

# Early Career Special Education Teachers in High- and Low-Poverty Districts: A Comparison of their Qualifications, Work Conditions, and Career Commitments

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# **Early Career Special Education Teachers in High- and Low-Poverty Districts: A Comparison of their Qualifications, Work Conditions, and Career Commitments**

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## **Abstract**

I used teacher data from the Study of Personnel Needs in Special Education (SPeNSE) to compare the characteristics, qualifications (e.g., credentials, preservice preparation, self-efficacy, and induction) and work conditions (e.g., school support, work manageability and induction support) of early career special education teachers in high- and low-poverty districts and the effects of these variables on teacher commitment.

Organized as a set of three articles, this research presents findings from a nationally representative sample of 935 early career special education teachers. Data analyses included descriptive statistics, factor analysis, reliability analyses, and logistic regression.

Significant differences were found in the credentials and preparation of teachers working in high poverty vs. more affluent districts, with those in high poverty schools having fewer credentials and less preparation. In contrast, the two teacher groups reported similar induction opportunities and gave themselves comparable ratings on both self-efficacy and in skillfulness in various work tasks.

Teachers in high poverty districts also reported less desirable work conditions than their counterparts in more affluent districts. When compared to teachers in low poverty districts, those in less affluent districts viewed their principals and colleagues as less supportive, perceived less involvement in school decisions, reported having fewer materials, and indicated higher and more diverse caseloads. In contrast, the two teacher groups reported similar professional development and induction opportunities.

Finally, logistic regression results suggest that problems with work manageability were negatively related to teacher commitment, whereas positive school support and good match between preparation and assignment positively influenced teachers' commitment. However, district level of poverty, district support, and perceived helpfulness of induction support were not significantly related to teachers' commitment.

These studies draw attention to inequalities in the education of students with disabilities in high poverty districts; and emphasize the critical need not only to recruit and prepare qualified teachers for high poverty schools, but also to address disparities in work conditions. Policymakers and educational leaders concerned with fostering teachers' commitment should consider developing supportive work environments, involving teachers in decision making, and creating manageable work assignments.

To Andris - my kindred spirit and best friend

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# Chapter 1

## Introduction

In the United States the history of the 20th century was marked by a struggle to achieve equity in educational opportunities and as we enter the 21st century, issues of equity persist. A specific problem acknowledged in general education is the disproportionate impact of teacher turnover on high poverty urban schools, where teachers are less prepared and working conditions are more challenging (Ingersoll, 2001; Johnson & Birkeland, 2003; Johnson, Kardos, Kauffman, Liu, & Donaldson, 2004; Kozol, 1991; Lankford, Loeb & Wyckoff, 2002; Loeb, Darling-Hammond, & Luczak, 2005; Smith & Ingersoll, 2004). In spite of these well defined research findings in the general education literature, we know little about the extent to which disparities exist in special education teacher quality and the work conditions across districts with varying levels of poverty. To address this gap in the literature, I compared early career special educators in low and high poverty districts on a number of teacher quality indicators, including credentials, preservice preparation, self-efficacy, and induction. I also considered variations in work conditions, comparing high- and low- poverty districts on variables such as district supports, school supports, and work manageability. In addition, I examined the effects of teacher characteristics and qualifications, district level of poverty, and work conditions on teacher commitment.

Considerable research exists on special education teachers' qualifications (e.g., Boe & Cook, 2006; McLeskey, Tyler, Flippin, 2004), perceptions of work conditions (e.g., Billingsley,

Carlson, & Klein, 2004), and turnover (e.g., Billingsley & Cross, 1992; Cross & Billingsley, 1994; Brownell, Smith, McNellis & Miller, 1997; Gersten, Keating, Yovanoff & Harniss, 2001; Miller, Brownell & Smith, 1999; Singh & Billingsley, 1996). There is some evidence that illustrates the difficulties that high poverty districts face in finding and keeping highly qualified special education teachers. Fall and Billingsley (2007) found that administrators in high poverty districts reported disproportionate teacher turnover rates and more vacant positions than their colleagues working in more affluent districts. In addition, administrators in high poverty districts reported the use of undesirable methods to address the shortage of qualified teachers, such as the hiring of substitutes and paraprofessionals and expanding class sizes. Further, Mandlawitz (2003) studied three urban districts and concluded that “urban districts have an especially hard time attracting and hiring special education personnel because they must compete against school districts with better working conditions, salaries, and supports for new special education teachers” (p. 6). Although these two studies provide some insight into the challenges experienced by teachers in urban, high poverty districts, they provide little information about the specific teacher qualifications and work conditions of teachers in high poverty schools.

### Research Questions

I used the Study of Personnel Needs in Special Education (SPeNSE) national database to compare special education teacher characteristics, qualifications, and work conditions across districts with varying levels of poverty. I also examined the effect of teacher characteristics and qualifications, district level of poverty, and work conditions on teacher commitment.

The following three research questions guided this inquiry:

1. How much variation in teachers’ credentials, preservice preparation, self-efficacy, and induction exist across districts with varying levels of poverty?

2. To what extent do teachers' perceptions of district supports, school supports, and work manageability differ by district poverty level?
3. What are the effects of teacher characteristics and qualifications, district level of poverty and teachers' perception of work conditions on early career special education teacher commitment?

The first question focused on variations in teacher characteristics and qualifications across districts with varying levels of poverty. I used descriptive statistics, chi squares, and t-tests to summarize the survey data and examine the extent to which teachers' characteristics and qualifications differed across high and low poverty districts.

The second question focused on early career special education teachers' work in high- versus low- poverty districts. I used descriptive statistics, chi squares, and one-way ANOVAs to summarize the survey data and examine the extent to which teachers' experiences differed in high and low poverty districts.

The third question focused on the effect of teacher characteristics, school characteristics and work conditions on teachers' commitment to the profession. To answer the question I regressed the outcome variable, teacher commitment, on district level of poverty, school support, district support, work manageability, and induction support, controlling for selected teacher characteristics and qualifications (e.g., gender, race, certification status, and match of the preparation program).

### Significance of the Work

Studies in special education have focused on the overall percentage of teachers lacking qualifications or leaving the profession. Less common is research comparing teachers' qualifications, work conditions and commitments across districts with varying levels of poverty.

To address this gap in the literature, this study compares the characteristics, qualifications and work conditions of early career special education teachers in high- and low-poverty districts and the effects of these variables on teachers' commitment.

A study on early career special education teachers is important for several reasons. First, the majority of teachers hold full certification after five years (Billingsley, 2002), while new entrants often lack basic credentials. Therefore, analyzing the qualifications of early career teachers in high- and low-poverty districts allows a more focused study of the extent to which districts rely on less qualified personnel. Second, early career teachers are especially vulnerable to the challenges of work conditions; and their turnover is predominantly the result of poor work conditions (Johnson & The Project on the Next Generation of Teachers, 2004; Johnson & Birkeland, 2003; Weiss, 1999). A comparative study analyzing teachers' experiences with work conditions during the early career period will provide important information for policymakers and school leaders interested in improving work conditions and reducing turnover. Third, high levels of turnover in the early years of teachers' career (Boe, Cook, & Sunderland, 2008) and in high poverty schools (Fall & Billingsley, 2007; Ingersoll, 2001; Price, 2002) is especially problematic. However, we know little about why turnover rates are high and what might be done to keep these departing teachers. Therefore, research examining the factors that influence early career teachers' commitment in high- and low-poverty districts will provide important information for policymakers and administrators interested in retaining teachers. Fourth, faculty in teacher education programs can attend to what is known about early career special education teachers' struggles and design their programs to better prepare prospective teachers (Busch, Pederson, Espin & Weissenburger, 2001; Kilgore & Griffin, 1998).

## Organization of the Dissertation

This dissertation study does not follow the traditional dissertation format, but consists of three chapters. Since the chapters are written as separate manuscripts that have been or will be submitted for publication, some redundancy is inevitable (e.g., the framed literature review for the manuscript in Chapter 3 shares information presented in the literature review manuscript in Chapter 2; the data and method sections overlap across the three manuscripts ). Each of the chapters is summarized below.

Chapter one, entitled “Disparities in Teacher Quality among Early Career Special Educators in High- and Low-Poverty Districts” was recently published in the volume entitled “Advances in learning and behavioral disabilities: Personnel Preparation (vol. 21), edited by Scruggs and Mastropieri. This study compared the credentials, preservice preparation, self-efficacy, and induction of early career special educators in high and low poverty districts using a framework adapted from Carlson, Lee and Schroll (2004). Results indicate significant differences in the credentials and preparation of teachers working in high poverty vs. more affluent districts, with those in high poverty schools having fewer credentials and less preparation. In contrast, the two teacher groups reported similar induction opportunities and gave themselves comparable ratings on both self-efficacy and in skillfulness in various work tasks.

Chapter Two is entitled “Disparities in Work Conditions among Early Career Special Educators in High- and Low-Poverty Districts”. The purpose of this study was to compare the district supports, school supports, and work manageability of early career special educators in high- and low-poverty districts. The analyses suggest that teachers in high poverty districts report less desirable work conditions than their counterparts in more affluent districts. When compared

to teachers in low poverty districts, those in less affluent districts viewed their principals and colleagues as less supportive, perceived less involvement in school decisions, reported having fewer materials, and indicated higher and more diverse caseloads. In contrast, the two teacher groups reported similar professional development and induction opportunities.

Chapter Three is entitled “Predicting Early Career Special Educators’ Commitment in High- and Low-Poverty Districts”. The purpose of the study was to investigate how teacher characteristics and preparation, level of poverty, and perceived workplace conditions predict the commitment of early career special education teachers. Logistic regression results suggest that that problems with work manageability were negatively related to teacher commitment, whereas positive school support and good match between preparation and assignment positively influenced teachers’ commitment. However, district level of poverty, district support, and perceived helpfulness of induction support were not significantly related to teachers’ commitment. Implications for policymakers and educational leaders were addressed.

#### Authorship Attribution

Throughout the past four years, Dr. Bonnie Billingsley and I have been engaged in a research partnership. This dissertation study grew out of my individual interest; however Dr. Billingsley has made substantial contribution to these studies. As a result of her contribution she earned co-authorship credit in all three manuscripts.

I am primarily responsible for my dissertation. I proposed the dissertation topic, developed the research methodology, conducted the statistical analyses, interpreted the findings and wrote the manuscripts. Because I did not have the skills necessary to write the entire studies for a peer reviewed journal or edited book chapter, I wrote the dissertation under very close supervision of Dr. Billingsley. Dr. Billingsley provided me with guidance through the entire

process, participated in the conceptualization and design of the studies, and worked with me to revise several drafts of each manuscript. As a result of her participation she earned second authorship in all three studies. Additionally, Dr. Thomas O. Williams, Jr. assisted me in the development of the research methodology for the third manuscript. As a result of his contribution he earned third authorship in the third study.



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## Chapter 2

# Disparities in Teacher Quality among Early Career Special Educators in High- and Low-Poverty Districts

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In the United States people of color, women, and those from lower socio-economic groups have historically been less powerful, less privileged, and culturally and institutionally oppressed (Bettie, 2003; Collins, 1998; Moll & Ruiz, 2002; Oakes & Lipton, 2004; Ogbu, 1998). The history of the 20<sup>th</sup> century was marked by a struggle for equity and as we enter the 21<sup>st</sup> century, issues of equity persist, including opportunities for those who have disabilities.

A specific issue acknowledged in general education is the disproportionate representation of underqualified teachers in schools serving students from poor or minority backgrounds (Betts, Rueben, & Danenberg, 2000; Ingersoll, 2002; Jerald & Ingersoll, 2002; Kozol, 1991; Lankford, Loeb & Wyckoff, 2002; Wayne, 2002). In a recent cross national analysis, Akiba, LeTendre and Scribner (2007) found that the overall level of teacher quality in the United States was similar to

the international average. However, there was a major difference between high- and low socioeconomic status students' opportunities to be taught by qualified teachers. In fact this opportunity gap was the fourth-highest among the 47 countries studied. As Darling-Hammond and Baratz-Snowden (2007) stated, "as a society, we do not invest seriously in the lives of children, most especially poor children and children of color, who receive the least-prepared teachers" (p. 111).

Although the shortage of qualified teachers in special education is well documented (A High-Quality Teacher for Every Classroom, 2002; American Association for Employment in Education [AAEE], 2006; Boe & Cook, 2006; McLeskey, Tyler, & Flippin, 2004; U.S. Department of Education, 2005), we know relatively little about the disparities in special education teacher quality across districts with varying levels of poverty. Most of the data on the shortage in special education include overall proportions of teachers lacking certification, which masks the potentially different impact of the shortage in various types of districts. To address this gap in the literature, this study compared the characteristics and qualifications of early career teachers in high- and low-poverty districts. Given the disparity in general educators' qualifications in high and more affluent districts, we expect that students with disabilities in high poverty districts would also be less likely to have access to qualified special educators.

Some evidence illustrates the difficulties that high poverty districts face in hiring qualified teachers. Fall and Billingsley (2007) found that administrators in high poverty districts reported disproportionate teacher turnover rates, more vacant positions, and fewer tenured teachers than those working in more affluent districts. They also found that administrators in high poverty districts reported the use of undesirable methods to deal with the shortage of qualified teachers, which included practices such as the hiring of substitutes and expanding class

sizes. Attempts such as these to deal with the shortage serve to exacerbate inequalities among low-income and minority students (Darling-Hammond & Post, 2000).

Mandlawitz (2003) provided some insight into the personnel struggles faced by three large urban school districts with higher proportions of poor and minority students. For example, one district hired more than 100 long-term substitutes to cover vacancies and estimated that 40-50% of new hires left by their third year. In another district about 300 unfilled vacancies were reported, which included about 8% of the special education teacher population. As Mandlawitz stated, “Urban districts have an especially hard time attracting and hiring special education personnel because they must compete against school districts with better working conditions, salaries, and supports for new special education teachers” (p. 6). Although these two studies provide insight into the problems of finding and keeping qualified special education teachers, they provide little information about the specific characteristics of teachers in high poverty schools.

#### *Indicators of Teacher Quality and Student Achievement*

The relationship between teacher quality and student achievement has been of interest to educational researchers for many years. The No Child Left Behind Act (NCLBA, 2001) requiring that all students have access to “highly qualified” teachers has pushed discussions of teacher quality into the spotlight. The underlying assumption is that qualified teachers will positively influence student learning and thereby consequently enhance U.S. competitiveness in a global economy (Akiba et. al, 2007).

A growing body of research suggests that teachers are critical to student achievement in general education (e.g., Clotfelter, Ladd, & Vigor, 2006; Darling-Hammond, 2000; Ferguson, 1991; Hanushek, 1997; Sanders & Rivers, 1996). In recent literature reviews, Rice (2003) and

Wayne and Youngs (2003) examined the relationship between specific teacher characteristics and student achievement. Rice (2003) used five “policy-relevant characteristics” (p. 11) as indicators of teacher quality, including teacher experience, preparation and degrees, certification, coursework, and teachers’ test scores. Students with more experienced teachers tended to achieve more, although the effect plateaus after several years for elementary teachers. Rice also reported a positive relationship between graduation from selective colleges and student achievement at the high school level, with more modest effects at the elementary level. Advanced degrees had a positive relationship to student achievement in high school math and science, and mathematics certification had a positive effect on mathematics achievement. Extended teacher preparation programs also had a positive effect on teachers’ entry into the profession and their retention rates, but Rice found no significant relationship to student achievement. Rice also reported that coursework in both pedagogy and content areas was associated with higher levels of student achievement and higher teacher verbal ability was associated with higher student performance.

In the second review, Wayne and Youngs (2003) considered the impact of four teacher characteristics on student achievement, which included college selectivity ratings, teachers’ test scores, degrees and coursework, and certification status. They reported that students learn more from teachers who graduated from better-rated undergraduate institutions and from teachers with higher verbal skills and higher scores on licensure exams. Further:

In the case of degrees, coursework, and certification, findings have been inconclusive except in mathematics, where high school students clearly learned more from teachers with certification in mathematics, degrees related to mathematics, and coursework related to mathematics. (p. 107)

More recently, Darling-Hammond, Holtzman, Gatlin, and Helig (2005) investigated the role of teacher certification on student achievement in a large Texas district. They reported that after controlling for students achievement and background, students of certified teachers outperformed those who were not certified in both reading and mathematics. They go on to suggest that by being uncertified, a teacher could reduce achievement growth for a student by up to three months per year; and a student with three uncertified teachers over the course of their elementary years could lose a full year of achievement.

#### *Teacher Quality and Special Education*

We did not find any special education studies that linked teacher characteristics such as credentials and preparation to student achievement. However, two recent studies suggested the benefits of more extensive teacher preparation. Boe, Shin, and Cook (2007) used data from the Schools and Staffing Survey [SASS]) and found that extensive teacher preparation in pedagogy and practice teaching was more effective than some or no preparation in producing new teachers who were certified, secured-in-field assignments, and reported being well prepared to teach. In another study, Nougaret, Scruggs and Mastropieri (2005) showed that teachers who completed traditional teacher preparation programs in special education had more effective teaching skills than those from nontraditional programs. Using observational ratings, traditionally prepared teachers used more effective planning and preparation and were able to better manage the classroom environment. Traditionally licensed teachers also used more effective teaching instructions, including effective questioning and discussion techniques that enhance student participation.

Two studies demonstrated the importance of specific teacher behaviors to student achievement gains (Leinhardt, Zigmond, & Cooley, 1981; Sindelar, Smith, Harriman, Hale, &



Wilson, 1986). Examples included student engagement, silent reading time, time spent in teacher directed reading instruction, and teacher questioning during reading. More recently, Brownell et al. (2005) investigated how teachers' pedagogical and content knowledge, observed classroom practices, and self-efficacy beliefs were related to student achievement. They focused on the reading instruction of beginning teachers of students with high incidence disabilities in grades three to five. Brownell et al. found that the overall quality of classroom practices was related to student achievement gains. The students of teachers who scored higher on their observation instrument achieved more than students who received instruction that was not as strong. This was particularly true in reading fluency.

#### *A Model of Teacher Quality in Special Education*

Large scale investigations of teacher quality use indicators, rather than direct measures of quality, given the expense of gathering observational data. In general education, a range of variables have been used as indirect measures of teacher quality, which include teacher preparation, certification status, teaching experience, and teachers' test scores. While these proxies for teacher quality are limited, they nonetheless provide researchers and policy-makers with important information about the teaching workforce.

We adapted the framework of teacher quality developed by Carlson, Lee and Scroll (2004) to examine indicators of teacher quality. They tested a model of teacher quality in special education using a two-level confirmatory factor analysis of teacher data from the Study of Personnel Needs in Special Education (SPeNSE). Relying on measures identified previously in the literature as approximations of teacher quality and Kennedy's (1992) theoretical framework, the authors grouped variables related to teacher quality into five first-order factors. These first order factors were experience, certification status, self-efficacy, selected classroom practices

(teaching reading, managing behavior, and promoting inclusion), and involvement in professional activities. The analyses revealed that experience has a high factor loading. From the variables in the credential factor, level of certification has the highest factor loading. However, the number of fields certified to teach and highest degree earned variables added little to the model. The factor loadings for all three measures of self-efficacy were high. These included teachers' perceptions of their skills in completing various work related tasks, teachers' assessment of their own job performance and teachers' self-efficacy beliefs. The three variables in the professional activities factor have moderate factor loadings and their variances were largely unexplained by the professional activities factor. These variables included the number of professional journals teachers read, the number of professional associations to which they belonged, and the number of times per month that colleagues asked them for professional advice. The last factor in the teacher quality model included selected classroom practices. Best practices in reading and inclusion have reasonable factor loadings while managing behavior has a significant but moderate factor loading.

In the second-order factor analysis, Carlson et al. (2004) combined these first-order factors to derive an aggregate teacher quality measure. They reported that the professional activities factor was the most important, followed by self-efficacy. The other three had similar and moderate loadings. They suggested that each of the five quality factors is an important component of “an aggregate teacher-quality measure and should be considered in future research on teacher quality in special education” (p. 356).

The Carlson et al. model of teacher quality provides an initial first step in considering what might be important indicators of teacher quality. Unfortunately, evidence suggests that many special education teachers lack basic credentials (Billingsley, Fall, & Williams, 2006; Boe

& Cook, 2006), yet we know little about the extent to which special educators with varying levels of credentials are distributed across high- and low-poverty districts. The SPeNSE data base was used to compare the characteristics of early career special educators in low- and high-poverty districts. We selected early career teachers because the majority of teachers hold full certification after five years (Billingsley, 2002), while new entrants often lack basic credentials. For example, Boe and Cook (2006) found that 44.4% of entering special educators were not fully certified for their main assignment using data from the Schools and Staffing Surveys. Billingsley (2002) found that 37% of first year teachers did not hold full certification using data from the SPeNSE. Therefore, using a subsample of early career teachers allows a more focused study of the extent to which districts rely on less qualified personnel. More specifically, we compared early career teachers in low- and high-poverty districts on a number of teacher quality indicators: credentials, preservice preparation, self-efficacy, and induction.

### Method

These analyses were based on national data developed by SPeNSE, a project funded through the U.S. Department of Education, Office of Special Education Programs (OSEP). SPeNSE included computer assisted telephone interviews with a nationally representative sample of local administrators, special and general education teachers, speech-language pathologists, and paraprofessionals. The interviews were conducted from May through November 2000. SPeNSE is the largest national special education teacher database conducted with over 5,427 special education teachers. This study included data from a subset of special education teachers (K-12), those with five or less years of experience (speech-language pathologists were not included). The findings reported are national estimates derived from the SPeNSE sample. For detailed information about this study, please see [www.spense.org](http://www.spense.org).

### *Sampling*

SPeNSE used a two-phase sample design. The sampling units in Phase 1 included three groups: local education agencies (LEAs), intermediate education units (IEUs), and state schools for students with sensory impairments. The LEA sample was stratified by geographical region and district size, based on student enrollment. The IEU samples were stratified by geographic region and included only those who provided direct services to students with disabilities. All of the state schools ( $n = 76$ ) were included in this first sampling phase. In the second phase, a stratified simple random sample of service providers (i.e., preschool teachers, teachers of students with sensory impairments, teachers of students with emotional disturbance, and other special education teachers, speech-language pathologists, special education paraprofessionals, and general education teachers) were selected from the personnel rosters in LEAs, IEUs, and state schools. Because only 46% ( $n = 370$ ) of sampled LEAs, IEUs, and state schools and 69% ( $n = 1,061$ ) of the sampled service providers actually participated in the study, weight adjustments were made to address nonresponse bias. Further, post hoc comparisons of SPeNSE data with other data containing identical or similar items did not suggest any systematic nonresponse bias. However, care must be taken in interpreting results.

### *Survey Development and Procedures*

The survey instruments developed for SPeNSE included a range of items related to workforce quality, including items related to demographic characteristics, teacher preparation, work conditions and career plans. Some of the items were taken directly from other surveys, such as the SASS. The items we selected from the database are outlined in Table 1. The data were weighted to generate national estimates as described in a previous article (Billingsley, Carlson, & Klein, 2004, p.336-337).

## *Measures*

*Defining high- and low-poverty districts.* We compared indicators of teacher quality across high- and low-poverty districts. SPeNSE measured poverty using the Orshansky Poverty Index (Fisher, 1992) generated by the Census Bureau. The index reflects the percentage of students in a district living in poverty based on household income, household composition, and size. High poverty refers to districts where 39% or more students come from families below the federal poverty line, while low poverty refers to 20% or less falling below this line. The cut-off point of 39% is close to that used by other researchers.

As Swanstrom, Ryan and Stigers (2006) argue, “Scholars in the United States have almost universally defined concentrated poverty as census tracts in which a high percentage of the population (usually 40% plus) falls below the official federal poverty line” (p.1).

*Measures of teacher quality.* Adapting Carlson et al.’s (2004) model of teacher quality; we investigated teachers’ credentials, preservice preparation, self-efficacy, and induction. Table 1 describes the indicators of teacher quality identified by Carlson et al. and also additional variables. For example we added selectivity of institution, weeks student teaching, and performance on tests required for certification (e.g., Praxis, NTE) based on research from the general education literature. Carlson et al. also considered including test performance in their model of teacher quality, but left it out because of the insufficient number of teachers who took these tests in the overall sample. However, we included this variable since our sample includes only early career teachers, with the majority of these teachers (73%) taking a test for certification. We also used induction support as our overall professional development variable, given early career teachers participate not only in inservice, but in other types of development designed to lead to professional growth (e.g., mentoring, new teacher meetings).

Table 1

*Description of the Measures used as Indicators of Teacher Quality*


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*Adapted from Carlson et al. (2004) Framework of Teacher Quality*

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Indicators of Teacher Quality	Variable description
<i>Experience</i>	
Years teaching special education	How many years have you worked specifically in special education?
<i>Credentials</i>	
Level of certification	A 4 category variable, where 1= none, 2 = emergency, 3 = certified out of field and 4 = fully certified for position.
Highest degree earned	4 category variable, where 1 = Bachelor's degree or less, 2 = working on a Master's degree, 3 = have a Masters and working on additional degree
<i>Self-Efficacy</i>	
Self-efficacy score	Self ratings on seven self-efficacy items (specific items in Table 5).
General self-assessment of performance as a teacher	How would you characterize your overall performance as a teacher?
CEC skills score	Self-assessment of skills in 17 areas (specific items in Figure 3)

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*Additional Indicators of Teacher Quality Included*

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<i>Preservice preparation</i>	
Selectivity of university where teacher received initial preparation	3 category variable, where 1= least/less selective, 2 = selective, 3 = more or most selective
Weeks of student teaching completed	4 category variable, where 1 = no student teaching, 2 = 1-4 weeks-, 3 = 5-9 weeks -, 4 = 10 or more weeks student teaching completed
Interaction with students from culturally and linguistically different background during student teaching	To what extent did you interact with students who were CLD from you in your student teaching or field based aspects of your teacher preparation program?, where 1 = not at all/to a small extent 2 = to a moderate/great extent

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Indicators of Teacher Quality	Variable description
<i>Credentials</i>	
Take test	Have you taken one or more tests required for state certification or licensure, such as the NTE or PRAXIS?
Test performance	We understand that many people take these exams several times in order to pass all of the necessary components. Did you take any exam more than once?
<i>Induction</i>	
Availability of support systems	Rating of availability of support systems in first three years teaching (specific items in Table 4).
Helpfulness of support systems	Ratings of helpfulness of support system.

### *Data Analyses*

From this overall sample of 935 early career special education teachers, 400 teachers worked with students with disabilities in low poverty districts, 292 teachers worked in districts where 21-39% of students live in poverty, and 243 teachers served students with disabilities in high poverty districts. Data analyses were conducted using WesVar 4.3 (2002), a statistical package designed to calculate estimates for data collected through complex sample designs. These analyses included descriptive statistics, *t* tests and chi squares. Alpha level of .05 was used for all analysis. The results presented in this report were weighted to produce national estimates.

### **Results**

#### *District and Teacher Characteristics*

SPeNSE collected information about district characteristics, including metropolitan status (urban, suburban, rural) and the percent of students from different racial groups. Findings indicated that districts with high poverty rates tend to be located in urban areas, serving significantly more students of color  $\chi^2 (2, N = 643) = 24.25, p < .05$  (see Table 2).

Table 2 provides a comparison of early career special educators' characteristics in high- and low-poverty districts. As Table 2 suggests, early career special educators were primarily White and female (81%). There was a higher proportion of male teachers in high (24.2%) versus low poverty districts (13.9%). High poverty districts also had statistically higher percentages of African American and Hispanic teachers than those from low poverty districts. More specifically, African American teachers comprised 30.1% of the sample in high poverty districts compared to 4.1 % in affluent districts  $\chi^2 (1, N = 643) = 16.8, p < .05$ . About 10.5% of the teachers in high poverty districts were Hispanic compared to 2.2 % of teachers in low poverty districts,  $\chi^2 (1, N = 643) = 5.25, p < .05$ . (Percentages add to more than 100% due to some



Table 2

*District and Teacher Characteristics*

	Overall sample	Percent of Students Living in Poverty	
		< 20%	> 39%
	%	%	%
<i>Gender</i>			
Female	81.4	86.1	75.8
<i>Race</i>			
Caucasian	85.3	94.4	67.3
African American	12.1	4.0	13.5
Hispanic	4.4	2.2	30.1
<i>Teaching assignment</i>			
Visual/Hearing	2.7	3.32	1.1
Students w EBD	16.0	13.12	20.7
“Other” disability	81.2	83.56	78.2
<i>Metropolitan status</i>			
Urban	27.5	5.9	55.9
Suburban	51.6	75.8	10
Rural	20.9	18.2	34.1
<i>Type of school</i>			
Regular school	93.9	93.4	97.5
Special/Alternative school	5.8	6.4	2.5
<i>Students of color enrollment</i>			
< 10%	21.7	34.7	3.7
11-20%	18.8	26.2	7.5
21-40%	15.2	16.5	13.2
> 41%	44.3	22.5	75.5

indicating more than one racial group and the effects of data weighting). Although experience is considered a quality factor, it was not considered in this study since we sampled only early career teachers. The mean special education teaching experience was 2.7 years (high poverty,  $M = 2.6$ ; low poverty,  $M = 2.8$ ).

*Teacher Quality Indicators by District Type*

Table 3 presents overall quality indicators for early career teachers in high- and low-poverty districts, including credentials, preservice preparation, self-efficacy, and professional induction.

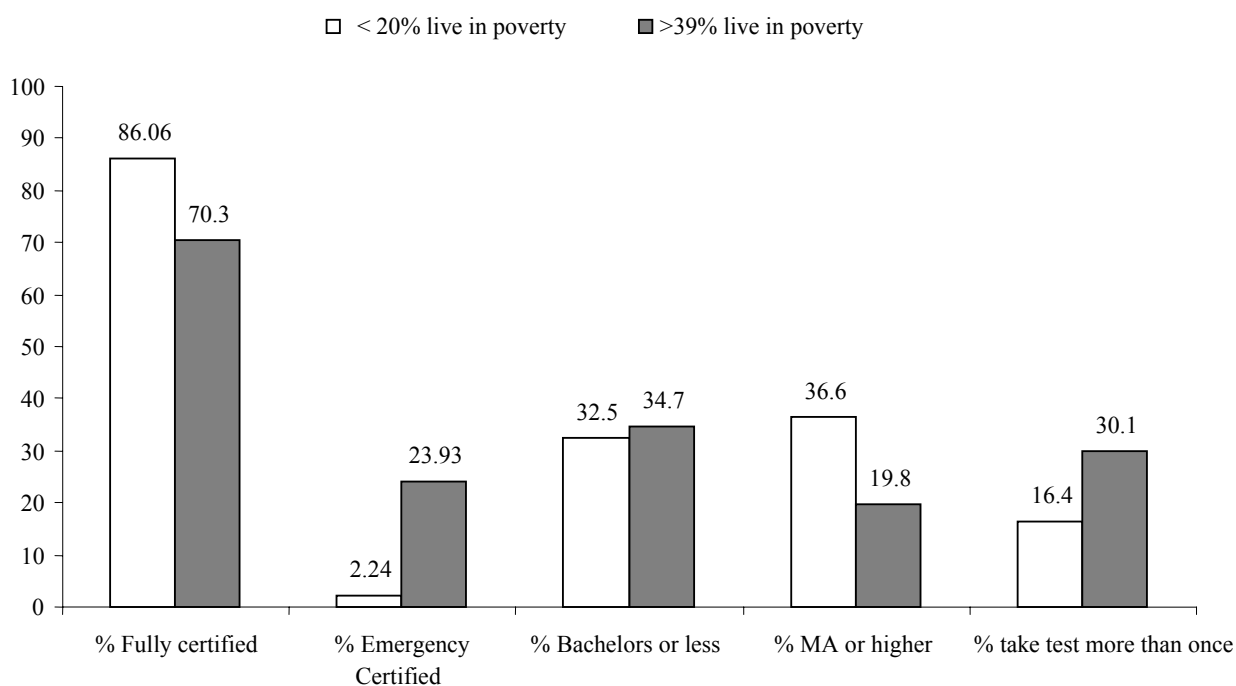
Table 3

*Teacher Quality Indicators by District Type*

	Overall sample	Percent of Students Living in Poverty	
		< 20%	> 39%
	%	%	%
% Fully certified	79.5	86.1	70.3
% Emergency certificate	14.0	7.6	23.9
% Bachelors or less	32.9	32.5	34.7
% MA or higher	31.3	36.6	19.8
% Least/less selective institution	27.9	21.9	36.1
% More/most selective institution	21.9	21.2	19.9
% Take test more than once to pass	22.0	16.4	30.1
% No student teaching experience	9.8	4.4	16.9
% 10 or more weeks student teaching	78.7	84.5	69.2

## Credentials

To assess the credentials of early career special educators we analyzed teachers' responses to three variables, including certification status, highest degree earned, and performance on tests required for licensure (Figure 1).



**Figure 1. Credentials of early career special educators by district type**

*Certification status.* The SPeNSE study included several questions about certification. A derived variable grouped teachers' responses into four categories, including not certified, emergency certified, certified out of field, or certified for main assignment. Overall, 20.5% of early career special educators were working in districts without full certification for their main teaching assignment. Of this group, 14% of teachers were working on emergency permits, 4.1% held out of field certificates, and 2.5 % were working without any teaching certificate at all. However there were significant differences between high- and low-poverty districts in the

distribution of certified teachers ( $\chi^2 (2, N = 643) = 6.85, p < .05$ ). As Figure 1 demonstrates teachers from high poverty districts were less likely to report full certification (29.7%) than those from low poverty districts (14%). Teachers from high poverty districts were also more likely to hold emergency certificates (23.9%) than those in low poverty districts (2.2%). About 10% of teachers from both groups earned certification through alternative programs (9.5% low poverty; 10% high poverty).

*Highest degree earned.* Respondents were asked several questions regarding levels of education, including Bachelor's degree or less, working on a Master's degree, have a Master's degree, and have a Master's degree and working on additional degree. The majority of early career special educators both in high- and low- poverty districts had a Bachelor's degree or less. However in high poverty districts fewer teachers (19.8%) held master's degrees than those in more affluent districts (36.6%)  $\chi^2 (1.97, N = 643) = 9.93, p < .05$ .

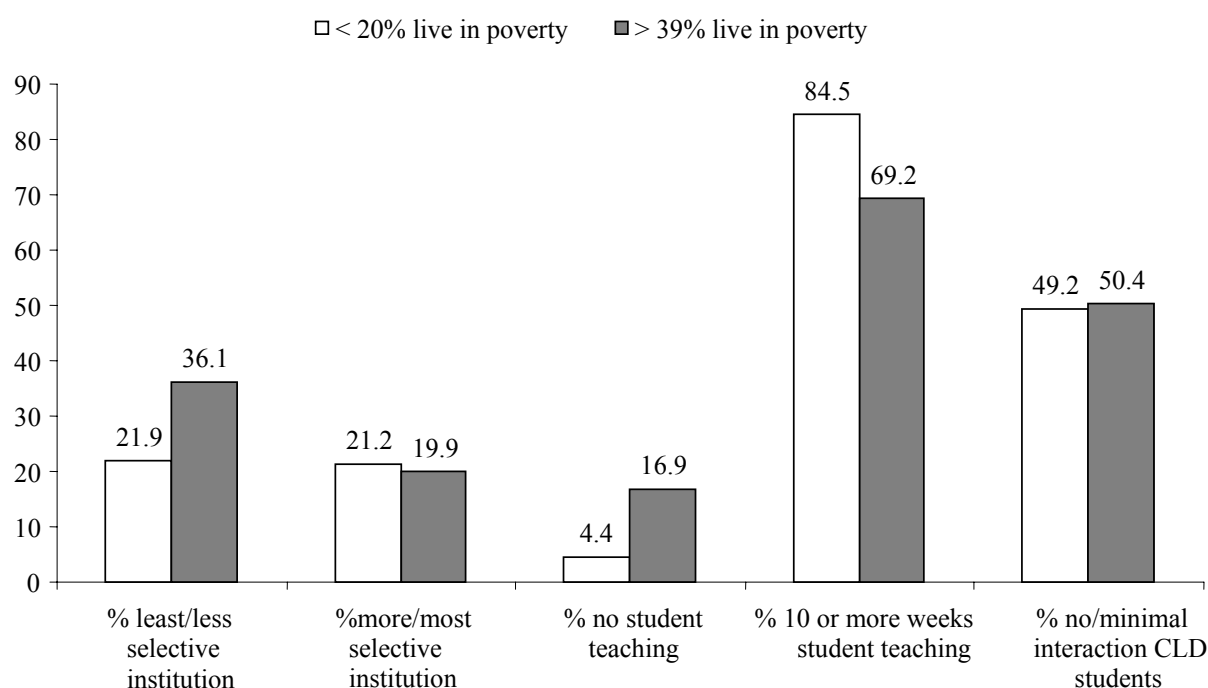
*State test requirements.* Of the early career special education teachers, most took a test like the Praxis or the NTE for state licensure (73% low poverty, and 76% high poverty). Although we do not have data regarding teachers' overall performance, 30.1% of teachers in high poverty districts took the test more than once to pass, compared to 16.4% in low-poverty districts ( $\chi^2 (1, N = 643) = 4.32, p < .05$ ).

### *Preservice Preparation*

Preservice preparation variables included the selectiveness of colleges teachers attended, weeks of student teaching, and interactions with students from CLD backgrounds (Figure 2).

*Selectiveness of the institution.* Teachers were asked to indicate the name of the college or university that they attended. This data were matched to information from the U.S. News and World Report College Directory. SPeNSE assigned selectivity ratings to the colleges and

universities, ranking them as less/least selective, selective, or more/most selective. Table 3 shows that a greater proportion of teachers in high poverty districts graduated from less/least selective institutions (36.1%) than teachers in low poverty districts (21.9%). However, the percentage of teachers who graduated from more/most selective institutions did not vary across district type; about 20% of teachers from both groups graduated from more/most selective institutions.



**Figure 2. Preservice preparation of early career special educators by district type**

*Student teaching experiences.* Teachers were asked, “In your initial teacher preparation program, how many weeks of student teaching did you complete?” Overall, early career special educators spent a mean of 14.9 weeks in student teaching. Teachers working in high poverty districts spent significantly less time in student teaching ( $M = 13$  weeks) than those in low poverty districts ( $M = 16$  weeks;  $t(221) = 3.67, p < .05$ ). More specifically, teachers in high

poverty districts were more likely to have no student teaching experience at all (16.9%) than those in low poverty districts (4.4%);  $\chi^2 (2, N = 643) = 6.61, p < .05$ ).

*Interaction with students from culturally and linguistically different (CLD) backgrounds.*

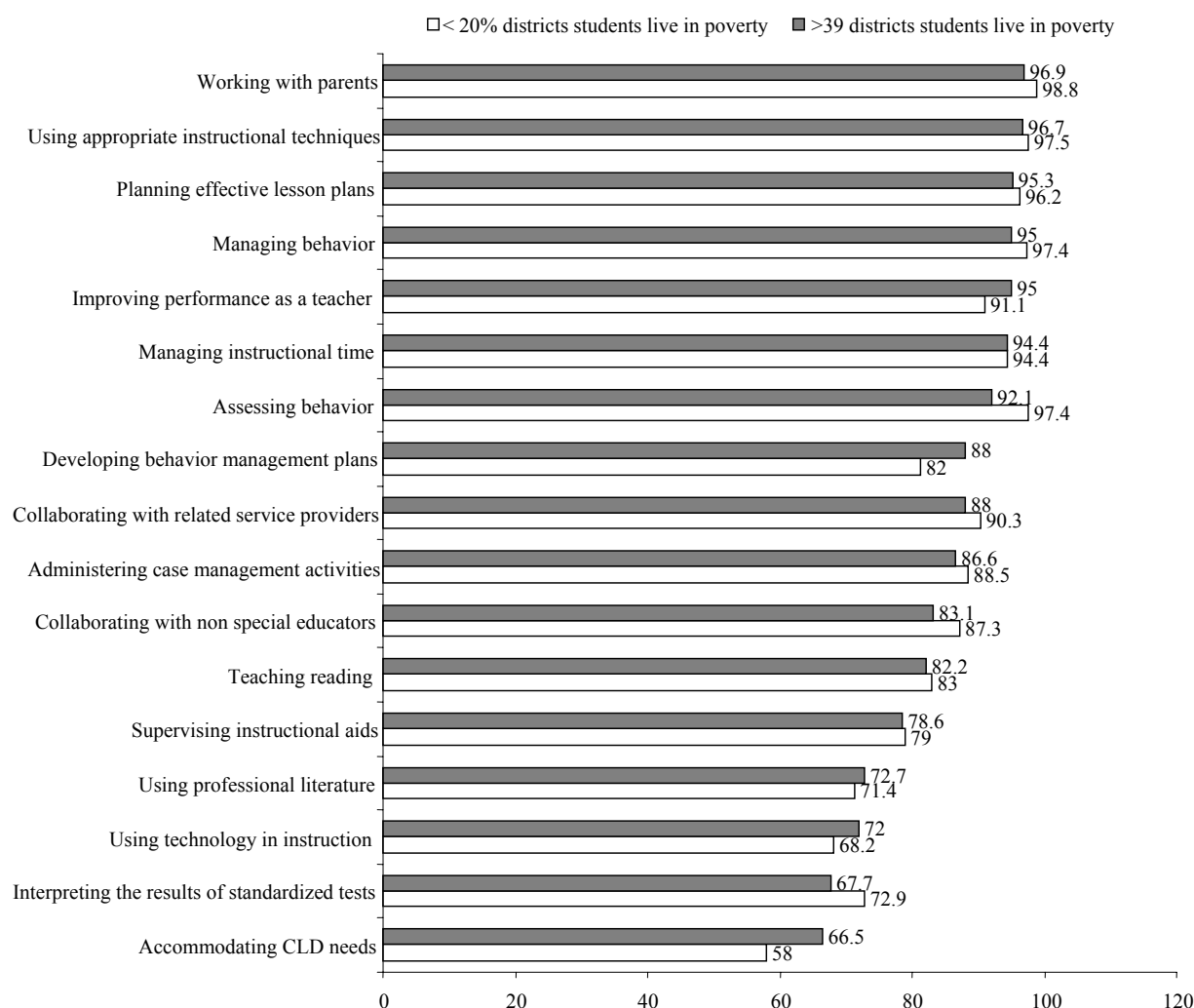
The nation's changing school demographics require that teachers have skills in working with diverse student populations. When asked to indicate the extent to which they interacted with students from CLD backgrounds during student teaching or field experiences on a scale from 1 to 4 (1 = "not at all" and 4 = "great extent"), almost half of the special educators from both groups indicated they had no or minimal interaction with students from CLD backgrounds. There was little difference between teachers working in high- and low-poverty districts, 50.4% and 49.2%, respectively.

*Self-Efficacy*

Carlson et al. (2004) included three variables in the self-efficacy factor, including teachers' self-ratings of skillfulness in areas that the Council for Exceptional Children (CEC, 1998) defined as standards for entry into practice, teachers' assessment of their own job performance, and teachers' self-efficacy beliefs.

*Teachers' skillfulness in CEC standards.* Teachers were asked to rate the extent to which they felt skillful in various work related tasks. Teachers rated their skills using a scale from 1 to 4, where 1 indicated "not at all" skillful and 4 indicated feeling skillful to a "great extent". Figure 3 provides the percentage of early career special educators who reported being skillful to a moderate or great extent in seventeen different areas. Teachers both in low- and high-poverty districts gave themselves the highest skill ratings on using appropriate instructional techniques, planning effective lesson plans and working with parents. The lowest self ratings were in the

areas of accommodating the needs of students from CLD backgrounds, interpreting the results of standardized tests and using technology in instruction.



**Figure 3. Early career special educators' self-ratings of skillfulness by district type**

*Teachers overall job performance.* Teachers were asked to rate their overall job performance by answering the question, "How would you characterize your overall performance as a teacher?" Findings indicate similar self-ratings across teacher groups. Only 4.3% of teachers in high poverty districts indicated their overall performance as poor or fair, compared to 0.7% of

teachers in low poverty districts. About 70.6% of early career teachers in high poverty districts rated their overall performance as very good or exceptional, compared to 74.4% of those in low poverty districts ( $\chi^2 (1.89, N = 643) = 4, p > .05$ ).

*Teachers' self-efficacy beliefs.* We found no statistically significant differences on self-efficacy beliefs between teachers in low and high poverty districts. Teachers in both groups offered the most efficacious response to the statement “You feel that you are making a significant difference in the lives of your students” (98% low poverty, 95.5% high poverty respectively). In contrast, teachers from both groups felt the least self-efficacious in judging how are they doing in their teaching, with 50.1% of teachers in low poverty districts and 58.1% of teachers in high poverty districts agreeing to a moderate or great extent with the statement “It’s hard to know how you are doing in your teaching” (Table 4).

### *Induction*

Teachers’ opportunities for professional development were assessed by considering the induction support they received. Induction support was assessed by asking teachers to indicate whether or not they received seven specific types of supports, including formal mentoring, regular meetings with new teachers, informal help from building teachers, assistance from building administrators, assistance from consultants or supervisors, informal help from colleagues, and district inservice or staff development. As Table 4 illustrates, although a variety of supports were available to them, teachers’ reports did not differ by poverty level. Overall, the most frequently provided form of support was informal help from other colleagues. About 92.3% of teachers in low poverty districts and 96.4% of teachers in high poverty districts indicated that informal help from other colleagues was available to them. In contrast, the least frequently



provided form of support was formal mentoring with about half of the respondents indicating such support.

Teachers were also asked to indicate the extent to which each of the seven types of support were helpful on a scale from 1 to 4 (1 = not at all to 4 = great extent). Teachers reported that informal help from colleagues was the most helpful form of support, followed by informal help from building teachers. About 70% of teachers from both groups found inservice and staff development helpful. Although teachers found formal mentoring helpful in the high poverty districts (73.8%) than in low poverty districts, the difference was not significant ( $\chi^2(1, N = 643) = 2.92, p > .05$ ) (see Table 4).

Table 4

*Comparison of the Assistance Provided and Extent to which was helpful by District Type*

	Percent of District's Students Living in Poverty					
	< 20%	> 39%	< 20%	>39%	< 20%	> 39%
	Support Available		Extent to which support was helpful			
	Yes	Yes	Not at all/ Small Extent		To a Moderate/Great Extent	
	%	%	%	%	%	%
Informal help from colleagues	96.4	92.3	11.8	12.8	88.2	87.8
In-service or staff development	88.6	88.4	31.1	29.1	69.0	70.9
Assistance from administrators	86.9	78.3	28.9	27.3	71.1	72.7
Assistance from consultants	77.5	67.8	29.5	26.9	70.5	73.1
Regular meeting with teachers	45.9	48.0	40.1	36.2	59.0	63.9
Informal help from building teachers	89.2	81.9	11.8	12.8	88.2	87.2
Formal mentoring program	57.7	62.8	37.2	26.2	62.8	73.8

Table 5

*Comparison of Teachers Self Beliefs by District Type*

Items	Extent to which agree with the statements			
	Percent of Students Living in Poverty			
	< 20%	> 39%	< 20%	> 39%
	Not at all/ Small Extent		To a Moderate/Great Extent	
	%	%	%	%
If you try hard, you can get through to even the most difficult or unmotivated students.	13.3	13.9	86.7	86.1
If one of your students mastered a new concept or skill quickly, it probably would be because you knew the necessary steps in teaching that concept or skill.	12.5	12.8	87.6	87.2
You have enough preparation and relevant experience to deal with most of your students' learning problems.	10.8	13.0	89.3	87.1
It's hard to know how you are doing in your teaching.	49.0	41.9	50.1	58.1
Many of the students you teach are not capable of learning the material you are supposed to teach them	23.6	27.9	76.4	72.1
You can deal successfully with your students' behavior problems.	2.6	6.2	97.4	93.8
You feel that you are making a significant difference in the lives of your students.	2.1	4.5	98.0	95.5

## Summary and Discussion

We compared early career special educators' characteristics and qualifications in high- and low-poverty districts using a national sample of special educators. As Table 2 illustrated, teachers in high poverty schools worked primarily in urban (55.9%) and rural schools (34.1%), while teachers in low poverty schools worked in primarily suburban districts (75.5%).

In summary, a higher proportion of teachers in high poverty districts were male and of color than those in more affluent communities. Special educators in high poverty districts also lacked full certification and held emergency certificates more often than teachers in more affluent districts. Further, teachers from high poverty districts held Master's degrees less often than those in low poverty districts. We also found that teachers in high poverty districts graduated from less selective institutions, completed fewer weeks of student teaching, and took required certification tests more than once. Moreover, about half of the teachers from both high- and low-poverty districts indicated that they had minimal opportunities to interact with students from CLD backgrounds during their preservice preparation.

In addition to the teacher credential and preparation variables, we explored teachers' ratings of preparedness in different instructional areas, as well as their overall job performance. Teachers gave themselves relatively high ratings in using appropriate instructional techniques, planning effective lessons, and working with parents. The lowest self-ratings were in using technology in instruction, interpreting the results of standardized tests, and in accommodating the needs of students from CLD backgrounds. We did not find any significant differences between teachers in high- and low-poverty districts on these self-assessments, even though teachers working in more affluent communities appear to have more extensive preparation. Finally, early

career teachers in both high- and low-poverty districts reported receiving similar induction opportunities, including formal mentoring, informal supports, and inservice opportunities.

### *Teacher Quality Disparities*

Even though the shortage of qualified special educators is well-documented (AAEE, 2006; Boe & Cook, 2006; McLeskey et al., 2004; U.S. Department of Education, 2005), little attention has been given to the differences in the qualifications of teachers across districts with varying levels of poverty. This study adds to the special education literature by providing evidence that early career teachers in high poverty districts were less prepared on a range of teacher quality indicators.

The extent of these disparities is of great concern. While 30% of special educators in high poverty districts lacked full certification, 14% of their counterparts in more affluent districts lacked this credential. Similarly, 24% of early career teachers in high poverty districts held an emergency certificate, compared to only 2% in more affluent districts. The teacher quality gap that we found in this study is consistent with many studies in general education. Lankford et al. (2002) reported that teachers in schools serving greater numbers of low-income and minority students were less qualified overall and Darling-Hammond (2007) suggests that the disparities are growing.

The teacher quality gap between high- and low-poverty districts is troubling given what is known about the relationship between teacher quality indicators and student achievement in general education. Specifically, teachers who are fully certified for their main assignment, have preparation in pedagogical and subject matter (Akiba et al., 2007; Betts et al., 2000; Darling-Hammond, 2000; Wilson, Floden and Ferrini-Mundy, 2001), and attended more selective institutions (Rice, 2003; Wayne & Youngs, 2003) are more likely to positively influence student

achievement. Moreover, research by Sanders and Rivers (1996) demonstrated that elementary students with comparable abilities and initial achievement levels achieve at vastly different rates depending on the sequence of teachers they were assigned. They found that students who were assigned to the most effective teachers three years in a row scored up to 52 to 54 percentile points higher on achievement measures compared to those assigned to the least effective teachers over the same time period. A number of researchers have also reported that teacher quality contributes more to student achievement than many other factors including class size, student background, and school resources (Betts et al., 2000; Darling-Hammond, 2000; Ferguson, 1991; Sanders & Rivers, 1996; Wright, Horn, & Sanders, 1997).

Although McLeskey and Billingsley (2008) found no large-scale studies linking teacher quality in special education to student achievement, they argue that it is reasonable to expect teacher quality to also be critical to the achievement of students with disabilities. They emphasized the importance of knowledgeable and skilled special education teachers to the achievement of students with disabilities. Indeed, this is especially important because these students were referred for evaluation because they did not make sufficient progress in general education.

We illustrate some of the challenges faced by high poverty schools that employ inexperienced, uncertified and substitute teachers using the ethnographic work of Harry and Klingner (2006): “Certainly, in those schools that served predominantly poor, Black populations, the most vulnerable children were placed at increased risk by virtue of inequitable hiring practices, assignment of weak teachers to weak students” (p. 38) and retention of weak teachers. They describe their observations of poor quality instruction that limited poor children’s opportunities to learn:

What do we mean by “extremely” weak teaching? We mean classrooms in which teachers were often distraught or angry; where rough reprimands, idle threats, and personal insults were common; and where teachers’ attempts to curb out-of-seat and off-task behavior were either sporadic and ineffective or unduly harsh. In these classrooms, instruction was frequently offered with no context, no attempt to connect to children’s previous learning or personal experiences. Here, rote instruction took the place of meaningful explanation and dialogue. Often, poorly planned lessons were at the heart of the problem. (p. 56)

The lack of qualified special educators in high poverty districts is likely not only to limit students’ opportunities to learn, but it also contributes to turnover and workplace instability. Teachers who lack certification in general (Darling-Hammond et al., 2005) and special education (Boe, Bobbitt, Cook, Whitener, & Weber, 1997; Miller, Brownell, & Smith, 1999) are more likely to leave their positions than those who are fully certified. As Darling-Hammond and Sykes (2003) stated, uncertified teachers who leave soon after entering expose teachers to a parade of less qualified teachers, particularly since these teachers often leave before they develop effective teaching practices. Further, teachers who leave high poverty schools often move to more affluent districts (Hanushek, Kain, & Rivkin, 2004; Lankford et al., 2002).

#### *Addressing the Teacher Quality Gap*

The findings from this study suggest a severe and persistent shortage of qualified teachers to educate students with disabilities in high poverty districts. Addressing the teacher quality gap requires sustained and coordinated investments in teacher recruitment, preparation, induction, and support across federal and state policy-makers, university faculty, and district leaders. Researchers in general as well as special education have suggested policy changes to remedy the disparities in students’ access to qualified teachers. Blanchett, Mumford, and Beachum (2005)

suggested the elimination of funding formulas based on property taxes which lead “to a qualitatively different level of education for students based on their race, socioeconomic status, and community backgrounds” (p. 79). Darling-Hammond and Sykes (2003) proposed a national teacher supply policy to monitor and address identified needs through federal and state supports, including increasing the capacity of universities to prepare teachers in high demand locations, consolidating scholarship and loan forgiveness programs, developing grow your own programs, and supporting high quality alternative routes in critical shortage areas.

Another promising way to ensure that all students have access to equitable learning opportunities is to increase the support that new teachers receive, including “hiring procedures, protected initial assignments, steady provision of mentor and other support, and improved evaluation to help novices” (Darling-Hammond & Sykes, 2003, p. 36). Although we did not find any significant differences between induction support in low and high poverty districts, it is likely that teachers in high poverty districts need more extensive supports given that a fourth of these teachers hold emergency credentials. It is of note that about half of the special educators across districts did not receive formal mentoring. Induction support is important to new special educators as they continue to develop their knowledge and skills (Griffin, Winn, Otis-Wilborn, & Kilgore, 2003; Whitaker, 2000; White & Mason, 2006). In particular, teachers without credentials need “intensive and specific professional development activities” (Mastropieri, 2001) with ongoing supports throughout the initial teaching years (Billingsley, 2005).

### *Challenges for Teacher Education*

As the above discussion suggests, significant resources need to be directed toward preparing teachers for work in high poverty schools. Our study suggests that intensive efforts are also needed to recruit teachers of color, given that the vast majority of special educators continue

to be overwhelmingly White and female. Olson (2000) provided evidence that the proportion of teachers from diverse backgrounds is small and declining and predicts that by 2009, 40 percent of students will be members of minority groups, compared with only about 12 percent of the current teaching force. However, it is important to note that there are greater proportions of special education teachers of color in high poverty districts and these districts also have higher proportions of students of color. As Tyler, Yzquierdo, Lopez-Reyna, and Flippin (2004) suggested, there is an assumption that students from diverse backgrounds will be more likely to succeed academically when paired with teachers from similar backgrounds. However, there is little empirical evidence to support this idea.

Finally, despite the growing rhetoric about the importance of addressing the diverse needs of students, many special educators reported being unprepared to work with students from CLD backgrounds and report having minimal or no interactions with students from CLD backgrounds during their preparation programs. This is problematic especially given that on average, almost one-fourth of special educators' students are from a cultural or linguistic group different from their own (United States Department of Education, 2001) and teachers report that their work is more difficult when they and their students do not share characteristics such as social expectations, race, ethnicity, and language (Johnson & Birkeland, 2003).

University faculty need to evaluate the extent to which their current teacher education curricula provide opportunities for students to develop knowledge and to have experience in accommodating students from CLD backgrounds. Brownell, Ross, Colon, and McCallum (2003) in their review of special education teacher education programs, suggested that while there were widespread attempts to address cultural diversity, programs often did not elaborate on how this topic was addressed in courses or field experiences. Harry and Klingner (2006) also emphasized



that teacher certification requirements should be reviewed to assure that “they include standards specific to teaching culturally and linguistically diverse students and that they require evidence from teacher-preparation programs indicating that they are addressing diversity in significant ways” (p. 177).

### *Limitations of the Study and Needs for Research*

Although we provided evidence about the unequal distribution of teachers on quality indicators in high- and low-poverty districts, we acknowledge that this study does not begin to capture important dimensions of teacher quality, and the complex interactions of individual, preparation, and institutional factors that combine to influence teachers’ effectiveness. However, large-scale investigations by necessity use indicators rather than direct measures of quality. Moreover, the field of special education has little agreement about what constitutes teacher quality. As Brownell et al. (2005) pointed out; researchers in special education have focused on developing effective interventions for students with disabilities and have overlooked teachers’ roles in student achievement. An agenda focused on special education teacher quality should be a priority for the field.

We also have no way of assessing potential differences in teacher quality among schools *within* districts. Bridges (1996) suggested that inadequate teachers are often transferred to schools with higher concentrations of poor and minority students. Future research might consider the extent to which special educators with different qualifications are placed across schools in districts with varying levels of poverty.

Few conclusions can be drawn from the data on teachers’ self-assessments. Even though teachers in high poverty districts have less extensive preparation than those in low poverty districts, self-ratings between the two groups were not significantly different. Carlson et al.

(2004) argued that care should be taken in interpreting the results, “particularly with regard to use of specific classroom practices, where self-report may be particularly suspect” (p. 357).

Nougaret et al. (2005) also found that although traditionally prepared teachers were more effective than non-traditionally licensed teachers, both groups evaluated themselves as similarly competent. From these findings, the authors draw the conclusion that nontraditionally licensed teachers were unaware of their own strengths and relative weaknesses.

Finally, the data from this study is limited to only one school year. On-going data collection efforts over time are needed to investigate trends and to allow for more responsive policies to address personnel needs.

In conclusion, given the importance of teacher quality to student achievement, students with disabilities in high poverty districts should be considered at risk because of the likelihood that they will have teachers at some point that lack basic preparation for their work. Addressing the teacher quality gap will take sustained commitments to realize an American ideal. As Oakes and Lipton (2004) stated:

Americans want a society where everyone is able to reap the benefits of their ability, hard work and persistence. Inherited wealth, family connections, or being of the “right” social group or race should not constrain or advantage anyone in pursuit of prosperity and fulfillment. (p. 184)

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## Chapter 3

# Disparities in Work Conditions among Early Career Special Educators in High- and Low-Poverty Districts

The conditions of teachers' work influence their ability to deliver effective instruction and their willingness to remain in teaching (Ingersoll, 2001; Johnson & Kardos, 2008). Important factors contributing to a positive work environment are collaborative and supportive principals and colleagues, opportunities for teachers to make decisions about their classrooms, manageable workloads, and on-going job embedded opportunities for learning and professional development (Billingsley, 2004; Borman & Dowling, 2008; Brill & McCartney, 2008; Johnson, 2006; Mainzer, Deshler, Coleman, Kozleski, Rodriguez-Walling, 2003).

Although research emphasizes the importance of positive work conditions, little is known about special educators' work experiences in high- versus low-poverty schools. Because teacher turnover rates are reported to be higher in urban, high poverty schools (Fall & Billingsley, 2007; Guin, 2004; Ingersoll, 2001; Lankford, Loeb & Wyckoff, 2002; Loeb, Darling & Luczak, 2005; Smith & Ingersoll, 2004), it is important to learn more about the work experiences of special education teachers in these schools. Understanding the context in which teachers work will provide important information for policymakers interested in improving schools (Johnson, 2006) and reducing turnover. As Mainzer et al. (2003) argued:

If states are to begin to address the shortage of special education teachers... Every school district should be required to collect information on the conditions in which special educators practice, including role ambiguity, paperwork, caseloads and class sizes, teacher credentials, administrative training, professional development, salaries and their competitiveness compared to other professionals. They must also be expected to use this information as the basis for strategic recommendations to improve the conditions. (p. 4)

Although there is scant research about the work conditions of special education teachers in high poverty districts. Mandlawitz (2003) studied three urban districts and concluded that “urban districts have an especially hard time attracting and hiring special education personnel because they must compete against school districts with better working conditions, salaries, and supports for new special education teachers” (p. 6). Although Mandlawitz’s findings provided some insight into the challenging work conditions experienced by teachers in three urban districts, more information is needed about the special educators’ work experiences in high- and low-poverty districts.

### Work Conditions in Special Education

Quality teaching and learning can not occur without qualified teachers who have the adequate work conditions needed to do their work well (Fullan, 2007; Little, 1982; 2002; Rosenholtz, 1989; McLaughlin & Talbert, 2001). Several researchers have recently concluded that conditions of teaching is a major factor that contributes to the satisfaction and retention of general and special education teachers (Billingsley, 2004; Borman & Dowling, 2008; Gersten, Yovanoff, & Harniss, 2001; Ingersoll, 2003). The conditions in schools also mediate the effectiveness of teachers in the classroom and help improve student learning by helping teachers succeed (Hirsch, Emerick, Church, & Fuller, E., 2007; Johnson & the Project on the Next

Generation of Teachers 2004; Little, 1982; Rosenholtz 1989). Although researchers define work conditions in a range of different ways our discussion focuses on three work-related factors that are important to special education teacher retention, including school support, work manageability, and opportunities for professional development and induction (Billingsley, 1993). The following section considers what is known from research about the effects of work conditions on teacher retention and effectiveness.

### *School Support*

Teachers who view their schools as supportive places to work are more likely to stay in teaching. School support encompasses building level support from principals and teachers and the extent to which teachers have opportunities to participate in decisions that affect their work. Principals have a major role to play in the well-being of special education teachers. Researchers provided evidence that administrators who engaged in a variety of support behaviors, including acknowledgment, feedback, suggestions, and collaborative problem solving were more likely to have special education teachers who reported fewer role problems, were less stressed, were more satisfied with their jobs, and were more committed to their employing school divisions (Billingsley & Cross, 1992; Gersten, et al., 2001; Littrell & Billingsley, 1994; Singh & Billingsley, 1996). Principal support is also critical for keeping these teachers. Special education teachers were more likely to leave teaching or indicate intent to leave when they perceived the support from the principal as inadequate (Billingsley & Cross, 1991; Brownell, Smith, McNellis & Miller, 1997; George, George, Gersten, & Grosenick, 1995; Miller, Brownell, & Smith, 1999; Westling & Whitten, 1996). For example, Boe, Barkanic, and Leow (1999) found that special education teachers who remained in teaching were almost four times more likely to perceive administrators' behavior as supportive and encouraging than leavers. In Ingersoll's (2001)

multiple regression models, organizational factors within a school, including more administrative support were among the key factors influencing general and special educators' decisions to stay. Additionally, special educators with strong principal support reported more professional development opportunities, greater colleague support, and fewer role problems than their less-supported colleagues (Billingsley, 2005; Gersten, et al., 2001).

Researchers have also linked student success to teachers who have the opportunity to work collegially with others in their school (Little, 1982; 2002; Rosenholtz, 1989) and form strong, progressive, instructional communities (Rosenholtz, 1989; McLaughlin & Talbert, 2001). For example, Little (1982) documented the positive relationship between student achievement and the presence of “patterned norms of interactions” (p. 325), where teachers “pursued a greater range of professional interactions with fellow teachers or administrators, including talk about instruction, structured observation, and shared planning or preparation” (p. 325). In another study, Rosenholtz (1989) found significant differences in student performance between schools where teachers collaborated and those that did not. McLaughlin and Talbert (2001) found that weak professional communities, in which “teachers keep their thoughts and practices private” (p. 41), contrasted markedly with strong professional communities, in which teachers “share a sense of common mission and negotiate principles, policies, and resources for their practice” (p. 63). They concluded that collegiality supports student learning and influences the motivation, career commitment, and satisfaction of teachers.

In special education, collaboration is viewed as a powerful tool for helping teachers serve students with disabilities (Brownell, Adams, Sindelar, Waldron, Vanhover, 2006). Today nearly 54% of students are educated in a general education classroom 80% or more of their school day ([https://www.ideadata.org/tables30th/ar\\_2-2.xls](https://www.ideadata.org/tables30th/ar_2-2.xls), retrieved November 14, 2008) and are expected

to achieve the same standards alongside their peers without disabilities (Kohn, McLaughlin, & Nagle, 2006; McLaughlin & Rhim, 2007). Therefore, in order to promote success for students with disabilities, general and special educators need to collaborate and share responsibility for planning, instructing, and evaluating students. However, special education teachers reported problems collaborating with general education teachers (Gehrke & Murri, 2006; Kilgore & Griffin, 1998; White & Mason, 2006). As Billingsley, Griffin, Smith, Kamman and Israel (2008) summarized “Perhaps one of the most daunting challenges new special educators face is becoming a part of the school community and negotiating the inclusion of students with disabilities in general education classes” (p. 31). Lack of collegiality increased teachers’ feelings of isolation and stress (Mastropieri, 2001), reduced teacher satisfaction and commitment (Gersten et al., 2001; McLaughlin & Talbert, 2001; Rosenholtz, 1989), and contributed to teacher turnover (Miller et al., 1999).

Another central element of the work environment is professional discretion and autonomy. A school that allows teachers to participate in important decisions concerning their work is more likely to have teachers who feel more effective in their teaching and more committed to the field (Brownell, Smith, McNellis & Lenk, 1994-95; Little, 1982; Rosenholtz, 1989; Weiss, 1999; Ingersoll, 2001). Rosenholtz (1989) argued:

Jobs that give people more autonomy and discretion require that they exercise judgment and choice; in doing so, they become the main causal agents in their own performance. Losing the capacity to control the terms of work, to determine what is to be done, how it is to be done or what its aim is to be, on the contrary, widens the gap between the knowledge of one’s unique contribution to the work and any performance-based



fulfillment that can be derived from it. The products of work no longer reflect one's personal intentions, and one becomes estranged and alienated from them. (p. 141)

Schools with higher levels of faculty influence and autonomy have lower levels of turnover (Ingersoll, 2001; Liu, 2007). For example, in Ingersoll's (2001) study "a 1-unit difference in reported teacher influence between schools (on a 6-unit scale) is associated with a 26% difference in the odds of a teacher departing" (p. 519). Similarly, Liu (2007) found that the "predicted probability of first-year teacher attrition can decrease from 19% to 4% as teacher influence at school changes from no influence to a great deal of influence" (p. 13).

### *Work Manageability*

Problems with teachers' work manageability created stress and dissatisfaction, which subsequently negatively teachers' commitment and intent to stay (Cross & Billingsley, 1994; George et al., 1995; Johnson & Birkeland, 2003; Singh & Billingsley, 1996; Westling & Whitten, 1996). For example, excessive paperwork and overwhelming job responsibilities drove Florida special education teachers out of classroom (Brownell, Yeager, Rennells, & Riley, 1997). Similarly, "too much paperwork" and "too many students on caseload" were among the reasons teachers left special education teaching (Billingsley & Cross, 1991). Additionally, special educators who planned to leave teaching as soon as possible were significantly more likely to rate their workload as "not at all manageable" compared to those who indicated intent to stay (Carlson & Billingsley, 2001). Gersten et al. (2001) summarized the cost of problematic work assignments as follows:

For an organization, poor job design results in failure to achieve valued goals. For an individual, it results in frustration and work-related stress, which in turn may lead to lowered self-efficacy and increased employee attrition. Negative responses to day-to-day

work may also lead teachers to remain in their positions but simply reduce their overall involvement and effort, and to lower their expectations for students. (p. 552)

Problems with work manageability also have implications for the quality of education students with disabilities receive. Large and complex caseloads prevented teachers from providing individualized instruction and “created challenges for effective instruction, curriculum, and behavior management” (Kilgore, Griffin, Otis-Wilborn, & Winn, 2003, p. 43). McLeskey and Billingsley (2008) reported:

The conditions that many special educators experience in their schools are often not conducive to learning about or implementing research-based practices. Teachers report a range of obstacles in implementing research based practices, including lack of instructional time, too many competing demands (e.g., Individualized Education Programs and high-stakes testing), lack of materials, and lack of administrator support. (p. 299)

### *Professional Development and Induction*

Studies consistently document the stressful and challenging nature of the beginning years of teaching (Billingsley et al., 2008; Boyer & Lee, 2001; Billingsley & Tomchin, 1992; Feiman-Nemser, 2001; Griffin, Winn, Otis-Wilborn, & Kilgore, 2003; Johnson & Birkeland, 2003). Factors contributing to early career teachers problems include: “role ambiguity, students posing complex behavioral and academic challenges, large case loads, insufficient curricular and technical resources, inadequate administrative support, inadequate time for planning, few opportunities for collaboration and professional development, and excessive procedural demands (Griffin et al., 2003, p. 7).

Taking into consideration the challenges teachers face entering teaching, researchers emphasize the importance of responsive induction programs for early career special education teachers (Billingsley, 2005; Boyer & Gillespie, 2000; Mastropieri, 2001; Rosenberg, Griffin, Kilgore, & Carpenter, 1997; White & Mason, 2001). Induction programs designed specifically to meet the needs of early career teachers have the potential to increase teacher retention as well as improve teacher practice (Guarino, Santibanez, & Daley, 2006; Johnson & Birkeland, 2003; Smith & Ingersoll, 2004; Whitaker, 2000). In particular, Smith and Ingersoll (2004) revealed that first-year teachers, who participated in collective induction activities, were less likely to leave teaching. Mentoring is integral part of induction efforts and it works to improve teacher effectiveness (Darling-Hammond, 2000; Evertson & Smithey, 2000). For example, Evertson & Smithey (2000) found that teachers participating in mentoring program:

Showed increased evidence of developing and sustaining more workable classroom routines, managed instruction more smoothly, and gained student cooperation in academic tasks more effectively. Those students were more engaged in schoolwork and had relatively less inappropriate or disruptive behavior. They also seemed to have more initial success in their schoolwork. (p. 302)

Additionally, mentoring has a positive effect on new teacher retention in education (Smith & Ingersoll, 2004). Darling-Hammond (2000) reported, “beginning teachers who have access to intensive mentoring by expert colleagues...not only stay in the profession at higher rates but become competent more quickly than those who must learn by trial and error” (p. 22). Similarly, Whitaker (2000) examined the impact of mentoring on special education teacher attrition. She found a significant relationship between perceived effectiveness of mentoring and teachers’ plan to remain in special education. Further, teachers in Billingsley, Carlson, and

Klein's study (2004) who found overall induction support helpful were more likely than those with lower levels of support to see their roles as manageable, to believe that they could get through to the most difficult students, and to believe that they were successful in providing education to students with IEPs.

Research in general education suggested that teachers in high poverty schools encounter more challenging work environments than their counterparts working in low poverty districts (Johnson & Birkeland, 2003; Johnson, Kardos, Kauffman, Liu, and Donaldson, 2004; Loeb et al., 2005); yet little is known about the quality and characteristics of work conditions of special education teachers across districts with varying levels of poverty. A comparative study of early career special education teachers' experiences with work conditions in high-, and low- poverty districts is important for several reasons. First, early career teachers in high poverty schools are at higher risk of leaving than are their more experienced counterparts in affluent schools (Ingersoll, 2001) and teacher turnover is predominantly the result of problematic work conditions (Ingersoll, 2001; Weiss, 1999). Researchers argue that early career teachers are more vulnerable to the effects of poor work conditions, and teachers' early experiences in the work setting "can make teaching productive and satisfying or unsuccessful and dispiriting" (Johnson & Kardos, 2008, p. 453). Understanding teachers' experiences with work conditions during the early career period provides important information for policymakers, administrators, and teacher educators as they consider ways to better prepare teachers and create environments in which they can be supported and nurtured.

We used the Study of Personnel Needs in Special Education (SPeNSE) database to compare early career teachers in low- and high-poverty districts on work-related factors including district environment, school supports, and work manageability. The purpose of our

study was to compare teachers' perceptions of school supports, work manageability, and opportunities for professional development and induction in high and low poverty districts.

## Method

### *Data*

We used data from teacher interviews developed by SPeNSE, a project funded through the U.S. Department of Education, Office of Special Education Programs (OSEP). SPeNSE included computer assisted telephone interviews with a nationally representative sample of local administrators, special and general education teachers, speech-language pathologists, and paraprofessionals. The interviews were conducted from May through November 2000. SPeNSE is the largest national special education teacher database ( $N = 5,427$ ). This study included data from a subset of special education teachers (K-12), those with five or fewer years of experience (speech-language pathologists were not included). The findings reported are national estimates derived from the SPeNSE sample. For detailed information about this study, please see [www.spense.org](http://www.spense.org).

*Sampling.* SPeNSE project staff used a two-phase sample design. The sampling units in Phase 1 included three groups: local education agencies (LEAs), intermediate education units (IEUs), and state schools for students with sensory impairments. The LEA sample was stratified by district size and geographical region, based on student enrollment. The IEU samples were stratified by geographic region and included only those who provided direct services to students with disabilities. All of the state schools ( $n = 76$ ) were included in this first sampling phase. In the second phase, a stratified simple random sample of service providers (i.e., preschool teachers, teachers of students with sensory impairments, teachers of students with emotional disorders, and other special education teachers, speech-language pathologists, special education

paraprofessionals, and general education teachers) were selected from the personnel rosters that were obtained from 370 participating LEAs, IEUs, and State schools. Because only 46% ( $n = 370$ ) of sampled LEAs, IEUs, and state schools and 69% ( $n = 1,061$ ) of the sampled service providers actually participated in the study, weight adjustments were made to address nonresponse bias. Further, post hoc comparisons of SPeNSE data with other data containing identical or similar items did not suggest any systematic nonresponse bias.

Table 1

*Description of Measures used in the Analysis*

Aspects of work conditions	Description
<i>District and school supports<sup>a</sup></i>	
District support	Teachers' perception of district support
Principal support	Teachers' perception of principal support
Collegial support	Teachers' perception of collegial support
Teacher involvement in decision making	Teachers' perception of involvement in decision making
<i>Work assignments</i>	
Workload manageability	Think now about your total job, including all your professional responsibilities. To what extent do you agree that your workload is manageable? , where 1 = not at all, 2 = small extent, 3 = moderate extent, and 4 = great extent
Paperwork	Routine duties and paperwork interfere with your job of teaching, where 1 = not at all, 2 = small extent, 3 = moderate extent, and 4 = great extent
Materials	Necessary materials are available when you need them, where 1 = not at all, 2 = small extent, 3 = moderate extent, and 4 = great extent

Aspects of work conditions	Description
Caseload characteristics	What is the total number of children you teach in a week?
	Percentage of students who are from CLD backgrounds
	Percentage of students who are ELLs
<i>Professional development and induction</i>	
Availability of induction <sup>b</sup>	Rating of availability of support systems in first three years teaching
Helpfulness of induction <sup>b</sup>	Ratings of helpfulness of support system.
Hours in professional development	In the past 12 months, how many hours, altogether, have you spent in professional development? Include hours spent in activities sponsored by your school, district, or agency, as well as activities you completed on your own.
	Of those hours spent in professional development, how many were required by your school, district, agency, or state?
Teachers' participation in professional development activities <sup>c</sup>	Teachers participation in different professional development activities

Note. <sup>a</sup>Items in Table 3. <sup>b</sup>Items in Table 4. <sup>c</sup>Items in Table 5.

*Survey development and procedures.* The survey instruments developed for SPeNSE included demographic characteristics, teacher preparation, work conditions, and career plans. The items selected from the database are outlined in Table 1. The data were weighted to generate national estimates.

*Defining high- and low-poverty districts.* Poverty level was measured using the Orshansky Poverty Index (Fisher, 1992) generated by the Census Bureau. The index reflected the percentage of students living in poverty based on household income, household composition, and size. High poverty referred to districts where 39% of students or more come from families below

the federal poverty line, while low poverty referred to 20% or less falling below this line. The cut-off point of 39% was close to that used by other researchers (Swanstrom, Ryan, & Stigers, 2006).

### *Data Analyses*

From this sample of 935 early career special education teachers, 400 teachers worked with students with disabilities in low poverty districts, 292 teachers worked in districts where 21-39% of students live in poverty, and 243 teachers served students with disabilities in high poverty districts. Data analyses were conducted using WesVar 4.3 (2002), a statistical package designed to calculate estimates for data collected through complex sample designs. Analyses included descriptive statistics, one-way ANOVAs, chi square, and reliability analyses. Alpha level of .05 was used for all analyses.

## Results

### *Teacher Characteristics and Qualifications*

Using the SPeNSE national database, we compared early career special educators' characteristics and qualifications in high- and low-poverty districts. As Table 2 suggests, there was a higher proportion of male teachers in high (24.2%) versus low (13.9%) poverty districts ( $\chi^2 (1, N = 626) = 10.644, p < .05$ ). High poverty districts also had statistically higher percentages of minority teachers than those from low poverty districts.

More specifically, African American teachers comprised 30.1% of the sample in high poverty districts compared to 4.1% in affluent districts  $\chi^2 (1, N = 604) = 53.8, p < .05$ . About 10.5% of the teachers in high poverty districts were Hispanic compared to 2.2% of teachers in low poverty districts,  $\chi^2 (1, N = 626) = 23.918, p < .05$ . Analyzing teacher qualifications, we found that 20.5% of early career special educators did not have full certification for their main



teaching assignments. However, there were significant differences ( $\chi^2 (3, N = 624) = 17.278, p < .05$ ) between high- and low-poverty districts. Almost a third (29.7%) of special education teachers in high poverty districts lacked full certification, as opposed to 14% in low poverty

Table 2

*Teacher and District Characteristics*

	Overall	Percent of students living in poverty	
	Sample	< 20%	> 39%
<b>Teacher characteristics</b>			
<i>Number of teachers (N)</i>	957	400	243
<i>Gender</i>			
Female	81.4	86.1	75.8
<i>Race (%)</i>			
African American	12.2	4.0	30.1
Latino	4.4	2.2	10.5
White	85.3	94.4	67.3
<i>Preservice preparation (%)</i>			
Bachelors or less	32.9	32.5	34.7
Working on a Masters	35.9	30.7	45.5
Have a Masters	24.2	29.9	14.5
Have Masters working on additional	7.1	6.9	5.3
<i>Certification status</i>			
Not certified	2.5	2.2	2.1
Emergency certified	14.0	7.6	23.9
Out of field certified	4.0	4.1	3.7
Fully certified	79.5	86.1	70.3

	Overall	Percent of students living in poverty	
	Sample	< 20%	> 39%
District Characteristics			
Metropolitan status (%)			
Urban	27.5	5.9	55.9
Suburban	51.6	75.8	10.0
Rural	20.9	18.3	34.1
Students of color enrollment (%)			
< 10%	21.7	34.7	3.7
10-24%	18.8	26.2	7.5
25-39%	15.2	16.5	13.2
> 40%	44.3	22.6	75.6
District size (%)			
Very large/large	58.3	44.2	58.3
Medium	21.6	29.8	25.8
Small	8.2	26.1	15.9

districts. Teachers from high poverty districts were also more likely to hold emergency certificates (23.9%) than those in low poverty districts (2.2%). (See Fall & Billingsley, 2008 for an in depth comparison of special education teacher qualification in high- and low- poverty districts).

#### *District Characteristics*

SPeNSE collected information about district characteristics, including metropolitan status, district size, and student body composition (see Table 2). Findings indicated that 27.5% of early career special education teachers worked in urban areas, 51.6% worked in suburban districts, and 20.9% worked in rural

districts. Districts with high poverty rates tended to be located in very large or large districts (58.3%;  $\chi^2 (1, N = 638) = 19.062, p < .05.$ ), in urban areas (55.9%;  $\chi^2 (1, N = 643) = 43.941, p < .05.$ ) that serve more students of color  $\chi^2 (2, N = 643) = 24.25, p < .05.$  In comparison, more affluent districts tended to be located in suburban areas (75.8%), serving predominantly White students.

### *District and School Supports*

Four variables were created to represent teachers' perceptions of the district and school support: district support, principal support, collegial support, and teacher involvement in decision making. Each variable was a composite measure derived from a series of items specifically chosen for the variable from the SPeNSE data set. Internal consistency reliability coefficients (Cronbach's alpha) were computed for each composite scale. Table 3 illustrates the full list of items.

*District support.* District support referred to the extent to which special educators received support from district administrators. The possible values for this variable ranged from 0-16, where 0 indicated the least support and 16 indicated the most support. The reliability coefficient for the composite scale was .70. The mean response for our sample was 12.3 ( $SD = 2.5; \alpha = .70$ ). A one-way ANOVA was used to test for differences between high- and low-poverty districts. Special educators in high-versus low-poverty districts did not differ significantly in district administrator support ( $M = 12.5; SD = 2.3$  low poverty district and  $M = 12.1, SD = 2.8$  high poverty,  $F (1, 642) = 3.34, p > .05$ ).

*Principal support.* Principal support referred the degree to which teachers perceived that the principal and vice principal understood and supported their work. The possible values for this factor ranged from 0-36, with 0 indicating the least support and 36 indicating the most support. The reliability coefficient for the composite scale was .89. The mean response for our sample was 28.1 ( $SD = 5.85$ ).

Table 3

*Early Career Special Educators' Perception of School and District Environment by District Type*

	Percent of students living in poverty							
	< 20%	> 40%	Frequency of response choices					
			1 <sup>a</sup>	2 <sup>b</sup>	3 <sup>c</sup>	1 <sup>a</sup>	2 <sup>b</sup>	3 <sup>c</sup>
<i>M</i>	<i>M</i>	%	%	%	%	%	%	
<i>District Support</i>								
District administrators provide suggestions for enhancing teaching	2.2	2.3	53.8	34.9	11.3	50.7	35.4	14.0
Special education division supports you in interactions with parents	3.3	3.3	10.0	34.9	55.1	15.2	32.5	52.3
The special education division backs you up when you need it	3.2	3.2	13.3	37.9	48.8	17.0	33.2	49.8
The special education contact understands what you do	3.1	3.2	9.7	30.1	60.2	10.1	34.8	55.1
<i>Principal support</i>								
Principal provides suggestions for enhancing teaching	2.7	2.6	40.2	30.5	29.3	44.6	28.3	27.1
Administrators provide suggestions for enhancing teaching	2.3	2.4	48.4	34.3	17.3	43.0	36.8	20.2
Administration behavior toward staff is supportive*	3.3	3.1	16.5	36.8	46.6	25.6	31.8	42.6
Principal enforces school rules and backs you up*	3.3	3.1	13.6	25.7	60.7	20.3	28.7	51.1
Principal knows and communicates the school he wants	3.4	3.4	13.5	24.6	61.9	16.3	22.1	61.7

	Percent of students living in poverty							
	< 20%	> 40%						
			< 20%			> 40%		
			Frequency of response choices					
			1 <sup>a</sup>	2 <sup>b</sup>	3 <sup>c</sup>	1 <sup>a</sup>	2 <sup>b</sup>	3 <sup>c</sup>
	<i>M</i>	<i>M</i>	%	%	%	%	%	%
Staff members are recognized for a job well done	3.1	3.0	21.9	40.6	37.5	27.6	36.6	34.8
Principal backs you up when you need it	3.3	3.2	14.7	28.3	57.1	21.7	25.0	53.3
Can count on principal to assist with behavior*	3.3	3.1	13.3	27.3	59.4	23.8	25.5	50.6
Your principal understands what you do	3.1	3.0	24.9	33.8	41.3	26.6	30.7	42.7
<i>Collegial Support</i>								
Special educators provide suggestions for enhancing teaching	3.2	3.1	21.2	30.4	48.3	23.0	31.7	45.3
Teachers provide suggestions for enhancing teaching	2.3	2.2	45.8	35.8	18.3	51.1	38.3	10.6
Colleagues share your beliefs about school central mission	3.3	3.3	9.4	39.5	51.0	12.0	42.7	45.2
There is a cooperative effort among the staff members	3.2	3.0	15.2	45.7	39.1	22.6	42.8	34.6
You really like this school*	3.6	3.5	5.8	25.8	68.5	10.3	26.3	63.4
<i>Teacher involvement in decision-making</i>								
Feel included in what goes on in this school*	3.12	3.0	18.8	40.4	40.9	24.7	40.3	35.0
Teachers participate in making educational decisions*	3.1	2.9	14.9	49.9	35.2	27.2	43.1	29.7

However there were significant differences in perceived support across districts with varying levels of poverty: teachers working in high poverty districts perceived less principal support ( $M = 27.0$ ;  $SD = 6.7$ ) than those working in more affluent districts ( $M = 28.7$ ;  $SD = 5.2$ ;  $F(1, 642) = 12.306, p < .05$ ). (For comparison of individual items, see Table 3).

*Collegial support.* Collegial support was a composite measure of teachers' reports of the degree to which they perceived that their colleagues understand and support their work. The possible values for this factor ranged from 0-20, with 0 indicating the least support and 20 indicating the most support. The reliability coefficient for the composite scale was .67. The mean response for our sample was 15.7 ( $SD = 2.4$ ). However there were significant differences across districts with varying levels of poverty: teachers working in high poverty districts received less support from their colleagues ( $M = 15.4$ ;  $SD = 2.5$ ) than those working in more affluent districts ( $M = 15.9$ ;  $SD = 2.4$ ;  $F(1, 642) = 5.641, p < .05$ ).

*Teacher involvement in decision making.* Teacher involvement was measured by asking teachers to rate (on a 1 to 4 scale ranging from 1 = not at all to 4 = great extent) the degree to which they perceived that "You feel included in what goes on in this school" and "Teachers participate in making most of the educational decisions in this school." From these two items we created a composite measure. The reliability coefficient for the composite scale was .58. Findings indicated that there are significant differences between groups; teachers working in high poverty districts reported less involvement in decision making ( $M = 5.9$ ,  $SD = 1.6$ ) than their colleagues in more affluent districts ( $M = 6.4$ ,  $SD = 1.1$ ;  $F(1, 642) = 24.53, p < .05$ ).

### *Work Manageability*

To better understand teacher work manageability we analyzed teachers' perceptions of workload manageability, paperwork interference with the job of teaching, adequacy of materials, and caseload characteristics.

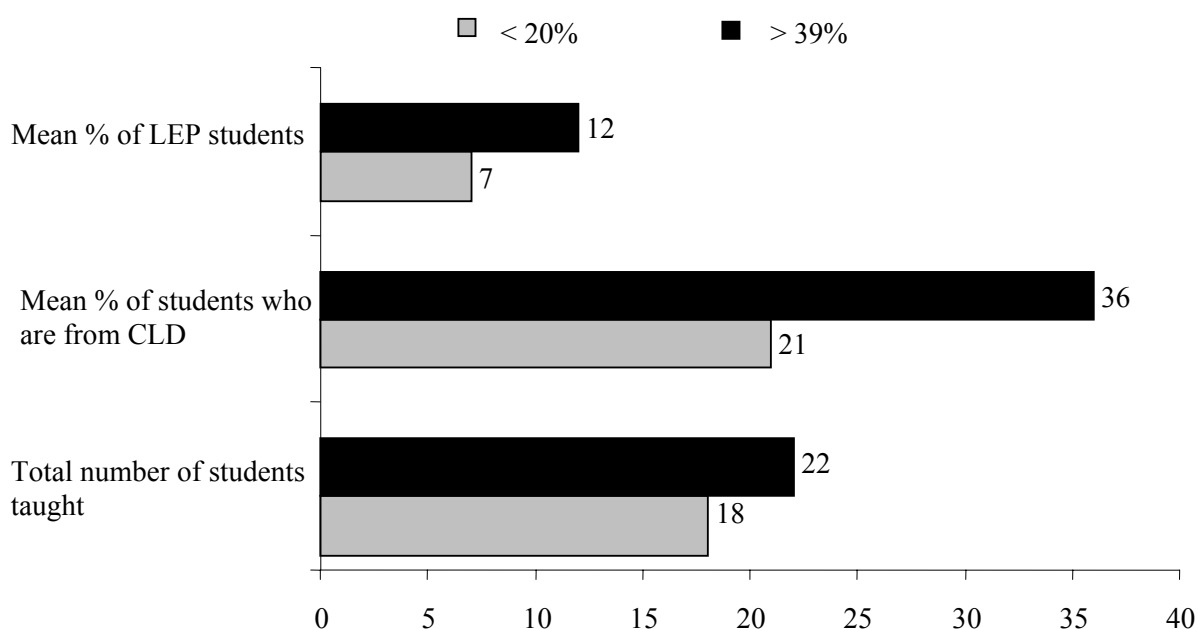
*Workload manageability.* Teachers' perception of job manageability was assessed by asking the following question: "Thinking about your total job, including your professional responsibilities, to what extent do you agree that your workload is manageable?" (response scale of 1 = not at all to 4 = great extent). Findings indicated no significant differences in teachers' perception of workload manageability between high- versus low- poverty districts ( $M = 2.2$ ,  $SD = 1.0$ ;  $M = 2.2$ ,  $SD = .8$  respectively;  $F(1, 642) = 0.105$ ,  $p > .05$ ), with approximately 30% of early career special educators (26.8% low poverty districts; 30.1% high poverty district) indicating that their workload was not at all manageable or was manageable to a small extent.

*Paperwork.* Routine duties and paperwork interfered with the teaching duties of many early career special education teachers. Teachers were asked to indicate the extent to which they agree with the statement, "Routine duties and paperwork interfere with your job of teaching". Findings indicated that the mean response rate was 3.1 ( $M = 3.1$ ,  $SD = 0.82$  low poverty districts and  $M = 3.2$ ,  $SD = 0.9$  high poverty districts;  $F(1, 643) = 0.885$ ,  $p > .05$ ), with 48.6% of teachers in high poverty districts and 38.8% of teachers in low poverty districts agreeing to a great extent with the statement.

*Materials.* Teachers were asked to indicate the extent to which "Necessary materials are available when you need them." Teachers in high poverty districts were less likely to perceive that necessary materials were available to them than teachers in low poverty districts ( $M = 2.7$ ,  $SD = 1.0$ ;  $M = 3.1$ ,  $SD = 0.8$  respectively;  $F(1, 642) = 27.443$ ,  $p < .05$ ), with 25.1% of teachers

in low poverty districts and 41.6% of teachers in high poverty districts indicating “not at all” or “small extent” for this item.

*Caseload characteristics.* Different aspects of teachers’ caseloads were assessed, including total number of student taught in a typical week, percentage of students served who are English Language Learners (ELLs) and percentage of students who are from culturally and linguistically diverse backgrounds (CLDs) (Figure 1). Teachers taught an average of 20 students; however teachers’ average caseloads differed significantly across districts with varying levels of poverty. Teachers working in high poverty districts served on average 22 students ( $SD = 12.4$ ), while teachers in low poverty districts served 18 students ( $SD = 22.8$ ;  $F(1, 642) = 4.99, p < .05$ ). On average, 12.3% of high poverty district teachers’ students were ELLs, as opposed to 6.4% in low poverty districts ( $F(1, 641) = 11.65, p < .05$ ).



**Figure 1. Caseload characteristics of early career special educators by district type**



Teachers in high poverty districts also reported greater caseload diversity than their colleagues working in more affluent districts. More specifically, on average 35.8% of high poverty districts teachers' students were from a cultural or linguistic group different from their own, compared to 20.7% in affluent districts ( $F(1, 638) = 33.842, p < .05$ ).

### *Professional Development and Induction*

We considered different aspects of professional development and induction, including availability of support, helpfulness of support, hours spent on professional development, and participation in different kinds of professional development activities.

*Induction support.* Induction support was assessed by asking teachers to indicate whether or not they received seven specific types of support, including formal mentoring, regular meetings with new teachers, informal help from building teachers, assistance from building administrators, assistance from consultants or supervisors, informal help from colleagues, and district in-service or staff development. Although a variety of supports were available to them, teachers' reports did not differ by poverty level. Overall, the most frequently provided form of support was informal help from other colleagues. As Table 4 shows, about 92.3% of teachers in low poverty districts and 96.4% of teachers in high poverty districts indicated that informal help from other colleagues was available to them ( $\chi^2(1, N = 638) = 3.48, p > .05$ ). In contrast, the least frequently provided form of support was formal mentoring with about half of the respondents indicating such support (57.7% of teachers in low poverty district vs. 62.8% in high poverty districts;  $\chi^2(1, N = 643) = 0.583, p > .05$ ). Teachers were also asked to indicate the extent to which each of the seven types of support were helpful on a scale from 1 to 4 (1 = not at all, 4 = great extent). Teachers reported that informal help from colleagues was the most helpful form of support, with about 88.2% of teachers in low poverty districts and 87.8% of teachers in

high poverty districts indicating that the support was helpful to a moderate/great extent. About 70% of teachers from both groups found in-service and staff development helpful to a moderate/great extent.

Table 4

*Comparison of the Induction Support and Extent to which was Helpful by District Type*

	Percent of district's students living in poverty					
	< 20%	> 39%	< 20%	> 39%	< 20%	> 39%
	Support available		Extent to which support was helpful			
	Yes	Yes	1 <sup>a</sup>		2 <sup>b</sup>	
	%	%	%	%	%	%
Informal help from colleagues	96.4	92.3	11.8	12.8	88.2	87.8
In-service or staff development	88.6	88.4	31.1	29.1	69.0	70.9
Assistance from administrators	86.9	78.3	28.9	27.3	71.1	72.7
Assistance from consultants	77.5	67.8	29.5	26.9	70.5	73.1
Regular meeting with teachers	45.9	48.0	40.1	36.2	59.0	63.9
Informal help from teachers	89.2	81.9	11.8	12.8	88.2	87.2
Formal mentoring program	57.7	62.8	37.2	26.2	62.8	73.8

*Note.* <sup>a</sup>Not at all/Small extent. <sup>b</sup>Moderate/Great extent

*Hours in professional development.* Early career special education teachers spent on average 56.8 ( $SD = 64.9$ ) hours in professional development, 25 hours of which were required by their district or state. We did not find significant differences between high- and low- poverty districts on hours their teachers spent in professional development ( $M = 57.2$ ,  $SD = 65.9$  low poverty district and  $M = 56$ ,  $SD = 63.4$  high poverty district;  $F(1, 609) = .050$ ,  $p > .05$ ). However districts differed significantly in the amount of hours they required from teachers to spend on professional development. High poverty districts required on average nine hours more to be spent on professional development than low poverty districts ( $M = 21.1$ ,  $SD = 31.1$  low poverty district;  $M = 29.9$ ,  $SD = 42.3$  high poverty district;  $F(1, 596) = 8.510$ ;  $p < .05$ ).

*Teachers' participation in professional development activities.* Teachers were also asked to indicate if they participated in different professional development activities in the past twelve months, including taking university courses, independent professional reading, participating in a network of teachers, etc. (see Table 5 for the full list of activities). Teachers' participation rates on different professional activities were similar across high- and low-poverty districts, with the exception of two activities. Teachers working in high poverty districts were more likely to take university courses for certification (58.1%) than teachers in more affluent districts (45.6%;  $\chi^2(1, N = 643) = 8.724$ ,  $p < .05$ ). Furthermore, teachers in low poverty districts were more likely to participate in a network of teachers (58.1%) than teachers working in high poverty districts (46.8%;  $(1, N = 643) = 7.574$ ,  $p < .05$ ).

Table 5

*Early Career Special Educators' Opportunities for Professional Development by District Type*

	Overall sample  %	Percent of students living in poverty	
		< 20%	> 39%
		%	%
University courses taken specifically for certification*	50.4	45.6	58.1
Other university courses related to your work	41.1	38.4	41.5
Observational visits to other schools	39.3	41.9	39.2
Individual or collaborative research	52.4	53.0	51.5
Independent professional reading	87.0	88.2	85.4
School or district committee	63.3	62.8	66.7
Regularly scheduled, formal collaboration with teachers	65.0	66.6	60.4
Mentoring and/or peer observation and coaching	38.3	37.5	40.3
Participating in a network of teachers*	53.6	58.1	46.8
Attending professional association meetings	43.6	41.6	42.9
Attending workshops, conferences, or training	94.4	94.8	92.5
Presenting at workshops, conferences, or training	17.5	16.8	15.0

Note. \*  $p < .05$ .

## Discussion

Although there is some evidence that documents the work experiences of early career special education teachers (Billingsley, et. al., 2004), no studies were found that compared early career special educators' perceptions of work conditions across districts with varying levels of poverty. To address this gap in the literature, this study compared early career special educators' perceptions of work conditions in high- and low-poverty districts. We found, using a national sample of early career special education teachers, that those working in high poverty districts reported less desirable work conditions than their counterparts in more affluent districts. When compared to teachers in low poverty districts, teachers in high poverty viewed their principals and colleagues as less supportive, perceived less involvement in the school decisions, reported having fewer materials, and indicated higher and more diverse caseloads.

The extent of these disparities in work conditions are of concern. Teachers in high poverty schools had higher caseloads, and served more students who are ELLs and more students who are from CLDs. Our findings were consistent with Harry and Klingner's (2006) findings. They stated:

Class sizes suggested a pattern of SES [socioeconomic status] inequality in special education. At one school serving the highest-income, mostly Anglo and Hispanic population, we saw the smallest class size in the entire sample - two resource rooms that ranged from 6 to 12 children each...By contrast, at one inner-city school serving predominantly Black population, the average size of an LD [Learning Disabilities] class was 13-16. (p. 162-163)

Similarly, Loeb et al. (2005) found that “Very large classes are most frequently found in schools serving a majority of Black or Black and Latino students, although the differences are not statistically significant” (p. 58).

Not only did teachers in high poverty districts have higher and more diverse caseloads, but they also reported less access to necessary materials. Our findings were similar to that of previous studies in general education. Oakes and Saunders (2004) stated:

Schools with less than adequate textbooks, curriculum materials, equipment, and technology are those where textbooks and materials probably matter most. These are schools with disproportionately large numbers of inexperienced and underprepared teachers. These are also schools that enroll disproportionately large numbers of low-income students. (p. 1973)

Similarly, Lippman, Burns, and McArthur (1996) found that fewer necessary resources were problems for teachers in high poverty schools more often than teachers in low poverty schools.

Disparities in teachers’ work conditions likely have a negative impact on the educational quality that students with disability receive (Harry & Klingner, 2006; Kozleski, Mainzer, & Deshler, 2000; Mainzer et al., 2003). Research provided evidence that high caseloads hindered teachers’ ability to know and address the individual needs of students and deliver effective instruction, curriculum, and behavior management (Harry & Klinger, 2006; Moody, Vaughn, Hughes, Fisher, 2000; Public Education Network, 2003; Zarghami & Schnellert, 2004). As Harry and Klingner (2006) argued:

Several teachers emphasized that large class size was a serious deterrent to individualized instruction, and our observations showed that the amount of individualization did seem to

correlate with the number of students present in the class-the more students there were, generally the less instruction was differentiated. (p. 164)

In recent literature reviews, researchers examined the relationship between special education caseload and student achievement. Russ, Chiang, Rylance, and Bongers (2001) considered the link between (a) instructional group size and student engagement, and (b) caseload and academic achievement. They found that smaller class sizes positively impacted students' math and reading achievement and promoted higher levels of engagement and instructional individualization. Similarly, the literature review by Zarghami and Schnellert (2004) considered the effect of class size reduction and caseload on student achievement. Zarghami and Sheller concluded (2004):

Smaller class sizes generally appear to promote higher level of engagement and instructional individualization. Smaller case load may be associated with higher teacher retention rates. Qualified teachers rather than just class size, is an important factor in predicting student achievement. Each educational institution should combine class size reduction policies with hiring fully qualified teachers with the goal of improving educational achievement for special needs children. (p. 93)

Lack of access to necessary materials in high poverty districts further hinders student learning and development. Oakes and Sanders (2002; 2004) reviewed the literature on the educational importance of textbooks and instructional materials and provided evidence that they are fundamental and essential to education because (1) they are the primary tools that schools use to provide students with access to the knowledge and skills they are expected to learn, and (2) they have a positive impact on students' achievement. Further, they also argued that textbooks and curriculum materials may be particularly important "when students are taught by new teachers or by "under-prepared" teachers (those without full state certification). Given these

teachers' inexperience and lack of proper training, they must rely more heavily on texts than experienced and fully certified teachers." Additionally, access to necessary materials is essential for students in low-income communities and families, since they are less likely to have access to other books and learning materials outside of school. The authors concluded:

Students who lack access to these materials are not only forced to confront severe academic challenges, but these students are also required to tackle the psychological effects of being denied access to the tools required to succeed academically. (Oakes, & Saunders, 2002, p. 120)

Challenging work conditions in high poverty schools are likely not only to limit students' opportunities to learn, but also compromise teachers' satisfaction with their work and contribute to turnover and workplace instability. Research shows that teachers experience greater commitment and are more likely to stay in schools where they receive principal support (Billingsley & Cross, 1991; Billingsley & Cross, 1992; Brownell, Smith, et al., 1997; Cross & Billingsley, 1994; George et al., 1995; Gersten et al., 2001; Miller et al., 1999; Singh & Billingsley, 1996; Westling & Whitten, 1996), and have positive relationships with their colleagues (Gersten et al., 2001; Miller et al., 1999). Teachers are also more committed and more likely to stay in schools where they have reasonable work assignments (Billingsley & Cross, 1992; Cross & Billingsley, 1994; Singh & Billingsley, 1996; Westling & Whitten, 1996) and ongoing opportunities for learning and professional development (Gersten et al., 2001).

### *Improving Work Conditions*

Addressing disparities in work conditions requires sustained and coordinated investments across federal and state policy-makers, university faculty, and district leaders. In order to provide good conditions for teaching and learning, researchers urged careful and close examination of



government policies and mandates related to school financing (Blanchett, Mumford, & Beachum, 2005; Darling-Hammond, 2007; Harry & Klingner, 2006). Harry and Klingner (2006) argued, “More money would allow district to hire better prepared teachers who use effective instructional strategies, cut class sizes, and provide teachers and students with more resources. All of these have the potential to increase students’ opportunities to learn” (p. 176). Additionally, Darling-Hammond (2006) suggested creating two-way accountability between the government and the schools. Standards not only need to hold children accountable to the government for achieving specific levels of test score performance, but also need to hold “the government accountable to students, their families, or their schools for providing the basic foundation for learning” (p. 22).

#### *Support Early Career Teachers through Induction*

Another promising way to ensure that all students have access to equitable learning opportunities is to increase the support that early career teachers receive, including “hiring procedures, protected initial assignments, steady provision of mentor and other support, and improved evaluation to help novices” (Darling-Hammond & Sykes, 2003, p. 36). Although we did not find any significant differences between induction supports in low- and high-poverty districts, it is likely that teachers in high poverty districts need more extensive supports given that these teachers were more likely to hold emergency credentials (Fall & Billingsley, 2008), received less support from principals and colleagues, and were less likely to feel included in their schools. Induction support is important to early career special educators as they continue to develop their knowledge and skills (Griffin et al., 2003; Whitaker, 2000; White & Mason, 2006). Oakes, Franke, Quartz, and Rogers (2002) argued:

The range of understandings, skills, and dispositions that urban teachers require cannot be fully developed even in 2 years of intensive teacher preparation, nor should they be.

Continuous development of these commitments and competencies is a vital part of high-quality professional practice. (p. 231)

In particular, teachers in high poverty schools need ongoing professional development tailored to address challenges found in high poverty contexts. For example, University of California, Los Angeles takes a specialized approach to urban teacher preparation and professional development that is sensitive to the context of high poverty communities. As Quartz, Lyons, and Thomas (2005) described:

Urban teachers meet in inquiry groups to collectively reflect on the challenges they face in urban classrooms. Center X graduates also participate in summer seminars where they learn and apply critical research skills to pressing issues facing urban communities. These seminars engage teachers in creating an urban studies curriculum they can take back to their classrooms. Although these specialized efforts engage only a very small percentage of Los Angeles' teachers, they are proving effective at deepening the commitment and skills of urban teachers. (p. 501)

Partnerships between universities and school districts are particularly beneficial in providing support to early career teachers (Billingsley, 2005; Harry & Klingner, 2006; Karge, Lasky, McCabe, & Robb, 1995; Rosenberg et al., 1997), because these partnerships allow for shared expertise and resources and benefit both agencies (Billingsley, 2005). Harry and Klingner (2006) argued, "Strong partnerships have the potential to provide in-service teachers with the knowledge and skills to implement culturally responsive and effective instructional practices" (p. 177).

School and district leaders play a pivotal role in ensuring that a range of supports are available to early career teachers (Billingsley, 2005; Johnson & Birkeland, 2003; Kardos, Johnson, Peske, Kauffman, Liu, 2001; McLaughlin & Talbert, 2001). It is the leaders' responsibility to assess, understand, and address the unique needs of each teacher in their building (Billingsley, 2005; Kardos et al., 2001; Rosenberg et al., 1997), create a climate of support, and facilitate collaboration and teamwork embedded in the work and life of the school (Johnson & Birkeland, 2003). At the state level, policymakers can respond to disparities in teaching and learning conditions by mandating induction support for early career teachers.

In conclusion, we found that teachers working in high poverty districts were not only less qualified for their work than those in more affluent districts (Fall & Billingsley, 2008), but these teachers appeared to have more difficult jobs as well. A combination of inadequate teacher preparation and experience, large caseloads, lack of necessary materials for teaching, and teachers' perception less support from principals and administrators threatens the educational quality students with disability receive in high poverty districts. Students in high poverty districts lose critical learning opportunities as they are forced to sit in classrooms taught by underqualified teachers who often lack teaching materials. These disparities in teacher quality and working conditions may translate, in turn, into poorer educational outcomes (Darling-Hammond, 2007), therefore:

Serious policy attention to these ongoing, systemic inequalities is critical for improving educational outcomes. If Americans do not recognize that students experience very different educational realities, policies will continue to be based on the presumption that it is the students, not their schools or classroom circumstances, that are the source of unequal educational attainment. (Darling-Hammond, 2004, p. 217)

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## Chapter 4

# Predicting Early Career Special Educators' Commitment in High- and Low-Poverty Districts

Finding and keeping committed teachers is an important goal for the public education in the United States. Researchers have associated committed teachers with a set of personal and professional values and ideologies, where a minimalist approach to teaching is rejected, replaced by the intellectual and emotional engagement of a reflective practitioner (Day, Elliot, & Kington, 2005). Highly committed teachers go beyond what is expected of them in their work, and “invest extra effort in acquiring expertise in new subjects that contribute to teaching and will enhance the ability to deal with students’ special needs” (Somech & Bogler, 2002, p. 571). Additionally, committed teachers are more likely to be satisfied with their work (Fresko, Kfir, & Nasser, 1997) and stay in teaching (Billingsley & Cross, 1992; Blau & Lunz, 1998; Gersten, Keating, & Yovanoff, 2001; Singh & Billingsley, 1996).

High teacher turnover rates in general education (Ingersoll, 2001; Johnson, Berg, & Donaldson, 2005) and special education (Billingsley, 2005; Boe, Cook, & Sunderland, 2008) also suggest the importance of enhancing teacher commitment. In particular, turnover in high poverty schools is problematic (Fall & Billingsley, 2007; Ingersoll, 2001; Price, 2002). Researchers documenting general education teachers’ transfer patterns found that those teachers who moved from one school to another tended leave schools with a higher proportion of low

income students and a higher proportion of minority students (Carroll, Reichardt, Guarino, & Mejia, 2000; Hanushek, Kain, & Rivkin, 2004; Lankford, Loeb, & Wyckoff, 2002; Price, 2002).

Unfortunately, high rates of turnover have significant costs for the districts and students that can least afford them (Brill & McCartney, 2008). When teachers “repeatedly leave a school before becoming competent in their practice, students will be taught by a string of teachers who are, on average, less effective than more experienced teachers” (Johnson et al., 2005). Turnover also carries financial costs including those required to recruit, hire, induct, and professionally train replacement teachers (Texas Center for Educational Research, 2000). Further, “the decline of organizational stability, coherence, and morale” (Smith & Ingersoll, 2004, p. 686) creates numerous challenges that are difficult to overcome. For example, Guin (2004) documented the negative impact of chronic turnover on three different aspects of the organization, including professional development, teacher collaboration, and trust. High rates of turnover disrupt the school community, the “team-based organizational structure and functioning of a school” (p. 3), and “made professional development an ineffective tool for improvement” (Guin, 2004, p. 11.). In special education some evidence suggests that teacher turnover interferes with the sustainability of inclusive school reform. For example, Sindelar, Shearer, Yendol-Hoppey, and Liebert (2006) reported that as faculty who had worked for inclusive reform left, they were replaced by new teachers who had less understanding of and acceptance for inclusion. Consequently, this process diluted faculty commitment to inclusion and as a group “faculty grew less knowledgeable about including students successfully—and less enthusiastic about trying” (p. 329).

Thus, there is a need to understand why schools serving low income student populations struggle to get and keep teachers and how educational leaders might increase teachers’

commitment. Although the turnover of special education teachers is well documented (Billingsley, 2004; Billingsley & Cross, 1991; Boe, Bobbitt, & Cook, 1997; Boe, Bobbitt, Cook, Whitener, & Weber, 1997; Gersten et al., 2001; Miller, Brownell & Smith, 1999), no studies were found that investigated special educators' commitment in high- versus low-poverty districts.

To address this gap in the literature, we examined early career special education teachers' commitment in high- and low-poverty districts. We focused on early career special education teachers because they are more likely to leave than their more experienced counterparts (Boe et al., 2008). Researchers reported that new teachers are especially vulnerable to the challenges of work and their turnover is predominantly the result of poor work conditions (Johnson & The Project on the Next Generation of Teachers, 2004; Johnson & Birkeland, 2003; Weiss, 1999). Additionally, understanding teacher commitment is important for reasons beyond gaining insight into teacher turnover. Teacher commitment has implications for job performance. As Somech and Bolger (2002) concluded:

Our results imply that although highly committed teachers go beyond what is expected of them in their work, others who do not feel highly committed to their school are not truly engaged and involved in their schools and perform only the minimum amount of work. It seems that these withdrawal teachers are the real concern to schools. (p. 572)

#### *Factors Associated with Teacher Commitment and Retention*

Commitment “is the choice to persist with a course of action” (Cooper- Hakim & Viswesvaran, 2005, p. 241) and is considered as an important determinant of career decisions (Meyer & Allen, 1997). It is not surprising that commitment has received a great deal of



attention in management theory. Commitment to one's work is associated with higher job satisfaction (Bateman & Strasser, 1984), lower absenteeism (Sagie, 1998), and higher job performance (Larson & Fukami, 1984; Porter, Steer & Mowday, 2005). The consequences of commitment underscore its importance and the need to identify factors contributing to commitment.

### *Teacher Characteristics and Qualifications*

Studies in both general and special education explored the relationships between teachers' personal characteristics, qualifications, and intent to stay in the field (Cross & Billingsley, 1994; Elfers, Plecki, & Knapp, 2006; Ingersoll, 2001; Miller et al., 1999; Singh & Billingsley, 1996; Weiss, 1999). A recent meta-analysis on general educators concluded that the probability of attrition is higher among teachers who are female, White, young, and have no graduate degree (Borman & Dowling, 2008). In special education few conclusions can be drawn about the relationship of teacher characteristics, qualifications, and turnover. Age is the only demographic variable that is consistently linked to turnover in the special education literature. Teachers who are younger are more likely to leave (Singer, 1992) or indicate intent to leave (Cross & Billingsley, 1994). The relationship between gender and turnover has been included in only a few special education studies, and the findings are mixed (Cross & Billingsley, 1994; Miller et al., 1999; Singer, 1992). Findings on race and turnover are also inconclusive (Billingsley & Cross, 1992; Cross & Billingsley, 1994; Miller et al., 1999; Singh & Billingsley, 1996). Further, studies documenting the effect of teacher certification on turnover offer mixed findings (Miller et al., 1999; Westling & Whitten, 1996). However, in a recent study using a national database Boe, Cook, and Sunderland (2006) found that the attrition was significantly

greater among beginning teachers with only some or no teacher preparation than among those with extensive preparation.

### *Level of Poverty*

Researchers have found that high poverty schools have higher turnover rates than low poverty schools (Carroll et al., 2000; Guin, 2004; Hanushek et al., 2004; Ingersoll, 2001; Lankford et al., 2002; Loeb, Darling-Hammond, & Luczak, J., 2005; Price, 2002; Smith & Ingersoll, 2004). The transfer patterns of general education teachers also reveal a troubling picture. For example, Hanushek et al. (2004) found that teachers in Texas who moved from one school to another went to schools with higher student achievement, a lower proportion of low income students, and a lower proportion of minority students. Similarly, Carroll et al. (2000) found that the odds that a teacher would transfer out of a particular school were positively related to the percentage of African American students, Hispanic students, and the percentage of students eligible for free or reduced lunch in the school. Lankford et al. (2002) also found that teachers generally leave schools where the proportion of poor and minority students is higher than it is in the schools to which they transfer.

### *Work Conditions*

The importance of work conditions to teacher commitment and retention is documented in general and special education (Billingsley, 2004; Johnson & Birkeland, 2003; Gersten et al., 2001; Ingersoll, 2001; Loeb et al., 2005). Variables associated with early career special education teachers' commitment and retention included school support, work manageability and induction support (Billingsley, 1993).

*School support.* School support encompasses building level support from principals and teachers and the extent to which teachers have opportunities to participate in decisions that affect

their work. Research suggests that support from the principal and other teachers in the school positively influenced teacher commitment and retention (Billingsley & Cross, 1991; Brownell, Smith, McNellis, & Miller, 1997; Cross & Billingsley, 1994; George, George, Gersten, & Grosenick, 1995; Gersten et al., 2001; Miller et al., 1999; Singh & Billingsley, 1996; Westling & Whitten, 1996). Additionally, a school where teachers feel empowered and involved in important decisions related to their work can make teaching a more rewarding and satisfying experience. Research suggests that teachers who have opportunities to participate in decisions are more likely to feel effective and committed to their work (Billingsley & Cross, 1992; Dee, Henkin, Singleton, 2006; Ingersoll, 2001; 2003; Weiss, 1999). For example, Liu (2007) found that the “predicted probability of first-year teacher attrition can decrease from 19% to 4% as teacher influence at school changes from no influence to a great deal of influence” (p. 13).

*Work manageability.* A manageable teaching assignment is critical for early career teachers when one considers the many challenges that these teachers face as they start teaching (Johnson & Kardos, 2008). Researchers have documented that problems with work manageability negatively affected teachers’ commitment and career intentions (Billingsley & Cross, 1991; George et al., 1995; Gersten et al., 2001; Johnson & Birkeland, 2003; Westling & Whitten, 1996). For example, excessive paperwork and overwhelming job responsibilities were given as reasons for leaving special education (Billingsley & Cross, 1991; Brownell, Yeager, Rennells, & Riley, 1997). In Westling and Whitten (1996), teachers planning to leave rated the item “has adequate time to complete paper work” significantly lower than those planning to stay. Additionally, special educators who plan to leave teaching as soon as possible were significantly more likely to rate their workload as “not at all manageable” compared to those who indicated

intent to stay (Carlson & Billingsley, 2001). Gersten et al. (2001) summarized the cost of problematic work assignments as follows:

For an organization, poor job design results in failure to achieve valued goals. For an individual, it results in frustration and work-related stress, which in turn may lead to lowered self-efficacy and increased employee attrition. Negative responses to day-to-day work may also lead teachers to remain in their positions but simply reduce their overall involvement and effort, and to lower their expectations for students. (p. 552)

*Induction support.* Induction programs designed to meet the needs of early career teachers have the potential to increase teacher retention (Guarino, Santibanez, & Daley, 2006; Johnson & Birkeland, 2003). In particular, Smith and Ingersoll (2004) found that first-year teachers who participated in comprehensive induction activities were less likely to leave teaching. In special education, Whitaker (2000) examined the impact of mentoring on special education teacher attrition. She found a significant relationship between perceived effectiveness of mentoring and teachers' plans to remain. Further, in Billingsley, Carlson, and Klein's study (2004) teachers who found overall induction support helpful were more likely than those with lower levels of support to see their roles as manageable, to believe that they could get through to the most difficult students, and to believe that they were successful in providing education to students with IEPs.

In summary, district level of poverty, school support, work manageability, and induction support likely have an influence on the commitment of early career teachers. Evidence suggested that teachers in high poverty districts encounter more challenging work environments than their counterparts in low poverty districts (Fall & Billingsley, 2008; Johnson & Birkeland, 2003; Johnson, Kardos, Kauffman, Liu, & Donaldson, 2004; Loeb et al., 2005; Mandlawitz, 2003).

Most of the published studies have reported on the overall commitment of special educators and no studies were found that included poverty as a variable. To address this gap in the literature we explored whether work conditions are related to teacher commitment, after controlling for the characteristics of teachers and district level of poverty.

## Methods

### *Data*

The data for this study came from Study of Personnel Needs in Special Education (SPeNSE), a project funded through the U.S. Department of Education, Office of Special Education Programs (OSEP). SPeNSE is the largest national special education teacher database with over 5,427 special education teachers. SPeNSE utilized computer assisted telephone interviews with a nationally representative sample of service providers including special and general education teachers, speech-language pathologists, and paraprofessionals. The interviews were conducted from May through November 2000. This study used data from a subset of special education teachers (K-12) with five or fewer years of. The data were weighted to generate national estimates. For detailed information about this study, please see [www.spense.org](http://www.spense.org).

### *Sampling*

To create a nationally representative sample of personnel serving students with disabilities, SPeNSE project staff used a two-phase sample design. Phase one consisted of sampling a nationally representative sample of local education agencies (LEAs), intermediate education units (IEUs), and state schools for students with visual or hearing impairments. The first-phase sample of LEAs was stratified by geographic region and LEA size based on student enrollment. The IEU samples were stratified by geographic region and included only those who

provided direct services to students with disabilities. All of the state schools ( $n = 76$ ) were included in this first sampling phase.

Phase two consisted of sub sampling a representative sample of special education personnel from those selected LEAs, IEUs, and state schools. Because only 46% ( $n = 370$ ) of sampled LEAs, IEUs, and state schools and 69% ( $n = 1,061$ ) of the sampled service providers actually participated in the study, weight adjustments were made to address nonresponse bias.

### *Data Analyses*

From this sample of 935 early career special education teachers, 400 teachers worked in districts where less than 20% of students live in poverty, 292 teachers worked in districts where 21-39% of students live in poverty, and 243 teachers worked in districts where more than 40% of students live in poverty. Data analyses were conducted using WesVar 4.3 (2002) and SPSS 12.0 (2003). Data analyses included descriptive statistics, factor analysis, reliability analyses, and logistic regression.

### *Logistic Regression*

Logistic regression was employed to test the relationship between teacher characteristics and qualifications, district level of poverty, and work conditions on teacher commitment. Table 1 provides a description of the variables used in the regression analyses. The dependent variable in this study was a question used in previous studies (Fresko et al., 1997; Miller et al., 1999; Riehl & Sipple, 1996; Weiss, 1999): “If you could go back to your college days and start over again, would you become a teacher or not?” Teacher commitment was a dichotomous variable coded 0 if a teacher answered yes and coded 1 if no. The independent variables were:

Table 1

*Description of the Measures used in the Logistic Regression Analyses*

Variable	Description
<b>Dependent variable</b>	
<i>Teacher commitment</i>	If you could go back to your college days and start over again, would you become a teacher or not?, 1 = yes; 0 = no
<b>Independent variables</b>	
<b>Teacher characteristics</b>	
Gender	A dichotomous variable, 1 = male teacher; 2 = female teacher.
Race	A dichotomous variable, 1 = White; 2 = member of a minority group.
Certification status	A 4 category variable, 1 = no certificate; 2 = emergency certificate; 3 = out of field certificate; 4 = full certificate (reference category).
Preparation match	A dichotomous variable, 1 = preparation program matched the realities of first year teaching; 2 = preparation program did not match the realities of teaching assignment
<b>District characteristics</b>	
Distinct level of poverty	A 3 category variable, 1 = 20% or less students live in poverty; 2 = 21-39% of students live in poverty, 3 = more than 40% of students live in poverty.
<b>Work conditions</b>	
School support <sup>a</sup>	Composite measure composed of nine items ( $\alpha = .81$ ) that refer to the degree to which special educators perceived that the principal, vice principal, and other teachers in their school understood and supported them, and provided opportunities to participate in decisions that affect their work.
District support <sup>a</sup>	Composite measure composed of three items ( $\alpha = .62$ ) that refer to the degree to which teacher f supported by special education division.

Variable	Description
Work manageability <sup>a</sup>	Composite measure composed of 3 items ( $\alpha = .44$ ) that refer to the degree to which special educators experienced problems with workload manageability, paperwork, and caseload.
Induction support	Induction support referred to the degree to which special educators perceived that seven types of induction support were helpful for them on a scale from 1 to 4 (1 = not at all to 4 = great extent). The seven types of induction supports were informal help from colleagues, in-service or staff development, assistance from administrators, assistance from consultants, regular meeting with teachers, informal help from teachers, and formal mentoring program.

<sup>a</sup> – Specific items in Table 2

*Teacher characteristics and qualifications.* Following previous research on teacher turnover, four teacher characteristics and qualifications variables were selected: gender, race, certification status, and teacher being matched to her/his position. See Table 1 for the description of specific items.

*Level of poverty.* Following previous research on teacher turnover in general education (Ingersoll, 2001; Loeb et al., 2005), district level of poverty was included as an independent variable. SPeNSE measured the level of poverty in a given district using the Orshansky Poverty Index (Fisher, 1992) generated by the U.S. Census Bureau. The index reflected the percentage of students living in poverty based on household income, household composition, and size. High poverty referred to districts where 39% or more students come from families below the federal poverty line, while low poverty referred to 20% or less falling below this line. The cut-off point of 39% was similar to that used by other researchers (Swanstrom, Ryan & Stigers, 2006).



*Work conditions.* Fifteen questions relating to work conditions were factor analyzed using principal component analysis with Varimax rotation. The analysis yielded three factors explaining a total of 46.52% of the variance for the entire set of variables. Factor 1 was labeled district support and explained 24.27% of the variance. The second factor derived was labeled school support and explained 12.15% of the variance. Factor 3 was labeled work manageability and explained 10.1% of the variance. Reliability analyses assessed the internal consistency of the items. The full list of items, the rotated component loadings, Eigenvalues, and % of variance explained are shown in Table 2. A fourth variable, induction support was also added to the regression model. Induction support is a derived variable created by SPeNSE project staff.

Table 2

*Summary of the Rotated Principal Component Factor Analysis for Work Conditions*

Items	Component Loadings		
	District Environment	School Environment	Work Assignment
Special education division supports in work with parents	<b>.80</b>	.15	-.08
The special education division backs you up	<b>.81</b>	.17	-.10
The special education contact understands what you do	<b>.63</b>	.01	.07
Necessary materials are available when you need them	.16	<b>.49</b>	-.12
School administration behavior is supportive	.05	<b>.74</b>	.04
Principal enforces school rules and backs you up	-.00	<b>.65</b>	.01
Great deal of cooperative effort among the staff members	.14	<b>.54</b>	-.13
Staff members are recognized for a job well done	.10	<b>.68</b>	-.03
Teachers participate in making educational decisions	.01	<b>.57</b>	-.07
You really like the school in which you are working	.07	<b>.69</b>	-.06
Feel included in what goes on in this school	.10	<b>.64</b>	.04
School safe place for your students	.01	<b>.57</b>	-.15
Paperwork interfere with your job of teaching	-.11	-.04	<b>.76</b>
Workload is manageable	-.12	-.21	<b>.73</b>
Caseload	.11	.01	<b>.53</b>
Eigenvalues	3.64	1.82	1.51
% of variance	24.27	12.15	10.1

*Note.* Component loadings over .40 appear in bold type.

## Results

### *Descriptive Data*

Descriptive statistics for the variables used in the logistic regression analysis are presented in Table 3. Approximately 22% percent of teachers surveyed reported that they would not choose teaching as a career choice again. The majority of early career special education teachers in the sample were White (85.3%) and female (81.4%). About 20.5% of early career special educators were working without full certification for their main teaching assignment. Of those teachers not fully certified, 14% held emergency certificates, 4% were out of field certified, and 2.5% had no teaching certificate at all. About 27% of teachers indicated that their preparation program did not match the realities of teaching. About 44.5% of teachers were working in low poverty districts; 28.5% worked in districts where between 21% and 39% of the students were living in poverty districts; and 27% worked in high poverty districts. The mean response on the school support factor was 29.13 ( $SE = 0.22$ ); district support factor 11.01 ( $SE = 0.15$ ); work manageability factor 7.57 ( $SE = 0.15$ ); and helpfulness of induction support 54.14 ( $SE = 1.08$ ).

Table 3

*Descriptive Statistics for Variables used in Logistic Regression Analysis*

Variables	%	
<b>Commitment</b>		
<i>Choose teaching again</i>	77.6	
<b>Teacher characteristics</b>		
<i>Gender</i>		
Female	81.4	
<i>Race</i>		
Minority	85.3	
White	14.7	
<i>Certification status</i>		
Not certified	2.5	
Emergency certified	14.0	
Out of field certified	4.0	
Fully certified	79.5	
<i>Preparation did match with teaching assignment</i>	27.0	
<b>District level of poverty</b>		
< 20%	44.5	
21-39%	28.5	
> 40%	27.1	
<b>Work conditions</b>		
	<i>M</i>	<i>SE</i>
School environment	29.13	0.22
District environment	11.01	0.14
Work assignment	7.57	0.15
Induction support	54.14	1.07

### *Regression Analyses*

In logistic regression  $p$ , the probability of occurrence of an event is estimated as a function of a number of independent variables. The impact of each predictor is usually explained in terms of odds ( $b$ ) and odd ratios ( $Exp(B)$ ). Probability is consequently the ratio of the number of favorable (desired) outcomes to the total number of possible outcomes. Odds ( $b$ ), in turn, are the ratio of the number of favorable outcomes to the number of unfavorable outcomes. Finally, the odds ratio ( $Exp(B)$ ) is the ratio of the odds of an event occurring in one group to the odds of the same event occurring in another group. If the value of  $Exp(B)$  is greater than 1 then it indicates that as the predictor increases, the odds of the outcome occurring increase. Conversely, a value less than 1 indicates that as the predictor increases, the odds of the outcome occurring decrease.

The goodness of fit of the model was assessed using log-likelihood statistics (LL) and  $R^2$ . The log likelihood is an indicator of how much unexplained information remains after the model has been fitted. Large values of the log likelihood statistics therefore indicate poorly fitting models. The relative efficacy of one model relative to another is compared using the following model chi-square statistic:  $\chi^2 = 2[LL(\text{new}) - LL(\text{baseline})]$ . The chi-square distribution has degrees of freedom equal to the number of parameters in the new model minus the number of parameters in the baseline model ( $df = k_{\text{new}} - k_{\text{baseline}}$ ).

Model fit was also addressed through  $R^2$ . However, in logistic regression  $R^2$  does not measure the proportion of variance explained by the predictors. “ $R^2$  is the proportional reduction in the absolute value of the log-likelihood measure and as such it is a measure of how much the badness-of-fit improves as a result of the inclusion of the predictor variables” (Field, 2005, p.

223).  $R^2$  can vary between 0 and 1, with zero indicating that the predictors are useless at predicting the outcome and one indicating that the model predicts the outcome variable perfectly.

Table 4 presents three logistic regression models that examine the extent to which the specified teacher characteristics and qualifications, district level of poverty, and work condition factors are associated with teacher commitment. Each model presents the odds ( $b$ ), standard errors ( $SE$ ), odds ratio ( $Exp(B)$ ),  $R^2$  and log-likelihood statistic. The WesVar (4.3) logistic regression procedure predicts the category 0 of the dependent variable, using 1 as the reference category. In this study the models predict teachers who are committed, using teachers who are not as a reference category.

Model 1 (Table 4) estimated the effect of teacher characteristics and qualifications on teacher commitment. When only the constant was included, the log likelihood value was 58,827. However, with teacher characteristics and qualifications included this value was reduced to 56,241. To assess the significance of change model chi-square statistic was used ( $\chi^2 = 2[(58,827 - 56,241)] = 5,172$ ). The value of model chi-square statistics was significant at the .05 level and indicated that overall the model was explaining commitment significantly better than it was with only the constant included. Out of the four independent variables included in the model, two made significant contributions to the prediction of the outcome. The match between preparation program and teaching assignment was the most important predictor of teacher commitment. Teachers who indicated that the preparation program matched the realities of teaching were more likely to be committed than teachers who perceived that the preparation program did not match the realities of teaching. The odds of being committed were 2.16 times greater for teachers whose preparation matched the realities of teaching than for teachers whose preparation did not match the teaching assignment.

Table 4

*Logistic Regression Analysis of the Likelihood of Early Career Special Education Teacher Commitment*

	Model 1			Model 2			Model 3		
	<i>b</i>	<i>SE</i>	<i>Exp (B)</i>	<i>b</i>	<i>SE</i>	<i>Exp (B)</i>	<i>b</i>	<i>SE</i>	<i>Exp (B)</i>
Intercept	1.23	0.37		1.15	0.34		-0.65	0.91	
<b>Teacher characteristics</b>									
Race	0.62	0.33	1.85	0.57	0.38	1.76	0.49	0.36	1.64
Gender	-0.67*	0.32	0.51	-0.66*	0.31	0.52	-0.70*	0.34	0.49
No certificate	-0.24	0.69	0.79	-0.28	0.70	0.75	-0.47	0.77	0.62
Emergency certificate	0.12	0.47	1.12	0.15	0.47	1.16	0.02	0.49	1.02
Out of field certificate	0.25	0.59	1.28	0.25	0.59	1.28	0.20	0.63	1.22
Preparation match	0.77*	0.26	2.16	-0.88*	0.26	0.42	-0.77*	0.28	0.46
<b>District level of poverty</b>									
0-20% poverty				0.17	0.30	1.18	-0.06	0.29	0.94
21- 39% poverty				0.12	0.46	1.13	0.17	0.45	1.19

	Model 1			Model 2			Model 3		
	<i>b</i>	<i>SE</i>	<i>Exp (B)</i>	<i>b</i>	<i>SE</i>	<i>Exp (B)</i>	<i>b</i>	<i>SE</i>	<i>Exp (B)</i>
<b>Working conditions</b>									
School environment							0.12*	0.02	1.13
District environment							-0.02	0.04	0.98
Work assignment							-0.13*	0.05	0.88
Induction support							-0.01	0.00	0.99
-2 log likelihood		56,241			55,939			51,231	
R <sup>2</sup>		.045			.046			.10	



Gender was another significant predictor of commitment. Male teachers were less likely to be committed than female teachers. For instance, the relative odds of commitment were 0.51 times lower for male than for female teachers. Coefficients for certification status and teachers' race were not statistically significant, which indicated that certification status and race was not a significant predictor of commitment.

District poverty level was added to the Model 2 (Table 4) as a predictor. The value of log likelihood with the constant only was 58,603 but with teacher characteristics and qualifications and poverty level this value was reduced to 55,939. The value of model chi-square statistic ( $\chi^2 = 2[(56,241 - 55,939)] = 604$ ) was significant at the .05 level and indicated that Model 2 predicted commitment significantly better than Model 1. However, the level of poverty was not a significant predictor of commitment.

In the third model (Table 4), work condition variables were added to the model as predictors. The introduction of the work condition variables reduced the model likelihood statistic to 51,231. The value of model chi-square statistic ( $\chi^2 = 2[(55,939 - 51,231)] = 9416$ ) was significant at .05 level, which indicated that adding work conditions to the model significantly increased the predictive power of the model. The inclusion of work condition variables increased the  $R^2$  from 0.046 to 0.10. Further, after controlling for teacher characteristics and district level of poverty, two out of the four work condition variables made a significant contribution to predicting teacher commitment. The first significant predictor of commitment was school support; a variable that indicated that schools with higher ratings of supportive school support and teacher participation in decision-making were more likely to have early career special education teachers who are committed. The value of *Exp (B)* indicated that if teachers' score on the school support factor went up by one, then the odds of commitment also increased, holding

all the other variables constant. For every unit increase in the school and district support score, a 1.13 increase in the log odds of commitment was expected, holding all the other variables constant. Teacher work manageability was another significant predictor of commitment; teachers were more likely to be committed in schools where work manageability was less problematic. The value of *Exp (B)* for work manageability was less than one, which indicated that if teachers' scores on work manageability increased (the higher the score the more problem teachers experience with work manageability) by one point, then the odds of commitment decreased, holding all the other variables constant. For every unit increase in work manageability score, a 0.88 decrease in teacher commitment was expected. Further, induction support and district support did not make a significant contribution to the prediction of teacher commitment.

### Discussion

Although special educators commitment and career decisions has been the focus of a number of investigations, no studies were found that investigated special educators' commitment in high- versus low- poverty districts. To address this gap in the literature we explored the effects of teacher characteristics and qualifications, district level of poverty, and work conditions on early career special educators' commitment. This study adds to the special education literature by providing evidence that early career teachers' commitment had less to do with district level of poverty than with the conditions of teachers' work. Important factors contributing to teacher commitment are good fit between teacher and the job, positive school support, and manageable workloads.

We found a good match between the teacher and the teaching assignment is important to teacher commitment. Similarly, Morvant, Gersten, Gillman, Keating, and Blake (1995) also observed that urban special educators' decisions to leave teaching were influenced by the lack of

match with their current assignments. The authors discussed many dimensions of job upon which special education teacher and the job must match, including service delivery model, school site and the particular student population teachers are assigned to teach. They concluded, “The importance of match cannot be overemphasized, as it impacts many vital organizational outcomes including job performance, employee satisfaction, and retention” (p. 28). The significance of fit between teacher and assignment was also emphasized by researchers in general education. Johnson et al. (2004) argued:

Support can come to a new teacher from being well introduced and matched to her position. Teaching jobs vary a great deal and each presents the new teacher with a unique set of demands, challenges, and opportunities. A new teacher’s effectiveness and success in the classroom may depend not only on her general qualifications but also on the fit between her particular skills, knowledge, and dispositions and the teaching position she has been hired to fill. (p. 6)

We also found that teacher commitment is influenced by the support they receive from principals and other teachers, and the opportunities they have to participate in decision making. Previous research findings also suggest that teachers were more likely to be committed when they felt supported by principals and colleagues (Billingsley & Cross, 1992; Cross & Billingsley, 1994; Gersten et al., 2001 Johnson & The Project on the Next Generation of Teachers, 2004; Wynn, Carboni, & Patall, 2007). Weiss (1999) found that first-year teachers had greater commitment and intention to remain in schools characterized by collaboration and teacher participation in decision-making. In Ingersoll’s (2001) multiple regression models, organizational factors within a school, including more administrative support, and higher levels

of faculty influence and autonomy were key factors influencing teachers' decision to stay. Riehl and Sipple (1996) stated:

Teacher commitment is greater in schools characterized by high levels of administrative support, teacher collegiality, professional influence, and positive student behavior.

Schools that are organized around these climate conditions are likely to have teachers who are more committed to the profession and more committed to the goals and values of their school; their teachers will be less distracted by intrusions on their time and thus more likely to spend discretionary work time on matters that are central to instruction. (p. 893)

We also found that teacher commitment is influenced by teachers' perception of workload manageability. The importance of manageable workload was emphasized previously by researchers in both general and special education. Researchers found that problems with teachers' work manageability, such as excessive paperwork, overwhelming job responsibilities, and high caseloads created stress and dissatisfaction, and negatively influenced teachers' commitment and intent to stay (Billingsley & Cross, 1992; Cross & Billingsley, 1994; George et al., 1995; Johnson & Birkeland, 2003; Johnson & The Project on the Next Generation of Teachers, 2004; Loeb et al., 2005; Singh & Billingsley, 1996; Westling & Whitten, 1996).

District poverty was not a significant predictor of teacher commitment in our study. This finding contradicted previous research indicating that the poverty composition of students had an influence on teacher turnover (Loeb et al., 2005; Ingersoll, 2001). However, a major difference between our study and those done in the past is that SPeNSE measured poverty at the *district* level and not at the school level. We had no way of assessing potential differences among

schools *within* districts that likely masked differences across schools. For example, Grubb (2007) discussed inequalities in school funding among schools within districts:

At the beginning of the “modern” era of school finance litigation, a single case - *Hobson v. Hansen* (1967, 1971) - successfully challenged funding within a district, charging that spending per pupil in older schools located in the poor and largely Black areas of Washington, D.C., was lower than in newer schools in the wealthier, White northwest. However, intradistrict legislation did not catch on... Despite inattention to inequalities among schools, they clearly exist. (p. 165)

Another study by Roza, Guin, Gross, and DeBurgomaster (2007) showed that there was greater inequality in the spending differences among schools within districts in Texas than across districts. Future research should consider teacher commitment across high- and low- poverty schools rather than districts.

The helpfulness of induction support was not a significant predictor of commitment in our study. Perhaps induction support was insufficient to offset other influences, such as poor work conditions (Billingsley, 2002). Feiman-Nemser (2003) shared the same perspective, arguing, “Even the best induction programs cannot compensate for an unhealthy school climate, a competitive teacher culture, or an inappropriate teaching assignment” (p. 29).

A limitation of this study is the measure of commitment used. Although previous researchers have used the item “If you could go back to your college days and start over again, would you become a teacher or not?” to measure teacher commitment (Fresko et al., 1997; Miller et al., 1999; Riehl & Sipple, 1996; Weiss, 1999), we acknowledge that this item did not capture important dimensions of teacher commitment. Future research might consider a definition that incorporates a broader view of commitment, including “a) a strong belief in and

acceptance of the organization's goals and values; b) a willingness to exert considerable effort on behalf of the organization; and c) a strong desire to maintain membership in the organization” (Mowday, Porter, & Steers, 1982, p. 27).

Our findings have a number of implications for policy-makers and school leaders. First, principals and educational leaders have an important role to play in assuring a good match between teachers and schools. Johnson et al. (2004) emphasized the importance of “supportive hiring practices” to facilitate a strong teacher-position match and made several suggestions. For example, hiring decisions should be more school-based than district-based: “individual schools review candidates and can, from the start, decide whether those candidates fit the requirements of a particular position and the specific needs and culture of the school” (p. 6). Additionally, hiring processes should be information-rich: “they rely on an array of activities, including interviews with a wide cross-section of the school community, teaching demonstrations, and observations of classes or staff meetings” (p. 6). Finally, “hiring happens early and gives new teachers plenty of time to prepare for the challenges of assuming full-time teaching responsibilities” (p. 6). The authors emphasized the importance of timely hiring based on the finding that 28 percent of teachers in low-income schools are hired after the school year has already started.

Second, teacher commitment can be nurtured and developed in schools where teachers feel supported by their administrators and colleagues and where they have opportunities to participate in decisions that affect their work. Educational leaders are in the position to strengthen the conditions of teaching by assessing, understanding, and addressing the unique needs of each teacher in their schools (Billingsley, 2005; Kardos, Johnson, Peske, Kauffman, & Liu, 2001; Rosenberg, Griffin, Kilgore, & Carpenter, 1997), creating a climate of support, and

promoting the development of teacher learning communities (Little, 1982; 2002; McLaughlin & Talbert, 2001; Rosenholtz, 1989). As Little (2002) summarized:

Conditions for improving teaching and learning are strengthened when teachers collectively question ineffective teaching routines, examine new conceptions of teaching and learning, find generative means to acknowledge and respond to difference and conflict, and engage actively in supporting professional growth (p. 917).

Third, structuring early career teachers' work manageability is important, particularly when one considers the formidable challenges teachers face as they begin their work in schools (Billingsley, Griffin, Smith, Kamman, & Israel, 2008). School leaders can reduce the problems associated with managing complex work manageability by granting "sheltered status" (Johnson & Birkeland, 2003, p. 606) to early career teachers. Principals can reduce caseloads, assign fewer additional duties, and gradually increase responsibilities as teachers demonstrate readiness to take on more complex roles.

These work conditions are amendable to change and principals and district leaders have important roles to play in making special education teaching more attractive. Additionally, creating desirable work conditions should have a positive impact on student learning as committed teachers are more likely to be engaged in their work (Day, et al. 2005; Somech & Bogler, 2002) and be able to make a difference in their students' lives.

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