers in this study reported that they were more effective when the school made a concerted effort to involve parents in their children’s education and the school itself (Johnson & Birkeland, 2003).

The research reviewed above illustrates the fact that a number of important factors contribute to the ultimate success, or lack thereof, of beginning teachers. Moreover, this research highlights the complexity of problems faced by school administrators and experienced teachers in facilitating the development and nurturing process of beginning teachers. Ways and means of obtaining feedback and completing needs assessment is sorely needed to improve the efficiency assisting and retaining talented novice teachers.

4. The present study

There is much research concerning beginning teachers and their need to be successful (Johnson & Birkeland, 2003). However, there has not been a complete psychometrically sound instrument to assess novice teachers’ ratings of school support, pedagogy and continuing education, efficacy, and commitment. Therefore, we chose to develop and evaluate psychometric characteristics of such an instrument in order to ascertain beginning teachers’ sense of success in relation to their reported needs of support.

With this goal in mind, the psychometric properties of the PSI-BT were analyzed utilizing the following techniques: (1) exploratory factor analysis using a large sample of novice teachers, (2) internal consistency reliability was assessed using Cronbach coefficient $\alpha$, (3) content validity was assessed using expert opinions and a literature review of levels of support needed by beginning teachers, (4) concurrent validity for teacher efficacy was assessed using the Teachers’ Sense of Efficacy Scale (TSES) (Tschannen-Moran & Hoy, 2001).

To establish the link between beginning teachers’ perceptions of success and teacher efficacy, beginning teachers completed the TSES by Tschannen-Moran and Hoy (2001). The association between the TSES and the PSI-BT was reported and used to establish concurrent validity. Finally, this study examined the link between teachers’ perceptions of their efficacy and their perceptions of success. Drawing on the extensive work on teacher efficacy by Tschannen-Moran and Hoy (2001), the
investigator examined the association that exists between these two domains for beginning teachers. As nearly 50% of all teachers leave the profession in the first 5 years, an instrument such as the PSI-BT is needed as a way of providing data on how beginning teachers perceive their current work experiences. It is our goal that the PSI-BT will become a powerful tool for school system leaders as they aim to improve their induction program and retain teachers. School systems that took part in this study received a report on the mean scores for each factor from the PSI-BT, with additional information available on each item. In addition, an analysis of the most critical need areas were identified to aid initially licenced teacher coordinators in developing professional development around these areas.

5. Methods and procedures

5.1. Construction of the PSI-BT

The construction of the PSI-BT included a number of steps. Alan Reiman’s (Reiman & Parramore, 1994) Beginning Teacher Inventory (BTI), along with the literature on beginning teacher support were the aspiration for the PSI-BT. The BTI does not have psychometric properties established, and thus the reason to develop the PSI-BT. The PSI-BT research was based in part on the prompts from the BTI. Mentor teachers and experts in teacher induction were asked to respond to prompts developed by Alan Reiman (Reiman & Parramore, 1994) for his BTI based on how important each of the items were for beginning teacher success. Experts in teacher induction were initially licenced teacher coordinators from school systems in the state of North Carolina. Mentor teachers were obtained from the initially licenced teacher coordinators of five school systems in North Carolina. Experts responded to each item with the following Likert scale: (1) strongly disagree, (2) disagree, (3) agree, and (4) strongly agree. A factor analysis was conducted on the BTI-M responses to determine the specific dimensions that the mentor teachers and experts felt were needed in terms of support for beginning teachers. If the item mean was over 3.0 (“agree” on the Likert scale described above), indicating mentors valued the importance of the knowledge about beginning teachers’ experiences, then it was considered as an indication that this item needed to be considered for inclusion in the PSI-BT. The review of literature was used to make the final decision for inclusion.

An extensive review of literature was concurrently conducted to determine what factors were important for the success of beginning teachers. Nine factors were identified as having an impact on the perceptions of success for beginning teachers. Using the nine dimensions synthesized from the review of literature and the factor analysis results, items previously created from the BTI-M were classified by factor. Additional items were written that reflected the research on what elements beginning teachers need to feel successful. There were 54 items with six items assessing each dimension. The organization of the PSI-BT was such that the first item for each factor was asked in stems 1–9, then the second item for each factor was addressed in stems 10–18, and so forth. The original design of asking the questions “what is” was retained. The difference between the PSI-BT and BTI was that the Likert scale was increased to six points in order to increase the sensitivity of the instrument. The six-point Likert scale was (1) strongly disagree, (2) disagree, (3) slightly disagree, (4) slightly agree, (5) agree, and (6) strongly agree. An even number of options was chosen so that some level of disagreement or agreement had to be chosen. There was not an option to choose more than one level of agreement or a neutral response.

5.2. Sample

The sample comprised beginning teachers from three rural and suburban counties in North Carolina. The counties were selected from the SUCCEED Network in supporting beginning teachers. Unfortunately, participation from an urban county was unable to be secured for this research due to time constraints and availability of resources. Participation is being sought for further iterations of the PSI-BT research. There were 166 beginning teachers in the first, second, or third year of teaching who participated in the study. All grade levels and subject specialties were represented in the sample. Table 1 summarizes other demographics of the sample. The demographics of this sample are compared with the demographics of all North Carolina teachers in Table 1. The beginning teachers in our sample had a mean age of 30.2 and standard deviation of 9.5 years. The teachers ranged in ages from 22 to 65.
To conduct this research, each participant was given a packet that included several items. The first page was directions that included information about anonymity, examples of how to respond to each item, and the labels for the Likert scale used. This was followed by the PSI-BT, then the TSES, and finally by a demographic information sheet.

The TSES is an inventory that measures teacher self-efficacy. The scale has 24 items that address three factors: (1) efficacy for instructional strategies, (2) efficacy for classroom management, and (3) efficacy for student engagement. Research supports the validity and reliability of this instrument through multiple factor analyses producing the same factors (Tschannen-Moran & Hoy, 2001). Each teacher was asked to provide information on the demographic page about their mentor, the grade and subject they teach, the county they teach in, the type of licensure they hold, and the type of degree they have. In addition, each teacher was asked to provide his or her gender, ethnicity, and age.

Data were collected from participants in four administrations. To insure consistency, investigators followed a script that explained the directions and purpose of the inventory. Teachers completed the packet in about 20 min.

6. Results

6.1. Factor analysis of the PSI-BT

To confirm the factor structure of the PSI-BT we conducted an exploratory factor analysis using SAS for Windows version 8.2. It was hypothesized that the factors obtained would match the factors synthesized as being significant in beginning teacher success during the literature review. In the cases of missing responses, the following rule was used. If surveys were missing less than 15% of responses, the average score for the item was used. Since there were 54 items used in each analysis, if eight or fewer items were left blank, then the average score was used. This rule was adopted as a way to use surveys that had a couple missing items were not excluded, when the rest of the data could contribute to the analysis. This resulted in a sample size of 161.

The investigator applied oblique (promax) rotation to the instrument’s variables to identify the factor structure. The standard criterion of a correlation greater than or equal to .40 was used as the cutoff point for individual items loading on a factor. The .40 cutoff was used so that there was greater than 15% of the variance shared between the item and factor. Once the significant factors were identified, the factor analysis was rerun specifying the number of factors to retain.

Once the second factor analysis was run, those items not loading with at least a correlation of .40 on any factor were deleted. Those loading on multiple factors were assessed to determine if they should be retained or deleted. This was done by looking at the rotated factor pattern (standardized regression coefficients). Those items that cross-loaded on more than one factor with minimal correlation on either were deleted. If deleting a cross-loading item from a factor would not reduce a factor to being defined by fewer than five items, and then the item was dropped from the analysis. On the other hand, those items that had a primary loading and a secondary loading were retained if the primary loading correlation was high and the item enhanced the assessment of the factor.

Ten factors met the criteria of an eigenvalue greater than 1.0. A scree plot was then employed to determine if any factors previously retained could be deleted. After analyzing the scree plot and the items loading on each factor, seven factors were retained, explaining 73% of the variance. The names of the factors are as follows: (1) Mentor Support, (2) Classroom Climate, (3) Commitment, (4) Administrative Support, (5) Colleague and Instructional Resource Support, (6) Parental Support and Professional Development, and (7) Assignment and Workload. The next step in determining

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Sample (%)</th>
<th>2004 population (in NC—all teachers) (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>75.3</td>
<td>80.2</td>
</tr>
<tr>
<td>Men</td>
<td>22.9</td>
<td>19.8</td>
</tr>
<tr>
<td>White</td>
<td>75.3</td>
<td>83.2</td>
</tr>
<tr>
<td>Black</td>
<td>16.9</td>
<td>14.6</td>
</tr>
<tr>
<td>Other ethnicities</td>
<td>2.4</td>
<td>2.2</td>
</tr>
<tr>
<td>Bachelor degree</td>
<td>87.4</td>
<td>67.5</td>
</tr>
<tr>
<td>Master’s degree</td>
<td>12.7</td>
<td>29.5</td>
</tr>
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the appropriate factors and items loading on each was analyzing each factor's internal consistency reliability. Table 2 provides the eigenvalues, proportion of variance explained by each factor, and the cumulative proportion explained by the preceding factors.

6.2. Psychometric properties

The psychometric properties of the PSI-BT were analyzed to determine internal reliability, content validity, and concurrent validity. The concurrent validity was assessed by analyzing how the PSI-BT and the TSES correlate.

6.2.1. Internal reliability

Internal consistency reliability was ascertained by calculating Cronbach's coefficient \( \alpha \) for each factor. In addition, a reliability analysis was done on each of the items by assessing the coefficient \( \alpha \) that the factor possessed when an item was deleted from it. An item was deleted from the inventory when the factor's internal reliability increased when the item was not included in the analysis. From these data, decisions were made about whether to keep each of the items.

This analysis revealed that the first five factors demonstrated strong internal reliability with coefficients \( \geq .76 \) or greater. All of these factors assessed well-defined dimensions that were related to beginning teachers’ perceptions of success. By exploring the internal reliability of the factor is an item was deleted revealed that the internal reliability of the first factor, Mentor Support, would increase to .88 by deleting item 45. Since this item lowers the internal reliability, and the correlation was lower than the other items, it will be deleted from the PSI-BT. The analysis of the second factor, Classroom Climate, revealed that all of the items needed to be retained to best assess this dimension. The analysis revealed that item 16 of the third factor, Commitment, would increase the coefficient \( \alpha \) for the entire factor by only .009. This is not enough to warrant deleting this item; therefore, all six items will be retained.

Parental Support and Professional Development had low internal reliability at .55. This was expected since there were only three items loading onto this factor, and one item seemed to be different from the other two assessing parental support. Further analysis revealed that by deleting the professional development item the coefficient \( \alpha \) increased from .55 to .74. This presented an interesting dilemma as it left only two items loading on this factor, which was not enough to adequately assess the multiple dimensions parental support. Therefore, if parental support is to be assessed, more items need to be created directly relating to parental and/or caregiver support. For this analysis, the parental support factor was dropped from the analysis due to only having two items. Future iterations and studies of the PSI-BT will include additions of items assessing Parent/Caregiver Support.

The seventh factor, Assignment and Workload, had a moderate internal reliability of .65. This factor had four items assessing it that the literature has shown to impact beginning teachers’ perceptions of success. Thus, this factor should be retained for later iterations of the PSI-BT where items will be refined and added to better define assignment and workload.

The analysis of the fourth, fifth, and seventh factors: Administrative Support, Colleague and Instruction Resource Support, and Assignment and Workload also revealed that the highest coefficient \( \alpha \) could be obtained by retaining all items assessing these factors.

Table 3 describes the six remaining factors by name and the internal reliability for the factor after items were deleted as described above.

In addition to evaluating the internal reliability of the PSI-BT, it was also important to evaluate its psychometric properties related to validity. The two areas of validity that were assessed were content validity and concurrent validity.

6.2.2. Content validity

Content validity was assessed using three elements. The first of which was the expert opinion of the mentors as gathered from the BTI for mentors. The second measure of validity was the literature

<table>
<thead>
<tr>
<th>Factor</th>
<th>Eigenvalue</th>
<th>Proportion of variance</th>
<th>Cumulative variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10.73</td>
<td>.33</td>
<td>.33</td>
</tr>
<tr>
<td>2</td>
<td>3.81</td>
<td>.12</td>
<td>.45</td>
</tr>
<tr>
<td>3</td>
<td>2.51</td>
<td>.08</td>
<td>.53</td>
</tr>
<tr>
<td>4</td>
<td>2.02</td>
<td>.06</td>
<td>.59</td>
</tr>
<tr>
<td>5</td>
<td>1.55</td>
<td>.05</td>
<td>.64</td>
</tr>
<tr>
<td>6</td>
<td>1.51</td>
<td>.04</td>
<td>.69</td>
</tr>
<tr>
<td>7</td>
<td>1.40</td>
<td>.04</td>
<td>.73</td>
</tr>
</tbody>
</table>
review. As was previously discussed, many researchers have looked at factors that contribute to beginning teacher success. The third indication of validity was the extent to which the PSI-BT factor analysis revealed significant factors found in the literature.

The literature review that was conducted to construct the PSI-BT and the factor analysis of the PSI-BT both contributed to its content validity. The factor analysis of the PSI-BT for the items revealed that several of the previously defined dimensions were being assessed in the PSI-BT. In review, the factors retained were: (1) Mentor Support, (2) Classroom Climate, (3) Commitment, (4) Administrative Support, (5) Colleague and Instructional Resource Support, and (6) Assignment and Workload. Forty-one items assessed these six factors. The Appendix includes the specific items contained within the factors.

As the instrument is used in more studies, confirmatory factor analyses of the dimensions will be used to ensure the same items and factors are assessed each time. This will be an important step to help solidify the argument of content and construct validity.

Table 3
Internal reliability for each factor

<table>
<thead>
<tr>
<th>Factor name</th>
<th>Cronbach coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentor Support</td>
<td>.87</td>
</tr>
<tr>
<td>Classroom Climate</td>
<td>.84</td>
</tr>
<tr>
<td>Commitment</td>
<td>.80</td>
</tr>
<tr>
<td>Administrative Support</td>
<td>.81</td>
</tr>
<tr>
<td>Colleague and Instructional Resource Support</td>
<td>.76</td>
</tr>
<tr>
<td>Assignment and Workload</td>
<td>.65</td>
</tr>
</tbody>
</table>

6.2.3. Concurrent validity

Concurrent validity between the PSI-BT and TSES was assessed by computing the sum scores of the responses to each inventory. The factors from the PSI-BT were correlated with the factors of the TSES. Using the factors that Tschannen-Moran and Hoy (2001) reported for the TSES, sum scores were computed for each of the factors. These factors include Efficacy for Instructional Strategies, Efficacy for Classroom Management, and Efficacy for Student Engagement. The sum scores for the Mentor Support, Classroom Climate, Commitment, Administrative Support, Colleague and Instructional Resource Support, and Assignment and Workload factors were derived from the PSI-BT data. The six factors were used with the three TSES factors described above to compute Pearson $r$ correlations.

Table 4 provides the Pearson Correlation, significance level, and the sample used in computing the correlation for each of the factors. This table presents clear evidence that correlations exist between the factors of the PSI-BT itself and the factors of the TSES with five of the six factors of the PSI-BT. The correlation between the individual factors of the PSI-BT were all significant at the $\alpha$ level less than .01 except for that between mentor support and commitment, which was significant at the $\alpha < .05$ level. The only factor from the PSI-BT that did not correlate with at least one of the factors of the TSES was the Assignment and Workload factor.

Since the Assignment and Workload factor did not load significantly with the TSES factors, a separate instrument will have to be used to establish concurrent validity for this factor in later iterations of the study. The lack of correlation between the

<table>
<thead>
<tr>
<th>Table 4</th>
<th>Pearson correlations between “what is” factors of PSI-BT and TSES factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mentor Support</td>
<td>–</td>
</tr>
<tr>
<td>2. Classroom Climate</td>
<td>–</td>
</tr>
<tr>
<td>3. Commitment</td>
<td>–</td>
</tr>
<tr>
<td>4. Administrative Support</td>
<td>–</td>
</tr>
<tr>
<td>5. Colleague and Instructional Resource Support</td>
<td>–</td>
</tr>
<tr>
<td>6. Assignment and Workload</td>
<td>–</td>
</tr>
<tr>
<td>7. Efficacy for Instructional Strategies</td>
<td>–</td>
</tr>
<tr>
<td>8. Efficacy for Classroom Management</td>
<td>–</td>
</tr>
<tr>
<td>9. Efficacy for Student Engagement</td>
<td>–</td>
</tr>
</tbody>
</table>

Note: $n = 161$ or 160, *$p < .05$. **$p < .01$. 
TSES and the Assignment and Workload factor is not surprising since none of the items on the TSES directly addressed the workload of teachers. Even with this one factor not correlating with the TSES, strong concurrent validity was established for the remaining factors of the PSI-BT.

7. Discussion

This study reported on the development and validation of the PSI-BT, an inventory to measure beginning teachers’ sense of support. Factor analyses revealed the PSI-BT to measure six factors: (1) Mentor Support, (2) Classroom Climate, (3) Commitment, (4) Administrative Support, (5) Colleague and Instructional Resource Support, and (6) Assignment and Workload. The subscales found in the PSI-BT reflect what the literature on beginning teacher support has shown.

The exploratory factor analysis revealed that the seven factors accounted for 73% of the variance. The internal reliability for the first six factors were .74 or greater. The Assignment and Workload factor had an internal reliability of .65. Therefore, this will be a focus for improvement of subsequent iterations of the PSI-BT.

Content validity was established for the PSI-BT through a literature review of factors that contribute to the perceptions of success for beginning teachers, a factor analysis of the BTI-M, and the factor analysis of the PSI-BT. The literature was reviewed to identify dimensions commonly associated with beginning teachers’ perceptions of success. The BTI-M factor analysis provided some of the items that were assessed on the PSI-BT, and the factor analysis of the PSI-BT provided the specific factors it assessed. These factors revealed that five of the factors were dimensions previously defined through the literature review. Classroom Climate was a combination of four of the previously defined dimensions. The items that assessed Classroom Climate were all found in the literature review to contribute to the perceptions of success for beginning teachers. The combination of these three methods suggested strong content validity for assessing the perceptions of success for beginning teachers.

Concurrent validity was assessed by performing correlations of the PSI-BT responses with the TSES. Concurrent validity could be assessed since both instruments were administered to beginning teachers in the same session. The correlation between the PSI-BT and the TSES indicates that the experiences of beginning teachers often are associated with their sense of efficacy as it relates to student engagement, classroom management, and instructional strategies.

It was not surprising that the Assignment and Workload factor did not correlate with the TSES since the items assessing each factor were different in nature. Specifically, the Assignment and Workload factor described beginning teachers’ workload expectations, while the TSES factors addressed how teachers responded to situations in teaching. Thus, another instrument will have to be used to assess the Assignment and Workload factor for concurrent validity.

School systems are consistently faced with the challenge of retaining their teachers. With this problem, school systems need to know how beginning teachers perceive their success in teaching. The areas that are known to impact a beginning teachers perceptions of success are also known to effect retention. This instrument provides data on beginning teachers’ perceptions of success in these areas, and thus can be useful for school system leaders in their work to provide support for beginning teachers. Data obtained from the PSI-BT include averages for each factor as well as the items within the factors. The report includes what the data mean for school systems and concludes with implications for the school systems. The implications include the positives as well as areas that can be improved. Suggestions of how to improve areas are given as well. School systems can utilize this tool as a needs assessment for supporting their beginning teachers, as well as guide their beginning teacher induction program plans to meet the needs identified by the PSI-BT.

In the end, it is hoped that this instrument can help school systems retain their beginning teachers since the PSI-BT identifies the areas that the beginning teachers need the most help in.

7.1. Recommendations for future research

The first recommendation for future work is to use a larger sample that includes urban school systems. The benefits of a larger sample are two-fold. The inclusion of an urban sample will allow generalizations to be made about all beginning teachers. The second benefit would provide clarity and strengthen the factors of the PSI-BT, specifically the Assignment and Workload factor.
A final recommendation involves future longitudinal research to determine if there is an association between the PSI-BT results and retention of teachers. If indeed there is an association, then the value of the PSI-BT to school systems will be that much more important due to its predictive validity. Such data would allow school systems to target specific areas that have an impact on the retention of teachers, a very important consideration for school systems. At this time, research with a larger, more diverse sample is currently underway to evaluate how well the PSI-BT predicts the retention of teachers.

Appendix. Items on the Perceptions of Success Inventory for Beginning Teachers

1. The administration at my school encourages me to be an effective teacher.
2. My mentor or an exemplary teacher has provided assistance with classroom management.
3. I have at least one period per day that I can devote to planning for my classes.
4. I think I will be teaching 5 years from now.
5. I believe that students are motivated to learn in my classroom.
6. I feel in control when I am teaching.
7. The administration at my school provides effective feedback after observations.
8. I have common planning times with other teachers at my same grade level or subject area.
9. My mentor or an exemplary teacher has provided assistance with instructional concerns.
10. My teaching assignment is realistic for a beginner.
11. Teaching is a calling.
12. My students achieve success in my classroom.
13. I think about my professional conduct in light of moral and ethical standards.
14. I have curriculum provided for me that aligns with the state curricula guidelines.
15. The administration at my school gives suggestions for communicating with caregivers.
16. I have opportunities for meaningful conversation with other novice teachers in a setting free of evaluation.
17. My mentor or an exemplary teacher has provided assistance related to communication with caregivers.
18. My overall teaching workload is reasonable.
19. I know that I made the right decision to teach.
20. The discipline at my school is supportive of a good learning environment.
21. I tend to make thoughtful judgments when faced with moral problems.
22. All of my students have textbooks or workbooks as needed.
23. The administration at my school provides appropriate feedback for my discipline decisions.
24. I have opportunities to visit and observe exemplary teachers.
25. My mentor or an exemplary teacher is empathetic.
26. I enjoy teaching the students at my school.
27. The discipline in my classroom is supportive of a good learning environment for my students.
28. When I have professional concerns I take action responsibly.
29. I have the curriculum materials I need to teach effectively.
30. The administration has oriented me to the school and staff.
31. I collaborate with exemplary teachers regarding curriculum.
32. My mentor or an exemplary teacher encourages me to reflect about my teaching.
33. I feel that I am making a difference by becoming a teacher.
34. The parents or caregivers of my students are supportive of their child’s progress in school.
35. I have participated in decision making on school policy.
36. I have developed clear routines and procedures for my classroom that are aligned with school policy.
37. I collaborate with exemplary teachers regarding instructional strategies.
38. My mentor or an exemplary teacher meets with me on a weekly basis to discuss learning and teaching.
39. I see teaching as a long-term career.
40. The parents of caregivers of my students are supportive of me as a teacher.
41. There are opportunities for teachers to take leadership roles as they desire.

References


