

2008

Regional differences in demographic characteristics, professional practices, and employment conditions of school psychologists across the United States

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Regional Differences in Demographic Characteristics, Professional Practices, and
Employment Conditions of School Psychologists Across the United States

by

Dama W. Abshier

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
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Date of Approval:
July 7, 2008

Keywords: school psychology, demographics, regions, salary, evaluations, consultation

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DEDICATION

This dissertation is dedicated to my three amazing sons, Landon, Logan, and Laine.

ACKNOWLEDGEMENTS

I would like to express my deepest appreciation for my husband, Lance, who has unwaveringly supported my educational and professional aspirations for over a decade. I would also like to extend a special thank you to my parents, Reverend Ronald and Alice Walker, and my sister, Kathy Riley, for their support and encouragement as they have watched me grow into the person I am today.

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Regional Differences in Demographic Characteristics, Professional Practices, and Employment Conditions of School Psychologists Across the United States

Dama W. Abshier

ABSTRACT

The field of school psychology has grown tremendously within the past 100 years, and legislation has played a major role in many changes related to the field. A review of the literature revealed that many studies have been conducted that explored demographic information, professional practices, and employment conditions. The studies tend to be somewhat narrow in focus (e.g., one study may look at demographic characteristics, while another considers only professional practices) and consider state differences rather than regional differences. In accordance with a policy established by the National Association of School Psychologists (NASP) that a study be conducted every five years, Graden and Curtis (1991) surveyed school psychologists who were members of the NASP for the purpose of developing a national database that reflected the demographic characteristics, employment conditions, and professional practices for the field during the 1989-1990 school year. Members of the NASP have been surveyed relative to the same information every five years since that initial study. The fourth national NASP study was initiated in June of 2005 using data based on the 2004-2005 school year. The database was created using survey data. The present study represented a secondary analysis of the database for the purpose of examining regional differences

across the nine U.S. census regions. Regional differences in demographic characteristics, professional practices related to special education, direct and indirect services to students, and employment conditions were analyzed utilizing chi-square analyses and analyses of variance. When significant relationships were found, follow up *t*-tests were conducted to identify regions between which differences existed. Results indicated statistically significant regional differences for highest degree earned, licensure that allowed for independent practice in non-school settings, the number of re-evaluations conducted, the percentage of ethnic minority students in the district and served, the ratio of students to school psychologists for the district and based on caseloads, the number of days in respondents' contracts, salaries, and percentage of respondents who received clinical supervision.

CHAPTER ONE

Introduction

Although the field of school psychology has existed as a specialty within psychology for a little over 100 years, the field has grown tremendously and undergone significant change within the past 50 years. During the 1960's, a number of publications focused on school psychology were born, including 14 books and two journals devoted to the discipline, the *Journal of School Psychology* and *Psychology in the Schools* (Fagan, 1986). Prior to the emergence of these books and periodicals, the only publication that was devoted to school psychology at the national level was the newsletter of the Division of School Psychology (Division 16) of the American Psychological Association (Fagan, 1986). Originally titled the Division of School Psychologists (with the name later changed to the Division of School Psychology), Division 16 was formed in 1945, separating school psychology from clinical psychology (Division 12) and educational psychology (Division 15) (Fagan & Wise, 2007). While the State of Ohio was the first to actually found a state level association for school psychologists in 1943, by 1969, a total of 17 state school psychology associations existed (Fagan, Hensley, & Delugach, 1986). The National Association of School Psychologists (NASP) was officially founded in 1969, with a membership of 856 (Fagan & Wise, 2007). Membership in the NASP grew to approximately 5,000 in 1979; 14,000 in 1989; 21,000 by 1999 (Fagan & Wise, 2007),

and 22,500 by 2005. Currently, the organization has over 25,000 members (<http://www.nasponline.org/advocacy/nclb/naspcomments.pdf>).

During this time of rapid growth, federal legislation played a major role in prompting many changes related to school psychology. For example, in 1975, The Education for All Handicapped Children Act (Public Law 94-142) made public education available to all school-aged students, regardless of disability, via special education. Furthermore, parent permission was required by law for school psychologists to conduct psycho-educational assessments that were previously conducted without permission (Fagan & Wise, 2007). In 1986, the right to a free and appropriate education in public school settings was extended to include children from birth through age three (P.L. 99-457) (Fagan & Wise, 2007). The role of school psychology expanded to include the provision of services to a greater number of students as federal law mandated public educational opportunity for this greater range of students. Public Law 94-142 was reauthorized in 1997 (P.L. 105-17) as the Individuals with Disabilities Education Act (IDEA) and was reauthorized again in 2004 (P.L. 108-446) as the Individuals with Disabilities Education Improvement Act (IDEIA). The 1997 reauthorization of IDEA included the introduction of a functional behavioral assessment (FBA) as part of the evaluation process for students with suspected disabilities. This change increased the need for school psychologists to be trained and skilled in assisting with and conducting FBAs to guide the development of interventions for students exhibiting challenging behaviors in school settings. In addition, as a result of the 2004 reauthorization (IDEIA), state and local educational agencies are to incorporate response to intervention practices into the determination of eligibility for special education through the identification of a

learning disability. Specifically, research based interventions must be implemented and student performance in response to those interventions must be monitored to determine if a student truly has a specific learning disability.

With each reauthorization, federal legislation has required that school psychologists increase the amount of time devoted to the delivery of direct (e.g., interventions) and indirect (e.g., consultation) services to students with special needs and those at risk of school failure. However, the greater impact of these legislative changes has been an increased emphasis on assessment practices, as well as an increase in the time school psychologists spend in the delivery of services to students with disabilities (Fisher, Jenkins, & Crumbley, 1986; Goldwasser, Myers, Christenson, & Graden, 1983). Research has suggested that some school psychologists have not been pleased with the increased emphasis that has been placed on testing practices (Goldwasser et al., 1983). On the other hand, these legislative changes have also supported increased funding for school psychologists. Accordingly, these legislative changes have been at least partially responsible for significant growth in the number of school psychologists across the United States (Fagan & Wise, 2007).

Despite the increased funding for school psychologists, the discrepancy has widened between school psychologists' desired versus actual roles and professional functions. One of the primary functions in which school psychologists have identified a discrepancy between preferred and actual practice has been in the area of consultation. School psychologists surveyed by Fisher, et al. (1986) reported consultation as their most preferred role; however, consultation was not ranked first in terms of the emphasis of training for the participants in the study nor in their actual professional practices.

Many studies have been conducted to explore school psychologists' desired versus actual roles and functions; often this type of information is found in the literature under the category of professional practices. Survey instruments have been used to gather data related to the demographic characteristics as well as the professional practices and employment conditions of school psychologists for many years. Resulting data have been used to explore differences relating to school psychologists' gender, ethnicity, salary, years of experience, graduate training, professional credentials, ratio of students to school psychologist, and the frequency and types of psychological services provided, just to name a few (e.g., Curtis, Grier, Abshier, Sutton, & Hunley, 2002; Curtis, Hunley, Walker, & Baker, 1999; Curtis, Lopez, Castillo, Batsche, Minch, & Smith, 2008; Graden & Curtis, 1991; Levinson, Rafoth, & Sanders, 1994; Reschly & Wilson, 1995).

While studies have offered useful descriptive information regarding the field of school psychology (Fisher et al., 1986; Meacham & Peckham, 1978; Reschly, Genshaft, & Binder, 1987), by the late 1980's there was a need for a comprehensive national database that encompassed variables related to the demographic characteristics, professional practices and employment conditions of school psychologists across the United States. Such a database would include studies systematically replicated on a regular basis to provide longitudinal data that would inform the field in understanding important trends across time. Furthermore, a national database would provide empirical information for use by professional organizations in their efforts to influence federal and state legislation and policies (NASP, 1998; Sullivan, 1998). The NASP addressed this need by establishing a policy creating such a national database through the completion of a study every five years.

In accordance with this policy, Graden and Curtis (1991) surveyed a random sample of school psychologists who were “Regular” members of the NASP (i.e., persons “working or credentialed as a school psychologist, trained as a school psychologist and working as a consultant or supervisor of psychological services, primarily engaged in the training of school psychologists at a college or university,” <http://www.nasponline.org>) for the purpose of collecting information about the demographic characteristics, professional practices, and employment conditions for the field during the 1989-1990 school year. Regular members of the NASP were again surveyed to gather information related to these same three general areas based on the 1994-1995 school year by Curtis et al. (1999) and based on the 1999-2000 school year by Curtis et al. (2002). Consistency was maintained in most items across survey instruments over the years to allow for comparisons over time.

The fourth and most recent national NASP study was initiated in June of 2005, based on the 2004-2005 school year. The survey instrument used was very similar to instruments used in each of the first three studies and was intended to collect data similar to the previous studies (e.g., demographic characteristics, professional practices, employment conditions). Among the limited differences reflected in the most recent instrument were the addition of items relating to supervision and to continuing professional development. The most recently created database (2004-2005) served as the basis for analyses in the present study.

Foundation of the Present Study

Data gathered over the years have been used to inform policymakers, the NASP, and the field of school psychology. The majority of this information has been

investigated longitudinally to explore important trends in the field and across variables (e.g., differences in gender, highest degree earned, etc.). Few studies could be identified in the literature that have comprehensively explored geographic regional differences across the United States relating to different aspects of school psychology. Looking at regional comparisons is important for several reasons. It is difficult to obtain adequate responses from every state across the United States, and therefore an appropriate sample, for the purpose of making state-by-state comparisons. Aggregating the data by region creates a larger sample size of an area that is more similar in terms of variables such as politics (Southern G.O.P. versus Northeast Democrats), economics (agriculture versus industry), and racial/ethnic representation (Hosp & Reschly, 2002). Several previous studies used the five NASP governance regions (e.g., Hutton, Dubes & Muir, 1992; Meacham & Peckham, 1978); however, the present study utilized the nine United States census regions which allowed for a greater degree of disaggregation of the data among the regions. Studies have explored regional differences for particular variables, such as assessment practices and instruments (Hutton et al., 1992), student to school psychologist ratios, shortages in the field, the effects of funding and economic conditions (e.g., recession) relative to student to school psychologist ratios (Lund, Reschly, & Martin, 1998), and assessment practices, job satisfaction, beliefs related to systems reform, demographic characteristics, and relationships between student to school psychologist ratios and assessment practices (Hosp & Reschly, 2002). The present study explored a broader spectrum of important variables to encompass many of the variables included in each of the separate aforementioned studies.

Hutton et al. (1992) explored variables specifically related to assessment, based on an earlier study conducted by Goh, Teslow, and Fuller (1981). Within the Hutton study, only the percentage of time spent on assessment activities was analyzed regionally. Interestingly, respondents from one region (Eastern) reported spending the least amount of time on assessment activities ($M=47.34\%$). Respondents from three out of the four remaining regions consistently spent the majority of their time on assessment activities. No other variables were compared regionally.

Lund and colleagues (1998) investigated regional differences related to shortages in the field of school psychology, student to school psychologist ratios, and the impact of the 1989-1990 economic recession on the shortage of school psychologists. This study also compared data from the 1988-89 school year with that from the 1992-1993 school year. There were slightly more school psychology graduates in both the Mid Atlantic and the New England regions than anticipated job openings in school psychology in 1989. However, by 1993, the Mid Atlantic region was the only region in which the number of graduates exceeded the anticipated demand. Furthermore, in 1993, respondents from the West South Central region reported a demand exceeding the supply by approximately 180 school psychologists. Across the country, the shortage decreased from 1,100 unfilled positions in 1989 to 747 positions in 1993. Relative to student to school psychologist ratios, the New England and Mid Atlantic regions consistently had the best ratios (1,205:1 and 1,239:1, respectively) with the West South Central region having the worst ratio (4,692:1). The national average ratio across the 1988-1989 and 1992-1993 school years was 1,875:1.

Hosp and Reschly (2002) explored regional (i.e., the using the nine United States Census regions) differences in demographic characteristics, role and assessment practices, job satisfaction, systems reform beliefs, and relationships between student to school psychologist ratios and assessment. Their study included a select number of new variables that were analyzed by region. There were no statistically significant regional differences among demographic characteristics investigated. However, there were statistically significant regional differences among variables related to school psychologists' roles and assessment practices. It is noteworthy that regions in which the reported number of hours that school psychologists spent in psychoeducational assessment was highest, school psychologists also spent the least amount of time providing direct interventions to students. There also were regional differences in the types of assessments conducted. For example, school psychologists in the East South Central region reported using the highest number of behavior rating scales, projective measures, and achievement tests. Significant regional differences were found as well among job satisfaction variables. Understandably, respondents in regions with the highest reported salaries also reported the highest levels of job satisfaction. There were some statistically significant regional differences found in response to the systems reform questions as well. In general, respondents agreed that school psychologists should have an active role in designing, implementing, and monitoring interventions prior to students being considered for special education services.

Overview of the Present Study

The present study explored regional differences in school psychology across the United States relative to school psychologists' demographic characteristics, professional

practices, and employment conditions. This study examined a number of variables that have not been addressed by any other study conducted to date. The research questions were addressed by analyzing a national database resulting from the most recent national NASP study, using data from the 2004-2005 school year. This database consists of responses from 1,748 school psychologists who completed and returned a national survey that was mailed to a 20% sample of Regular members of the NASP, randomly selected by state. The data reflect a 59.3% response rate. In the present study, the data reported by respondents from across the country for the 2004-2005 school year were grouped into categories based on the nine United States census regions (i.e., Northeast, Mid Atlantic, South Atlantic, East South Central, East North Central, West South Central, West North Central, Mountain, and Pacific) to determine the extent to which regional differences exist among school psychologists in terms of demographic characteristics, professional practices, and employment conditions.

Analyses were conducted to address the following research questions:

1. To what extent are there differences in demographic characteristics (e.g., gender, age, ethnicity, years of experience, and level of preparation) of school psychologists across regions of the United States?
2. To what extent are there differences in professional practices that relate to special education (e.g., number of initial special education evaluations, number of special education reevaluations, total evaluations, percentage of time spent involved in activities related to special education, number of 504 plans, percentage of time spent on assessments, report writing, meetings, and “other” related functions) for school psychologists across regions of the United States?

3. To what extent are there differences in professional practices related to direct and indirect services (e.g., number of students served through consultation, number of students served through individual counseling, number of students served through groups, number of student intervention groups conducted, number of in-service training programs delivered) for school psychologists across regions of the United States?
4. To what extent are there differences in employment conditions (e.g., percentage of minority students served, student-to-school psychologist ratio, salary) for school psychologists across regions of the United States?

Significance of the Present Study

The present study provides useful information relative to regional differences in the demographic characteristics, professional practices, and employment conditions of school psychologists across the United States. Of the studies that have investigated regional differences, most have examined only a few select variables. For example, Hutton et al. (1992) studied regional differences only with regard to assessment instruments and practices. Hosp and Reschly (2002) probably completed the most comprehensive regional study to date, examining a range of variables. However, the present study examined several of the same variables as did Hosp and Reschly, but did so using a database from the 2004-2005 school year. Also, a number of additional variables related to demographic characteristics, professional practices, and employment conditions were examined that have not been explored regionally to date.

Knowing and understanding regional differences in school psychology provides a greater understanding of significant trends in the field, including potential strengths and weaknesses. For example, professional practices related to direct and indirect services

(e.g., consultation, student group interventions, counseling) are typically considered to be part of a problem solving service delivery model as opposed to a more traditional test and place model of service delivery. Knowing the regions in which school psychologists report spending more time on direct and indirect services is helpful. This information could guide the field of school psychology and assist graduate training programs by serving as demonstration sites for the implementation of direct and indirect services with students. In addition, such information may assist national and state professional associations in identifying regions where strategic efforts could be initiated to address needs relative to continuing professional development for school psychologists.

Additionally, based on federal legislation (e.g., P.L. 105-17, P.L. 108-446), functional behavioral assessments must be conducted when appropriate, and research based interventions must be implemented and monitored (i.e., response to intervention) as part of the evaluation process when determining eligibility for special education programming. Legislation has dictated changes in the professional practices of school psychologists across the nation. Examining regional differences across the United States helps to determine trends in the professional practices of school psychologists.

As newly trained school psychologists enter the field, regional differences in employment conditions (e.g., salary, contract, ratio of students to school psychologist) may influence where these individuals seek employment. Furthermore, examining regional differences in respondents' years of experience in the field may reveal important information relating to differential trends in the number of school psychologists nearing retirement. Knowing the regions in which there may soon be a critical shortage of school psychologists could guide recruitment strategies to facilitate the hiring of newly trained

school psychologists. Ultimately, looking at regional differences across these three categories of variables provides useful information for school psychologists individually and collectively as a field, for state and national school psychology associations, and for legislators making decisions that impact the field of school psychology.

CHAPTER TWO

Literature Review

In reviewing the field of school psychology, one might look at accomplishments of the profession, legislative influences on the roles and functions of school psychologists, and the challenges school psychologists face. School psychology is a psychological specialty that is only a little over 100 years old, and yet the field has grown from one that looks to others for influence to a field that influences others.

Educational systems within the United States have evolved over time. Schools have experienced the rapid growth of special education. With that growth came a focused effort to identify students with special needs and to serve them in programs that essentially segregated them from students in general education. However, recent initiatives have encouraged the inclusion of students receiving special education services with their peers in general education. At the same time, legislation has prompted many changes within education that directly and indirectly impacted school psychologists. As legislation influenced school psychologists' roles and functions, many psychologists faced new challenges in that their required role often differed from their preferred role. A brief historical overview will highlight accomplishments in school psychology; legislative influences on the field and challenges facing school psychologists will be briefly reviewed in the paragraphs to follow.

Following the initial overview of the foundation of school psychology, legislative influences, and challenges relative to the field, a review of the literature related to the demographic characteristics, professional practices, and employment conditions of school psychologists (Curtis et al., 2002; Curtis et al., 1999; Graden & Curtis, 1991; Levinson et al., 1994; Reschly & Wilson, 1995) will be provided. Next, a review of research specific to regional differences in demographic characteristics, professional practices, and employment conditions of school psychologists (Hosp & Reschly, 2002; Hutton et al., 1992; Lund et al., 1998) will be included. Finally, this chapter will conclude with a rationale for the present study.

Historical Overview of Accomplishments in School Psychology

The term “school psychologist” appeared in the English language literature for the first time in 1911, and the first book about school psychology was published in 1930 (Fagan & Wise, 2000; Fagan & Wise, 2007). Since 1930, the literature has expanded to include many professional journals related to school psychology and hundreds of books about the field. School psychologists’ first identification with an organization occurred in 1945, when the American Psychological Association (APA) reorganized into a divisional structure that included Division 16 for school psychologists (Fagan & Wise, 2000; Fagan & Wise, 2007). The National Association of School Psychologists (NASP) was founded in 1969 as the first national organization specifically for school psychologists. The NASP membership has grown from 856 members in 1969 (Fagan & Wise, 2000; Fagan & Wise, 2007) to over 25,000 today (<http://www.nasponline.org>). In 1988, the NASP initiated the National School Psychology Certification System and the first Nationally Certified School Psychologist (NCSP) credential was awarded, effective

January 1, 1989. The field of school psychology has developed and matured drastically since its origin back in the early 1900s.

Legislative Influences on School Psychology

Over the last 30 years, federal legislation has exerted a major influence on the field of school psychology. The Education for All Handicapped Children Act (Public Law 94-142) was enacted in 1975, emphasizing the need for special education and the provision of psychological services for all children, regardless of disability (Fagan & Wise, 2000; Fagan & Wise, 2007). In 1986, Public Law 99-457 extended the right to a free and appropriate education in public school settings to include children from birth through age three. These important pieces of legislation provided funding that resulted in significant increases in the number of school psychologists and special education teachers (Bricklin, Carlson, Demers, Paavola, Talley, & Tharinger, 1995). However, these laws also represented a pivotal moment in shifting the professional roles and functions of school psychologists. Due to the new focus on providing special education and psychological services to all children, regardless of disabilities, from birth through age 21 years, the emphasis of the school psychologist's role shifted from prevention to one of identifying and serving students with disabilities, accompanied by a greatly expanded emphasis on assessment practices (Bricklin et al., 1995).

Goldwasser and colleagues (1983) conducted a study investigating school psychologists' opinions regarding the degree to which P.L. 94-142 changed their role. The researchers surveyed a random sample of practicing school psychologists who were members of the NASP. The survey included questions requesting demographic data and information about psychological services provided to children with handicaps (Note: at

that time, federal law referred to “students with handicaps,” whereas, later legislation used the term “students with disabilities”). While 87% of the respondents indicated no change in evaluation procedures used, there was an overall reported increase in the amount of time invested with students identified as having disabilities and a decrease in the amount of time spent with students without disabilities. The majority of school psychologists reported a significant change in their practice of school psychology (i.e., 57% indicated a significant change, 42% indicated a minimal change, and 1% indicated no change). Of the 99% who reported a change, 68% believed the change was positive and 32% believed the change was not positive. Similarly, 53% felt that PL 94-142 had broadened the scope of practice of school psychologists, while 38% felt the legislation had limited the scope of services provided.

Within the survey, respondents were given the opportunity to list changes they thought should be made with regard to legislation. The most common complaint was that, as a result of legislation (i.e., specifically PL 94-142), the emphasis of school psychology was placed on testing, a psychometric model, and special education. However, some school psychologists perceived that changes in legislation were responsible for improving psychological services by emphasizing the need to assess the whole child (i.e., the requirement for a multi-factored evaluation). There were two areas in which school psychologists reported that legislation had a marked negative impact on the field. First, school psychologists were reportedly increasing their focus on students with disabilities, while decreasing time spent with nondisabled students. This inevitably forced school psychologists to spend less time providing proactive psychological

services. Second, respondents reported that legislation necessitated an increased amount of paperwork and time spent on bureaucratic activities.

Legislation has aided the field of school psychology in that PL 94-142 and subsequent reauthorizing laws increased funding for school psychology positions. However, this increase was associated with increased emphasis in school psychologists' roles on assessing students to determine eligibility for special education programs, including gifted education (Fagan & Wise, 2007; Goldwasser et al., 1986). This emphasis limited the time available to school psychologists for other services that they were trained to provide (e.g., consultation, counseling). Unfortunately, many of the services that school psychologists were not able to provide would be considered proactive in nature and could play a role in preventing the need for special education services for some students if provided.

In 1997, P.L. 94-142 was reauthorized (P.L. 105-17) as the Individuals with Disabilities Education Act (IDEA). IDEA was reauthorized again in 2004 (P.L. 108-446) as the Individuals with Disabilities Education Improvement Act (IDEIA). The professional practices of school psychologists were impacted as a result of both IDEA and IDEIA (Fagan & Wise, 2007). In accordance with the 1997 and 2004 reauthorizations, school psychologists would be involved in conducting functional behavioral assessments (FBA), students with disabilities would have access to general education settings, manifestation determinations would be conducted relative to student discipline issues, and response to intervention would become common practice rather than "best practice" (Gresham & Noell, 1998; Prasse & Schrag, 1999). As a result of

these important legislative changes, the roles of school psychologists have been impacted significantly.

Challenges in School Psychology

School psychologists have been challenged and frustrated by the discrepancy between desired versus actual roles and functions for many years. Generally, school psychologists have reported a desire for providing a wider variety of psychological services including assessment, consultation, in-service training, research and program evaluation, and prevention activities (Bricklin et al., 1995). However, due to issues related to sources of funding for positions and credentialing, school psychologists report that they are often limited in the services they can provide outside the realm of assessment and activities related to special education

In a study conducted 30 years ago by Meacham and Peckham (1978), school psychologists were surveyed to determine the consistency between role functions and training. This national survey provided school psychologists with the opportunity to describe their training, actual practices, preferred practices, and professional competence across 25 skills. The 25 skills were grouped into the areas of assessment, remediation, interpretation, consultation, change agent, and research. On the 25 skills identified in the survey, school psychologists reported that the emphasis was greater in their training than in their current practices for the areas of individual intelligence testing, individual personality testing, group testing, developing research, and carrying out research. Interestingly, respondents ranked assessment as number one for training, present job expectations, and competence. However, assessment was ranked second to consultation in terms of preferred job functions.

Fisher and colleagues (1986) replicated the Meacham and Peckham study using data from the 1983-84 school year. The survey obtained information regarding demographic characteristics and perceptions regarding the congruence between training and practice in school psychology. Respondents were provided the list of 25 skills from Meacham and Peckham's (1978) study and instructed to indicate the training and practice emphasis for each skill area. Then, the 25 skills were categorized into the same six categories used in the previous study. Respondents were asked to rank order these 6 areas with regard to the percent of time spent on each area during their training, in their current job, in their preferred job, and their professional competence in each area.

There were several interesting differences between the results of the Meacham and Peckham (1978) study versus the results of the study conducted by Fisher et al. (1986). The amount of time spent with children in activities relating to special education increased from 51.5% in the 1975-76 sample to 73% in the 1983-84 sample. The degree of congruence between training and practice also increased for 19 out of 25 skill areas as well. While both samples ranked consultation as their most preferred role, neither sample identified consultation as first in terms of either their training or their current position. The differences in the professional practices of doctoral and non-doctoral level school psychologists decreased from 1975-1976 to 1983-1984.

Demographic Characteristics, Professional Practices, and Employment Conditions

Reschly and Wilson (1995) replicated a study that had been conducted by Reschly et al. (1987) based on a national survey of school psychologists in 1986 that was funded by the NASP. Surveys used in both studies included questions relating to demographic characteristics, employment conditions, beliefs regarding systems reform, job

satisfaction, and desired versus actual professional roles. Reschly and Wilson (1995) obtained data based on the 1991-1992 school year. Both school psychology practitioners and school psychology university faculty were surveyed, with the response rates being 83% and 78%, respectively. The practitioner surveys were sent to a random sample of 1,600 members of the NASP, with this sample being divided into four groups (i.e., every fourth name was assigned to a different sampling group), and each group receiving a slightly different survey. The faculty surveys were sent to every fourth name listed in the Directory of School Psychology Programs (McMaster, Reschly, & Peters, 1989).

Results of the Reschly and Wilson (1995) study were compared to those of the Reschly et al. (1987) study to determine if significant changes had occurred between 1986 and the 1991-1992 school year. Comparisons of the two studies indicated that there had been a statistically significant increase in mean age. However, there were no statistically significant differences in gender representation within the field. Reschly and Wilson also reported that faculty members earned approximately \$9,000 more than did practitioners in mean annual salary, more frequently earned additional outside income (through activities such as consulting, private practice, royalties), and typically earned more from outside sources than did practitioners.

While there were no changes in the percentage of respondents with doctoral degrees, there was an increase in the percentage of respondents with specialist degrees, and a decrease in the percentage with masters degrees. There were no significant changes across time for practitioners' primary work setting or for student to school psychologist ratios. Results of the study conducted by Reschly and Wilson (1995)

indicated that there were more respondents working with urban populations compared to the study conducted by Reschly et al. (1987).

There were no significant differences in faculty variables examined across the two time periods. Results of both surveys suggested that the majority of the faculty had 15 or more years of experience, with 47% holding the rank of Professor, and 80% being tenured; they carried an average teaching load of five courses per year, served on eight student committees (directing three to four theses or dissertations per year), and held the position of major chair for 12 graduate students per year.

Results of the study conducted by Reschly and Wilson (1995) will be discussed in the paragraphs that follow. They reported that doctoral level practitioners tended to work longer contracts (median = 202 days); however, median days in contracts were not reported for faculty or for non-doctoral practitioners. Results of demographic and income variables for doctoral level practitioners fell between those of faculty and nondoctoral practitioners. It should be noted that these groups (i.e., doctoral practitioners, nondoctoral practitioners, and faculty) all differed in mean age, highest degree earned, and gender; therefore, variable differences should be interpreted cautiously.

For Reschly and Wilson (1995), differences were noted between actual and preferred roles by both faculty and practitioners. Faculty and practitioners consistently reported the desire for a change in the current time allocations of school psychologists. Specifically, they expressed a preference for school psychologists to spend less time on assessments and less time with special education services. The primary difference between practitioners and faculty was that faculty would prefer that school psychologists

spend more time on research/evaluation. Generally, practitioners and faculty desired similar time allocations to include less time spent on assessment and more time spent on direct interventions and problem-solving consultation.

In the Reschly and Wilson (1995) study, faculty viewed systems reform more positively than did practitioners. Based on a Job Satisfaction Scale, practitioners were most satisfied with colleagues, satisfied with work/supervision, neutral regarding their salaries, and least satisfied with opportunities for promotion. Faculty were most satisfied with colleagues and work, satisfied with supervision, and neutral about both pay and opportunities for promotion.

Levinson and colleagues (1994) surveyed 636 practicing school psychologists to determine gender differences related to employment characteristics. The variables of interest were the amount of time spent versus amount of time desired for different professional roles, contract length, salary, number of schools served, highest degree earned, student to school psychologist ratio, and years of experience. Data were collected via a demographic data form that was part of a larger job satisfaction survey previously conducted by the first author. Although there was a 67% response rate, only 362 of the surveys were included in the analyses as this was the number of surveys completed by full-time practitioners.

A series of *t*-tests were performed to compare males and females on several variables (i.e., age, employer, number of schools served, highest degree earned, psychologists to student ratio, and years of experience). The only significant differences found between males and females were in contract length and salary. Males earned higher monthly salaries and worked longer contracts. To further explore the significance

of gender on salary differences, an analysis of covariance (ANCOVA) was conducted and the results consistently indicated that males earned significantly higher salaries than did females. A stepwise multiple regression analysis was completed to determine the impact of gender as a predictor of salary. In these analyses, all of the variables were entered as predictors of salary. When the regression analysis excluded gender, $R^2 = .61$, and when gender was included, $R^2 = .63$, indicating that gender only accounted for an additional 2% of the variance in salary. A Kruskal-Wallis test of significance was performed to determine if gender differences existed in actual versus desired time spent in different professional functions (e.g., assessment, counseling, consultation, clerical activities, administrative tasks, and research). No statistically significant differences were found between males and females.

Worrell, Skaggs, and Brown (2006) mailed a survey to 500 full-time practicing school psychologists who were randomly selected from the NASP membership database. They attained a 61% response rate, with a total of 308 usable surveys. Participants completed data forms that collected demographic information (e.g., age, gender) and information related to job characteristics (e.g., number of student served, salary, length of contract). Participants also completed a modified version of the 1977 Long Form of the Minnesota Satisfaction Questionnaire (MSQ) to assess their satisfaction with respect to a variety of job related activities. Results indicated that 76.9% of respondents were female, 46.9% were age 50 or older, and 22.9% reported having 11 to 15 years of experience in school psychology. Seventy percent of participants reported a 1:2000 school psychologist to student ratio or lower. Nearly all participants held at least a masters degree plus 30 semester hours. While 53% reported being certified nationally, only

37.7% held state licensure. Eighty-three percent of participants reported that they intended to remain in the profession, as well as overall satisfaction in their jobs.

Creation of the NASP National Databases

While many studies have provided useful descriptive information regarding the field of school psychology (Fisher et al., 1986; Levinson et al., 1994; Reschly & Wilson, 1995; Worrell et al., 2006), there was a need for a comprehensive national database that would encompass a wide range of important variables related to demographic characteristics, professional practices, and employment conditions. This type of database could then be replicated to allow for longitudinal comparisons that would be useful in understanding trends in the field. Professional organizations attempting to impact state or federal legislation and policies would benefit from access to data related to variables that are important to the field. The NASP addressed this need by establishing a policy that a national database would be created and maintained through a study conducted every five years with regard to demographic characteristics, professional practices, and employment conditions of school psychologists. As a result, data have been collected for the 1989-90 school year (Graden & Curtis, 1991), the 1994-95 school year (Curtis et al., 1999), the 1999-2000 school year (Curtis et al., 2002), and the 2004-2005 school year (Curtis, et al., 2008). The surveys have been conducted and the results presented on behalf of the NASP Research Committee in an effort to inform policymakers, NASP, and other relevant constituencies about important information relative to the field of school psychology. To date, trends in the variables have been noted longitudinally and across variables.

First NASP National Database (1989-90)

The initial national study was conducted through the NASP Research Committee to investigate the demographic characteristics, employment conditions and professional practices of school psychologists based on the 1989-1990 school year (Graden & Curtis, 1991). Surveys were mailed to a sample of 20% of Regular Members of the NASP, randomly selected by state, resulting in a 79% return rate of usable completed surveys. All respondents were asked to complete 17 demographic questions, while only full-time practicing school psychologists employed in school settings were asked to complete the remaining items that pertained to employment conditions and professional practices.

Results of the demographic portion of the survey indicated that the field of school psychology was predominantly female (64.9%), between the ages of 31 and 50 (73.5%), and Caucasian (93.9%). There were more respondents over the age of 50 (20.2%) than under 30 (6.4%), and minority groups were significantly underrepresented in the field (e.g., only 1.9% were African American and 1.5% were Hispanic). The majority of respondents (74.7%) reported having 15 or fewer years of experience in school psychology, 50.9% reported having teaching experience, and of those, 31.4% had taught for only 1 to 5 years. Data relative to salary indicated that 54.6% of respondents earned between \$30,001 and \$45,000, with 9.5% earning less than \$25,000 and 14.9% earning over \$50,000. The largest percentage of respondents (40.0%) reported having a 181-190 day contract and 36.4% were paid based on a teacher salary schedule. Over half (54.4%) of the respondents were not aware of how their positions were funded.

Over three-fourths of respondents (77.2%) reported that they were practicing school psychologists, 9% identified themselves as “other” (e.g., behavioral consultant,

counselor), 7.2% were administrators, and 4.9% reported that they held faculty positions at the university level. Most respondents (91.8%) reported that they did not engage in any private practice, 3.7% worked 40 or more hours per week in private practice, 15.5% 1 to 9 hours per week, and 4.5% 20 or more hours per week.

Participants were asked to indicate the percent of time spent in different employment settings, with the following results: 67% spent one or more days each week in public elementary schools, 47% one or more days in public middle/junior high schools, 37% in public high schools, and 13.9% in a public preschool setting. Very few respondents reported working in private schools (e.g., 4% in private elementary schools, 2% in private middle/junior high, high, or preschools).

The remaining variables related to demographic characteristics were in the areas of degree and training, certification and licensure, and professional association memberships. Of all respondents, 84.5% reported having completed 60 graduate semester hours or more of formal training, which is the level required by NASP standards for entry to the field. Results also indicated that 40.8% of respondents held a masters degree as the highest degree earned, 29.1% a specialist degree, and 28.1% a doctoral degree. Only .1% of respondents listed a bachelors degree as the highest degree earned. Of those responding to the survey, 80.5% indicated that they were Nationally Certified School Psychologists (NCSPs), 94.6% held a state certification credential, 12.9% held a school psychology license, 17.0% held a psychology license, and 4.5% were licensed as a psychological associate. Eighty percent of respondents were members of their state school psychological association, 36.9% were members of the National Education Association, 34.7% were members of their local teachers union, 9.0% were members of

the American Federation of Teachers, 23.7% were members of the American Psychological Association, and 31.1% were members of other professional organizations.

The survey items related to professional practices were completed only by participants who were school psychologists practicing full-time in a school setting. Of those respondents, 57.8% worked in school districts with 10,000 or fewer students, and 18% worked in school districts with 40,000 or more students. Thirty-one percent of respondents reported that 5% or fewer of the students in their school district were ethnic minorities, 23.4% reported 6% to 15% ethnic minority students, and nearly 20% reported 46% or more students as ethnic minorities. It should be noted that while approximately 20% of respondents who were practicing school psychologists reported serving in districts where 46% or more of the students were from ethnic minority groups, 93.9% of the respondents reported Caucasian as their own ethnicity.

According to the NASP professional practice guidelines, the recommended student to psychologist ratio is 1000:1. Participants in the Graden and Curtis study reported that 17.9% worked in school districts where the ratios were below the recommended level, 25% reported ratios between 1001:1 and 1500:1, 23.5% ratios between 1501:1 and 2500:1, 23.4% ratios over 2501:1, and 6% reported ratios of over 4000:1. One portion of the survey asked participants to estimate the percentage of time they spent in various activities (e.g., assessment, counseling, consultation, etc.). Respondents reported spending 52.3% of their time on assessment activities related to special education, 9.3% on assessment activities not related to special education, 20% on consultation (14% individual consultation, 5.5% group/organizational consultation), 10%

on counseling (i.e., group and individual), 2.7% on providing in-service training, and 2% on supervision.

Next, the survey contained questions to further explore each area in which school psychologists reported spending their time. Specific to conducting initial special education evaluations during the 1989-1990 school year, 54.3% indicated that they completed 50 or fewer evaluations, 21% completed between 51 and 75 evaluations, 12.5% completed between 76 and 100, and 12.2% completed over 100 evaluations. Relative to special education reevaluations, 43.1% reported completing between 26 and 50 reevaluations, 31% completed 25 or fewer, and 25.9% completed over 50 reevaluations. When asked how many students were served through consultative services, 36.7% of participants indicated that they had served between 26 and 50 students, 36.4% had served 25 or fewer students, and 26.8% had served 51 or more students.

When asked how many students they had served through individual and/or group counseling, 40.7% reported that they had individually counseled 1 to 10 students, 21.3% had counseled 11 to 20 students, 10.7% had counseled 21 to 30 students, 11.4% had counseled 31 or more students, and 16% reportedly provided no individual counseling to students. Related to counseling groups, 48.7% of the respondents reported that they did not conduct counseling groups, 40.5% had conducted 1 to 5 groups, 7.2% had conducted 6 to 10 groups, and 3.6% had conducted 11 or more groups. Relative to the number of students served through group counseling, 47.7% reported that they served no students through group counseling, 19.7% had served fewer than 10 students, 13.7% had served between 11 and 20 students, and 18.8% had provided group counseling to 21 or more

students. Finally, 23% of respondents reported providing no in-service trainings during the 1989-1990 school year, 19.1% provided one in-service training, 20.4% conducted 2 in-service trainings, and 16.9% conducted 5 or more in-service trainings.

Second NASP National Database(1994-95)

To create the second NASP database, Curtis and colleagues (1999) surveyed Regular members of the NASP based on the 1994-1995 school year. This survey was again mailed to a sample of 20% of Regular members of the Association randomly selected by state. The first 17 items requested demographic information and the remaining 14 items requested information about employment conditions and professional practices. A 74% response rate was obtained.

Results of the demographic portion of the survey indicated that 70.8% of respondents were female, 94.5% were Caucasian, only 1.1% were African-American, and 1.9% were Hispanic. Over 70% were 40 years of age or older, approximately one-third reported having over 15 years of experience in the field, 16.8% reported over 20 years of experience, and 53.3% entered the field of school psychology with no teaching experience. Relative to salary, 35.8% of school psychologists reported earning \$50,000 or more annually, 14.2% earned \$25,000 or less, and 5.4% reported being at or below the \$25,000 salary level.

Based on the NASP training standards, school psychologists should be entering the field with a minimum of 60 graduate semester hours of formal training, which is considered equivalent to a specialist degree. In reviewing past studies, it was learned that although many school psychologists had earned 60 graduate semester hours, they had been awarded only a masters degree because a specialist degree was not available from

the institution where they completed their training. Therefore, this survey included an item that requested the number of graduate semester hours that had been completed at the time of entry into the field as well as the number of graduate semester hours that had been completed as of the date they completed the survey. These items enabled the researchers to determine the percentage of participants who had met the minimum training requirement (i.e., 60 graduate semester hours), regardless of whether or not they held a specialist degree. Also, the researchers were able to compare the percentage of respondents who furthered their graduate education through formal study from the time they had entered the field until the survey was completed. As the highest degree earned, 36.5% reported holding a masters degree, 31.4% a specialist degree, and 29.4% a doctoral degree. When looking at the number of graduate semester hours completed upon entry to the field, 24.3% reported having met the minimum requirement (i.e., 60 graduate semester hours), 37% had earned between 61 and 90 graduate hours, and 17.5% had earned 90 or more graduate semester hours. In other words, 78.8% of the respondents had entered the field with 60 or more graduate semester hours of preparation in school psychology.

Of the participants who were practicing school psychologists, 98.1% held certification from a state education agency and 62% were Nationally Certified School Psychologists. Results indicated that 36.7% of the respondents were licensed at some level (e.g., school psychologist, psychologist, doctoral, non-doctoral). Results also indicated that 75.2% of practicing school psychologists were members of their state association, but only 16.9% were members of Division 16 (School Psychology) of the APA. The percentage of all respondents (i.e., including those who were not practicing

school psychologists, such as faculty members) who belonged to Division 16 of the APA was somewhat higher (23%), although still fewer than one out of four.

Very few school psychologists reported working 100% of the time at one level (e.g., elementary, preschool, etc.). Of those who did, the largest percentage (15.6%) worked solely at the elementary school level. The majority (69.8%) of school psychologists worked at the elementary level, followed by middle school (44.4%), high school (33.1%), and then preschool (23.3%). Relatively few (11.9%) identified private practice as their primary employment position, 9.7% fell in the “other” category, 8.1% worked at a university, 2% in hospital settings, and 0.9% at the state department of education. Only 2.8% of school psychologists reported spending 40 hours or more per week in private practice and 34% reported spending fewer than 10 hours per week in private practice.

When describing their school district settings, 44.8% reported that their district was suburban, 30.3% urban, and 24.9% rural. The highest percentage of participants (44.7%) indicated that their contract was for between 181 and 190 days, 34.1% between 191 and 220 days, 10.4% 180 days or less, and 10.7% 221 days or more. Over half of respondents (55.4%) did not know the funding source for their salary. Of those who did, 34.3% reported that a portion of their salary was paid from special education funds (19.8% state funds, 14.9% federal funds), and 31.3% reported that a portion of their salary was paid from general education funds (22.6% state funds 14.9% local funds). Almost half (48.7%) of school psychologist respondents indicated that their student to school psychologist ratio was at or less than 1500:1. Practicing school psychologists also were asked for information about the student populations served in their school districts,

with 36.1% indicating that more than one fourth of the students they served were members of an ethnic minority group. In comparison to the percentage of school psychologists who indicated that they were ethnic minorities (only 5%), it was apparent that a significant discrepancy existed between the ethnicity of school psychologists and the ethnicity of the population of students they served.

Practicing school psychologists also answered questions related to professional practices such as assessment, consultation, counseling, conducting groups, and training. The highest percentage (45.9%) of respondents indicated that they had served between 1 and 25 students through consultation during the 1994-95 school year. Only 2.6% reported that they had not engaged in consultation, and 25.6% had served more than 50 students through consultation. Thirty-four percent of participants said they counseled more than 10 students during the 1994-1995 school year, while 17.8% had not provided counseling services to any students. Relative to group sessions, 46.5% indicated that they had not provided group services to students and 20.3% had conducted group sessions in which more than 20 students were served. While 22% of respondents conducted no in-service training programs, 18.4% had conducted five or more in-service training programs.

Despite the heavy emphasis that is placed on the role of assessment in the field of school psychology, the majority of respondents in this study spent time providing other psychological services during the 1994-1995 school year. Of the practitioners participating in the study, 97.4% engaged in consultation activities, 86.4% provided individual counseling for students, 53.5% conducted some type of student groups, and 77.8% provided in-service trainings. This information suggests that while school

psychologists are required to spend a great deal of time assessing students to determine eligibility for special education programs, many school psychologists are continuing to provide psychological services outside of assessment to meet the needs of students.

Curtis, Hunley, and Grier (2002) conducted a study analyzing data from the 1994-1995 NASP database. The researchers analyzed nine professional practice variables (e.g., number of initial special education evaluations, number of special education re-evaluations, number of students served through counseling, number of students served through consultation). Pearson product-moment correlations were used to examine the relationships between these nine professional practice variables and level of training, years of experience, gender, and ratio of students to school psychologist. Differences between type of school setting (i.e., urban, suburban, rural), demographic variables (e.g., years of experience), and professional practices were explored using analysis of variance (ANOVA) procedures.

A statistically significant relationship was found between highest degree earned and counseling services provided as well as in-service programs offered. A statistically significant inverse relationship was found between highest degree earned and amount of time spent on special education related activities. The findings were consistent when examining the relationship between these professional practice variables and the number of graduate semester hours earned (i.e., as opposed to highest degree earned). In other words, the higher the level of formal training received, the less time was spent in special education related activities. In addition, respondents with more years of experience conducted more special education evaluations, served more students through consultation, and provided more in-service trainings than did those with fewer years of

experience. There were no significant differences between the professional practices of males versus females. However, females reportedly earned lower annual salaries than did their male counterparts.

Statistically significant differences were found for several variables for school psychologists in different school settings. School psychologists in rural districts tended to report having fewer years of experience. In addition, more students were served through consultation in urban and suburban districts compared to rural districts. There was a significant relationship found between the number of special education evaluations completed and the ratio of students to school psychologist. This relationship suggested that the higher the ratio, the higher the number of special education evaluations completed. As one might expect, respondents who reported lower ratios also indicated that they served more students through counseling, conducted more counseling groups, and served more students through counseling groups than did those who reported higher ratios.

Third NASP National Database (1999-2000)

The third NASP national database was based on the 1999-2000 school year (Curtis et al., 2002). The survey instrument consisted of 37 items, 19 of which requested demographic information and 18 items requested information relative to professional practices and employment conditions. As in the first two studies, this survey was mailed to 20% of Regular members of the NASP, randomly selected by state. Of the 3,022 surveys that were mailed, 2,052 completed and useable surveys were returned, resulting in a 67.9% response rate. Respondents' reported primary positions were as follows: 80%

practicing school psychologist, 6% university faculty, 5% administrator, 2% private practice, and 7% other (e.g., counselor, behavioral intervention specialist).

Based on the demographic portion of the survey, 70% of all school psychologists and 72% of practicing school psychologists were female. The majority of school psychologists were Caucasian, with only 7.2% being members of ethnic minority groups. While the percentage of school psychologists who are members of ethnic minority groups continued to be low, the percentage reflected a small increase from the 1989-1990 school year (6.1%). Further, while there were reportedly 1.5% Hispanic school psychologists during the 1989-1990 school year, 3.1% of respondents for the 1999-2000 school year indicated that they were Hispanic.

Data for the 1999-2000 school year indicated that the field was getting older. In the 1989-1990 school year, 43.2% of respondents reported their age as 40 years or below; however, responses for the 1999-2000 school year indicated that markedly fewer (31.2%) were age 40 or younger. In contrast, respondents in the age 50 years or older group increased from 20.2% in 1989-1990 to 32.8% for the 1999-2000 school year. Those reporting 15 or fewer years of experience decreased from 74.7% (1989-1990) to 60.6% (1999-2000). In contrast, those reporting more than 20 years of experience increased from 10.2% in 1989-1990 to 20.7% in 1999-2000.

The largest percentage of respondents reported a masters degree as the highest degree earned (41%), 28.2% a specialist degree, and 30.3% a doctoral degree. While only 28.2% of respondents reported a specialist degree as the highest degree earned, 86.5% reported that they had completed 60 or more graduate semester hours, considered to be at the “specialist level” by NASP standards. Nearly 36% of respondents reported

licensure as a psychologist, school psychologist, or a derivative title. Only 1.5% reported private practice as their primary employment (i.e., 32 or more hours); however, 9.9% reported spending some time in private practice as their secondary employment. Many respondents reported membership in their state school psychological association (73.9%).

Based on the professional practices items that were answered only by full-time, school-based practicing school psychologists, the percentage of school psychologists working within the recommended student-to-school psychologist ratio (1000:1) had nearly doubled from 1989-1990 to 1999-2000 (17.9% to 35.7%, respectively). There also was a marked increase from 42.9% to 55.7% in the percentage of respondents approaching the NASP recommended ratio (1500:1). On the other hand, only one in four (25.2%) respondents worked in a setting with a ratio of over 2000:1. Of school psychologists responding to the 1999-2000 survey, 77.7% participated in the development of Section 504 plans, approximately one-third completed 25 or fewer initial special education evaluations, two thirds completed 50 or fewer, and only 2.8% completed over 100 initial evaluations.

Over 35% of respondents served 50 or more students through consultation; however, the percentage of respondents who reported serving no students through consultation increased slightly from 2.6% in 1989-1990 to 6.4% in 1999-2000. While 12.7% of respondents reported serving 30 or more students through individual counseling, 23.8% reported providing no individual counseling services to students. While there was an increase of 1.2% in the percentage of student groups conducted, the percentage of respondents who conducted no student groups increased from 48.7% to

54.8%. In addition, almost 26% of respondents reported that they conducted no in-service training programs.

Respondents estimated that they had spent 79.1% of their time in activities related to special education. Of this time, 41% of the time was spent on special education assessment activities, 26% in report writing, 25% in meetings, and 8% in “other” related activities. Just under half (47.2%) of respondents indicated that they had received no supervision during the 1999-2000 school year. Of those who did receive supervision, 46.5% reported that their supervisor held a degree in school psychology, and 34.1% of supervisors reportedly held a doctoral degree.

Curtis and colleagues (2002) examined the relationships between professional practices of school psychologists and the following variables: practitioner training, experience, school district setting, and student-to-school psychologist ratio. School psychologists who indicated higher degrees earned reported providing more individual counseling, group counseling, and in-service programs. Those with less training reported spending more time on special education related activities and completing more initial evaluations. As years of experience increased, consultation services increased, but the number of student groups decreased. Respondents who indicated more training and more experience provided more direct and indirect intervention and prevention services. While respondents with more years of experience conducted more special education reevaluations, they reported spending less time in special education related activities. Respondents in suburban school districts completed fewer special education reevaluations and reported lower student-to-school psychologist ratios than did those in rural and urban settings. Respondents who reported lower student-to-school psychologist

ratios reported spending more time in activities not related to special education (e.g., direct intervention services). Those who reported higher student-to-school psychologist ratios spent more time on activities related to special education (e.g., conducting initial special education evaluations and reevaluations).

Curtis, Grier, and Hunley (2003) provided data related to important trends in school psychology from the late 1960s to present, specifically related to demographic characteristics and ratio of students to school psychologist. They discussed implications for the field of school psychology, as well as possible projections for the future. The most dramatic changes in the field over time have related to gender, and this has come to be known as the “feminization” of the field. During the 1969-70 school year, the field consisted of 41% females (Farling & Hoedt, 1971 as cited in Curtis et al., 2003), and this percentage jumped to 70% by the 1999-2000 school year (Curtis et al., 2002). In terms of race and ethnicity, the field has continued to consist of predominantly Caucasians. Ninety-six percent of responding school psychologists during the 1980-1981 school year (Smith, 1984) were Caucasian, and during the 1999-2000 school year, 92.8% of respondents reported Caucasian as their race (Curtis et al., 2002).

Curtis et al. (2003) also noted that there have been remarkable changes in graduate level preparation over the past 30 years. During the 1969-1970 school year, 93% of school psychologists reported a masters degree as their highest degree earned, 1.8% a specialist degree, and 3.4% reported a doctoral degree. By the 1999-2000 school year, 41% of school psychologists reported a masters degree as their highest degree earned, 28.2% a specialist degree, and 30.3% a doctoral degree. This shift in preparation was most significant when comparing the 1969-1970 school year to the 1989-1990 school

year; and the data have remained relatively stable since the 1989-1990 school year. Relative to professional credentials, there has been little change over the past 10 years. The percentage of school psychologists who are certified by the state department of education has decreased from 94.6% (Graden & Curtis, 1991) to 91.4% (Curtis et al., 2002). School psychologists holding licensure increased only slightly, from 34.4% (Graden & Curtis, 1991) to 35.5% (Curtis et al., 2002). While the percentage of school psychologists holding a non-doctoral license changed very little between the 1994-1995 school year (17.4%; Curtis et al., 1999) and the 1999-2000 school year (17.7%; Curtis et al., 2002), the percentage of school psychologists with doctoral-level licenses increased from 11.3% to 17.8%, respectively. The mean age of school psychologists increased from 38.8 years (Smith, 1984 as cited in Curtis et al., 2003) to 45.2 years (Curtis et al., 2002). Finally, the percentage of school psychologists with 20 or more years of experience increased from 10.2% (Graden & Curtis, 1991) to 20.7% (Curtis et al., 2002). Curtis and colleagues (2003) discussed several projections for the field of school psychology based on the trends in data.

The fourth NASP database is based on the 2004-2005 school year. Because that database served as the basis for analyses in the present study, creation of that database is described in Chapter Three

Regional Differences in School Psychology

Numerous studies have been conducted to explore the demographic characteristics, professional practices, and employment conditions of school psychologists across the United States. However, few studies have investigated whether there are regional differences among these three variable categories. Of the studies that

have explored regional differences, only limited information has been generated pertaining to many issues considered important to the field of school psychology. For example, Hutton et al. (1992) conducted a study updating information reported by Goh et al. (1981); however, the variables of interest in both studies were limited to assessment practices and instruments. Furthermore, the only variable that was examined regionally was the percentage of time spent on assessment activities. Hutton et al. (1992) mailed 1,000 surveys to a random sample of members of the NASP and obtained an initial return rate of 50%; however, only 39% of the surveys were usable and no follow up was conducted to increase the usable response rate. The survey was based on the instrument created by Goh et al. (1981) and included questions related to demographic characteristics, amount of time spent conducting assessment, assessment contact with different age groups, and the assessment instruments used.

Results indicated that respondents spent 52.7% of their time on assessment related activities. Respondents in the Eastern region of the United States reported spending the least amount of time on assessment (47.34%). This regional difference was of statistical significance ($F = 2.54$), with participants in 3 of the remaining 4 regions reporting spending a majority of their time on assessment activities (56.34%, 56.56%, and 56.82%). No other variables were examined regionally.

In a study conducted by Lund et al. (1998) state and regional differences were investigated for the 1992-1993 school year relative to student-to-practitioner ratios over a five-year period of time. Additional variables examined were personnel shortages in the field of school psychology, relationships between per-pupil expenditures and student-to-practitioner ratios, and the effects of economic recession on student-to-practitioner ratios.

The student-to-practitioner ratio for 1993 was based on the student enrollment statistics for Fall, 1992 (U.S. Department of Education, 1994). Results of the surveys also were compared to the report to Congress for the number of practitioners and the number of vacancies in each state to ensure accuracy. In addition, school psychology graduate programs were surveyed regarding current enrollment, preferred enrollment, openings for more students, barriers to higher enrollment, number of graduates for the 1992-1993 school year, and anticipated enrollment for the 1993-1994 school year. There was a 74% response rate for universities surveyed. The authors estimated the attrition rate for the field of school psychology at 5%, while practitioner demand was based on estimates of unfilled vacancies and new positions anticipated compared to attrition.

Data were examined longitudinally by comparing results from the 1992-1993 school year (Lund et al., 1998) with data obtained by Connolly and Reschly (1990) during the 1988-1989 school year. Connolly and Reschly (1990) conducted a survey to examine practitioner shortages, university school psychology program enrollment, and numbers of graduates from school psychology programs. For the purposes of their study, practitioners were considered persons in school psychology positions in public school settings. Surveys were mailed to school psychology leaders (i.e., state association president and vice president, NASP delegate, state department of education school psychology consultant or contact person) in each state. There was a 68% response rate and data were received from 47 states. Averages of the state leaders' responses within each state were calculated for responses within 30% of the median. All responses that differed by more than 30% were investigated further to resolve the discrepancies.

The effects of the 1989-1993 recession were assessed regionally by organizing the data into the nine U. S. census regions (i.e., New England, Mid Atlantic, South Atlantic, East South Central West South Central, East North Central, West North Central, Mountain, and Pacific) used by Dzialo, Shank, and Smith (1993). All of the states were compared based on their rank order over time (i.e., 1966, 1974, 1989, and 1993).

Results indicated the number of graduate students enrolled in school psychology programs varied by only 5% from 1989 to 1993. The estimated national shortage of school psychologists improved from a shortage of 502 in 1989 to a shortage of 359 in 1993. State and regional differences in supply and demand also were explored. In 1989, the number of graduates in the Mid Atlantic and New England regions slightly exceeded the anticipated demand. In 1993, this was only true for the Mid Atlantic region, whereas the remaining regions indicated a nearly equal supply and demand. In 1993, the West South Central region demonstrated the largest discrepancy with demand exceeding the supply by almost 180 persons. It is noteworthy to mention that the number of vacant positions decreased from 1,110 in 1989 to 747 in 1993.

Results of both the 1989 and 1993 surveys indicated an average national student-to-school psychologist ratio of 1,875:1. Although the ratio did not change over time, variations in the ratio across states and regions continued. Trends in states and regions were consistent when comparing the 1989 and 1993 survey results. For example, the state with the best ratio continued to be Connecticut and the state with the worst ratio continued to be Texas. Regionally, the areas with the best ratios continued to be the New England region (1,205:1) and the Mid Atlantic region (1,239:1), while the West South Central region continued to have the worst ratio (4,692:1). With the exception of the East

South Central region, with a ratio of 3,351:1, the remaining 5 regions were all relatively close to the national average.

The next analyses looked at correlations between student-to-practitioner ratios, historical patterns, and per-pupil expenditures. The state rankings of student-to-practitioner ratios across three decades were significantly correlated, ranging from .68 to .90. When looking at the relationships between actual state ratios in 1966, 1974, 1989, and 1993, the correlations were not as strong (ranging from .34 to .78). There was a high correlation when comparing state rank order for per-pupil expenditures in 1989 to 1992 ($r = .97$). Additionally, state per-pupil expenditure rank orders were compared to state student-to-practitioner ratio rank orders. These correlations were statistically significant, ranging from .53 to .76. An inverse relationship was found between actual per-pupil expenditure and student-to-practitioner ratios (ranging from -.33 to -.47) indicating that as per-pupil expenditures increased, student-to-practitioner ratios decreased.

Next, the researchers examined the relationship between changes in student-to-practitioner ratios between 1989 and 1993 to the student-to-practitioner ratios reported in 1993. This correlation was negative ($r = -.33$), indicating that states with the largest changes in ratios also had better ratios in 1993. Changes in per-pupil expenditure from 1989 to 1993 were compared to the student-to-practitioner ratios of 1989 and 1993. Both correlations were .34, and this positive correlation suggests that states with larger changes in per-pupil expenditure also had larger student-to-practitioner ratios. Also, it was discovered that states with the lowest per-pupil expenditures increased the most ($r = -.33$). The relationship between changes in per-pupil expenditure and changes in student-to-practitioner ratios was not statistically significant.

The recession had a slight impact on student-to-practitioner ratios. According to Lund, Reschly, and Martin (1998) economic data suggested that the least favorable ratios would be found in the following regions: New England, Mid Atlantic, South Atlantic, and Pacific. The number of students per school psychologist increased by 12.1% for the New England region and by 7.3% for the Mid Atlantic region. The number of students per school psychologist only increased by 1.1% for the Mid Atlantic region and 1.9% for the Pacific region over time (i.e., between 1989 and 1993). The West North Central region improved their ratio by an 11.5% decrease in the number of students per school psychologist (i.e., between 1989 and 1993). Ratios for the remaining 4 regions changed by only 5% or less (i.e., between 1989 and 1993).

Hosp and Reschly (2002) conducted a study that explored regional differences in role and assessment practices, job satisfaction, systems reform beliefs, demographic characteristics, and relationships between ratios (i.e., student to school psychologist) and assessment. This study explored those variables regionally based on the nine United States census regions: Northeast (NE), Mid-Atlantic (MA), South Atlantic (SA), East South Central (ESC), East North Central (ENC), West South Central (WSC), West North Central (WNC), Mountain (Mtn), and Pacific (PAC). Surveys were mailed to a random sample of 1,423 practicing school psychologists whose names were obtained from the 1997 NASP mailing list, with a usable response rate of 74% being obtained.

Five primary research questions were explored by Hosp and Reschly (2002). The first four questions were related to regional differences in role and assessment practices, job satisfaction, system reform beliefs, and demographic characteristics. The data for each of these areas were analyzed using a series of one-way analyses of variance

(ANOVAs). The final question explored the relationship between student-to-school psychologist ratio and the number of assessments administered each month, and was addressed using a bivariate correlation. The correlation between the student-to-school psychologist ratio and the number of assessments administered each month was found to be statistically significant ($p = .013$); however, the relationship was weak ($r = .138$). Results of the ANOVAs conducted to answer the first four research questions will be discussed in the paragraphs to follow.

There were no statistically significant regional differences found among the demographic variables. The highest percentages of school psychologists with doctoral degrees were found in the WSC (33.3%) and Mtn (34%) regions, with the lowest percentages being in the WNC (20.4%) and NE (22.2%) regions. The lowest mean age (45.5 years) was reported in the MA region and the highest mean age (49.3 years) was reported in the NE region. The majority of respondents were females, ranging from 53.6% in the Mtn region to 78.4% in the WSC region. Respondents in the NE region reported the lowest student-to-psychologist ratio (1,048.8:1), with respondents in the ESC region reporting the highest average ratio (3,857.9:1). Respondents' mean annual salary ranged from \$39,228 in the WSC region to \$55,271 in the MA region. Respondents indicated that regions with the highest salaries also had the lowest reported student-to-school psychologist ratios, while regions with the lowest salaries had the highest student-to-school psychologist ratios. The SA, ESC and WSC regions served the highest percentages of African American students (31%, 24.4%, and 22.7%, respectively), while the lowest percentages of African American students served were in the NE, Mtn and Pac regions (9%, 4.7%, and 10.3%, respectively). The highest percentages of Hispanic

students served were in the Pac (26.7%), Mtn (21.7%) and WSC (15.1%) regions, while the lowest percentages were in the ESC (1.6%), ENC (3.9%), and WNC (4.2%) regions.

There were statistically significant regional differences reported across variables related to school psychologists' roles (i.e., actual and preferred). A statistically significant difference was found between regions in the number of hours spent in psychoeducational assessment. Respondents in the NE and MA regions spent almost 19 hours per week on assessment, while respondents in the ESC region spent over 26 hours per week on this activity. Also, a significant regional difference was found for hours spent providing direct interventions. Participants in the MA region spent 9.9 hours per week on direct interventions, which was significantly different from every other region, with the exception of respondents in the NE (8.9 hours). Interestingly, respondents in the regions where the reported hours spent on psychoeducational assessment were highest spent the least amount of time providing direct interventions. No significant regional differences were found for time spent on problem-solving consultation, systems/organizational consultation, or research/evaluation.

There was a statistically significant regional difference reported for preferred time spent on assessment. Respondents in the MA region reported that they would prefer to spend just under 11 hours per week on assessment as opposed to respondents in the ESC region, who reported that they would prefer to spend almost 16 hours per week on assessment. On average, psychologists in each region reported that they would prefer to spend fewer hours on assessment than they are in their current roles. A significant regional difference was reported for preferred number of hours spent on systems/organizational consultation. While the majority of participants across regions

reportedly preferred to spend 3.5 to 4.3 hours on systems/organizational consultation, respondents from the Mtn and WSC regions reportedly preferred to spend 5.3 and 6.6 hours on systems/organizational consultation, respectively.

Regional differences of statistical significance also were reported for job satisfaction variables. Respondents in regions with the highest annual salaries reported the highest job satisfaction, while respondents in regions with the lowest annual salaries reported the lowest job satisfaction. Interestingly, psychologists who reported they were the least satisfied with their supervisor reported the highest satisfaction with their annual salary and reported the lowest student-to-school psychologist ratios.

Statistically significant regional differences were found in assessment practices. Respondents from the ESC region reported administering the highest mean number of assessment measures per month ($M=22.9$), while participants in the NE region administered the fewest ($M=11.2$). There also was a significant regional difference in the use of preschool/family assessments administered per month. Psychologists in the NE, WNC, and Mtn regions reported administering less than one preschool/family assessment per month, whereas psychologists in the ESC region administered over 7 such assessments per month. It is noteworthy to mention that preschool/family assessments were the most infrequent type of assessments conducted across regions.

There was a statistically significant regional difference in the number of behavior rating scales given per month. Psychologists in the ESC region administered an average of 30.4 behavior rating scales per month, while respondents in all other regions administered 12 or less per month. There were significant regional differences for achievement tests administered as well. Respondents in the ESC region reportedly

administered 20 or more achievement tests per month, while participants in the NE, WNC, and Mtn regions reportedly administered 6.1 to 6.9 achievement tests per month. Second to preschool/family assessments, the most infrequent assessment reported was visual-motor measures. There were statistically significant regional differences for the number of visual-motor assessments administered. While participants in the WSC and WNC regions reportedly administered 5.1 visual-motor assessments per month, participants in the SA, ESC, and Pac regions administered 11.8, 12.0, and 13.3 (respectively) per month. Statistically significant regional differences were discovered for projective measures. Psychologists in the WNC administered 8.8 projective measures per month, while psychologists in the ESC region administered 18.2 projective measures per month. In general, psychologists in the coastal regions (i.e., NE, MA, SA, ESC, Pac) administered the highest number of projective measures. There were no statistically significant regional differences for the number of behavior observations conducted. It was noted that in regions where higher numbers of projective measures were administered, anecdotal observation notes were the most common form of behavioral observations conducted.

There were statistically significant regional differences for only 3 out of 19 systems reform questions. Items 3, 5, and 6 were of significance across regions. Item 3 stated, "A major role of school psychologists should be to assist regular education teachers in designing, implementing, and monitoring interventions prior to consideration of special education eligibility." Item 5 stated, "Special education programs for students with mild disabilities, e.g., LD, have been demonstrated to be effective." And, item 6 stated, "The educational needs of students classified as LD and mildly mentally retarded

(EMR) are very similar.” Respondents in the MA, SA, and ESC regions strongly agreed with item 3, while respondents in the Mtn region were more neutral regarding item 3. Those in the WSC region agreed slightly with item 5, while participants in all other regions responded very neutrally to item 5. Respondents in the NE, SA, and Mtn regions strongly disagreed with item 6, while respondents in the remaining regions responded neutrally to item 6. Overall, respondents agreed that school psychologists should be involved in assisting general education teachers in designing, implementing, and monitoring interventions prior to special education consideration; special education eligibility determination should be directed back to interventions; direct measures of skills are useful for progress monitoring of interventions; and that it is important to understand the emotional dynamics of students to be effective with academic interventions. Generally, respondents did not agree with item 6 (i.e., students classified as learning disabled or mildly mentally retarded have similar educational needs). Respondents also did not agree with item 8 (i.e., students classified as learning disabled or emotional/behavioral disordered have similar educational needs).

Rationale for the Present Study

This NASP database includes a great deal of information collected from school psychologists nationwide. When considering the complexion of the field of school psychology across the United States, it is important to note that school psychology does not look the same everywhere and that regional differences exist. As a context for school psychology, fundamental differences may exist in various geographical areas of the country. These regional differences include, but are not limited to, environmental variables (e.g., weather, topography) as well as characteristics of the people (e.g.,

political views, economy, culture, race). While some of these regional differences have little or no effect on school psychology, other regional differences (e.g., politics, economy) may significantly impact the field. One such influential factor is the implementation of policies that result from federal legislation. Federal legislation relating to education has changed significantly over the past 30 years, and these changes have influenced the field of school psychology. However, the effects of legislative changes may be experienced differently across regions of the country as there is latitude in interpreting and implementing federal policies. As a result of these potential differences, it is important to investigate regional differences that may exist among the demographic characteristics, professional practices, and employment conditions of school psychologists across the United States.

Of the few studies that have investigated differences in school psychology across the United States, the limitations of such studies must be considered. Previous studies have examined a limited number of variables (Hutton et al., 1992). Further, few studies to date have looked at differences in school psychology across regions of the United States. Some states are geographically larger than others and some are more densely populated; therefore, grouping states together regionally makes sense. Considering the examination of variables across regions of the United States is supported by the fact that the United States Census Bureau has created census regions for the purpose of making regional comparisons. While making regional comparisons may be a relatively new concept in the school psychology literature, studies in other fields have analyzed national data by comparing regions. For example, Dzialo, Shank, and Smith (1993) investigated regional differences in employment status and salary to address challenges experienced

by states in the Northeast region and states along the west coast. Because the United States Census Bureau has already grouped the states into nine regional divisions, these existing regions could be used for the purpose of investigating regional differences in school psychologists' demographic characteristics, professional practices, and employment conditions. The NASP leadership is organized with regional representatives as well. Using the U. S. census regions, Hosp and Reschly (2002) investigated and provided important findings regarding regional differences in school psychology based on data collected in the spring of 1997. The present study examined some of the same variables considered by Hosp and Reschly (2002); however, this study also investigated a number of additional variables and analyzed data utilizing a more current database (i.e., based on the 2004-2005 school year). To examine possible regional differences in the demographic characteristics, professional practices, and employment conditions of school psychologists across the United States, the present study addressed the following research questions:

1. To what extent are there differences in demographic characteristics (e.g., gender, age, ethnicity, years of experience, and level of preparation) of school psychologists across regions of the United States?
2. To what extent are there differences in professional practices that relate to special education (e.g., number of initial special education evaluations, number of special education reevaluations, total evaluations, percentage of time spent involved in activities related to special education, and number of 504 plans) for school psychologists across regions of the United States?

3. To what extent are there differences in professional practices related to direct and indirect services (e.g., number of students served through consultation, number of students served through individual counseling, number of students served through groups, number of student intervention groups conducted, number of in-service training programs delivered) for school psychologists across regions of the United States?
4. To what extent are there differences in employment conditions (e.g., percentage of minority students served, student- to- school psychologist ratio, salary) for school psychologists across regions of the United States?

CHAPTER THREE

Method

The present study examined regional differences in the demographic characteristics, professional practices, and employment conditions of school psychologists across the United States. Specifically, analyses were conducted using a national database containing data gathered from school psychologists relative to demographic characteristics (e.g., gender, ethnicity, years of experience in school psychology), professional practices (e.g., number of consultation cases, number of initial special education evaluations and re-evaluations, time spent on activities related to special education), and employment conditions (e.g., ratio of students to school psychologist, percentage of minority students served, salary), based on the 2004-2005 school year. This chapter will be presented in two major sections. The first provides a description of the procedures used to create the national database. The second includes a delineation of the variables explored in this study and the specific research questions addressed.

Creation of the 2004-2005 National Database

This study is a secondary analysis of an existing database. This section describes the participants, ethical considerations related to protection of the participants, historical information regarding the survey instrument utilized to obtain the data, and the specific procedures used to create the 2004-2005 national database.

Participants

The participants whose responses constitute the national database include the 1,748 school psychologists who completed and returned a survey, based on the 2004-2005 school year (Curtis, Lopez, Castillo, Batsche, Minch, & Smith, 2008). The survey was mailed to 2,948 "Regular" members of the NASP, representing a 20% random selection by state. In order to be categorized as a Regular member of the NASP one must be currently "working or credentialed as a school psychologist, trained as a school psychologist and working as a consultant or supervisor of psychological services, primarily engaged in the training of school psychologists at a college or university" (www.nasponline.org/membership/). Only this category of membership was included because it included only school psychologists; it did not include student members, who had not yet entered the field, and affiliate members, who were interested in the field but who were not school psychologists.

Respondents represented all 50 states, the District of Columbia, and Puerto Rico. Of the 1,748 respondents (a 59.3% response rate), 80% were practicing school psychologists, 6% were university faculty, 5.3% were administrators, and 0.6% were employed by state departments of education. Demographic characteristics of this sample were compared to the 2005 NASP membership database. The reader is referred to Appendix A for a comparison of the 2005 NASP membership and the 2004-2005 NASP national database that served as the basis for analyses in this study.

Protection of Human Participants

The current study is considered a secondary analysis of existing data because analyses were conducted using the previously created national database (i.e., not data that

were collected through this study). The database includes no identifying information relative to human participants. The present study was approved by the University of South Florida Institutional Review Board (IRB) whose purpose is to protect human participants in social and behavioral sciences research (<http://www.research.usf.edu/cs/irb.htm>).

Historical Background of the National Database

Graden and Curtis (1991) were the first to survey members of the NASP and create a national database in response to a NASP policy that required the Research Committee to create and maintain a national database related to the demographic characteristics, educational background, professional credentials, and professional practices of school psychologists every five years. The first survey instrument was drafted, reviewed, and modified based on feedback from the NASP leadership. The revised survey was then piloted with five practicing school psychologists to obtain feedback regarding factors such as clarity of items, ease and time for completion, and so forth. Following subsequent revision, the survey instrument was approved by the NASP Delegate Assembly and the NASP Executive Board in 1990.

The first national database was created based on the 1989-1990 school year by Graden and Curtis (1991), the second database was based on the 1994-1995 school year (Curtis et al., 1999), and the third was based on the 1999-2000 school year (Curtis et al., 2002). Consistency was maintained for most items across survey instruments over the years to allow for consistent measurement of variables repeated over time (Curtis et al., 1999) and for an examination of historical trends in the field (Curtis et al., 2002). Only minor changes were made to the 2004-2005 survey instrument, to include the addition of

an item related to continuing professional development (i.e., Item 35) and more detailed information related to supervision (i.e., Items 36 and 37).

Creation of the National Database

Consistent with the first three studies, the purpose of the 2004-2005 survey (Appendix B) was to obtain information regarding school psychologists across the United States. The survey consisted of 18 items related to demographic characteristics and 20 items related to professional practices and employment conditions. All participants were asked to respond to the first 18 items, whereas only school psychologists who worked full time in a school setting were asked to respond to items 19 through 38.

The NASP central office conducted a computerized random selection of NASP Regular members, and the resulting list of names was used to generate duplicate sets of mailing labels. The initial mailing list included the names of 2,969 school psychologists identified as "Regular" members of the NASP, representing a 20% random selection by state. The final, corrected list (following the removal of the names of persons with incorrect addresses, and those who were deceased, retired or had left the field), included 2,948 persons. Participation in the survey was voluntary, no identifying information was requested, and steps were taken to ensure confidentiality. A code number was assigned to each participant; this code number was written on the postage paid, pre-addressed return envelope that was included with each survey. This coding system was used to prevent respondents from being included in subsequent mailings, and to randomly select participants for the award of incentives.

The first mailing included the survey, a pre-addressed, postage-paid return envelope, and a cover letter from Dr. Michael Curtis, Principal Investigator on behalf of

the NASP Research Committee; the letter explained the rationale for the study, procedures used, and measures that would be taken to ensure confidentiality. The first mailing took place in July 2005; data collection continued through November 2005. A total of three complete mailings were conducted, along with one postcard reminder, for a total of four mailings. To encourage response, potential participants were notified of an incentive plan. The initial incentive plan was for 10 respondents to be randomly selected to receive 50 “NASP Bucks” that could be used to purchase NASP publications, as payment toward a NASP conference and/or registration for a NASP workshop. Informal feedback received during the data collection phase suggested that “NASP Bucks” were not an effective incentive; therefore, it was decided to offer the same incentive that had been offered in earlier studies (i.e., the random selection of five respondents who would receive one year of free membership in the Association). Notification of the availability of both incentives was included in the fourth and final mailing. Regardless of when participants responded, all respondents were eligible for both the “NASP Bucks” and the free NASP membership incentives.

Upon the receipt of a returned survey, the survey was immediately separated from the return envelope and placed in a box for data entry, the respondent’s name was crossed off the mailing list, and the coded return envelope was placed in an alternate location to be used for the random selection of incentive reward recipients. Data obtained from the returned surveys were entered into an Excel database. Reliability checks were conducted for data entry accuracy for a randomly selected sample of 10% ($n=175$) of the returned surveys, resulting in an identified error rate of 0.18% (i.e., 12 errors out of 6,650 entries). Survey data were then winzorized to eliminate error that may have been introduced due

to extreme response outliers. The distributions of the data for each variable were reviewed by Dr. Michael Curtis and Dr. George Batsche, and parameters were set. Dr. Curtis and Dr. Batsche are both past presidents of the NASP, members of the NASP Research Committee, and are very familiar with the field of school psychology relative to demographics, professional practices and employment conditions. Dr. Curtis was the Principal Investigator for the first three national studies for the NASP and published the findings of each study. Dr. Curtis and Dr. Batsche examined the full range of responses for each item using boxplot displays and established the parameters for each item based on their judgment regarding the limits of possible responses. The resulting Excel database was imported into SPSS 14.0 for Windows Student Version (SPSS Inc., 2005) for the purposes of data analysis.

A total of 1,748 usable surveys were received as a result of the four mailings, representing a 59.3% response rate. It has been suggested that response rates of less than 50% may reduce the ability to draw conclusions based on the data about the field of school psychology (Reschly & Wilson, 1995). In an effort to validate the data included in the national database to be utilized for the current study, demographic characteristics (e.g., gender, age, ethnicity, highest degree earned) of the sample for the database were compared to demographic membership data for the NASP. Chi-square goodness of fit tests were conducted by Lopez (2007) to make comparisons between the national database and the NASP membership database for the 2005 year for select demographic variables. Results of the chi-square goodness of fit tests indicated that responses for the 2004-2005 database were comparable to the 2005 NASP membership database for gender $\chi^2(1, 1748) = .22436, p < .01$, but not for ethnicity $\chi^2(5, 1748) = 36.3449, p < .01$ or

highest degree earned $\chi^2(3, 1748) = 167.704, p < .01$. See Appendix A for a comparison of the 2005 NASP membership and the 2004-2005 database, including a comparison of percent responding. It is noteworthy to mention that the 2005 NASP membership data represent a considerably lower response rate compared to the 2004 – 2005 database. Consequently, while there may be statistically significant differences between the 2005 NASP membership data and the 2004-2005 database, these differences are questionable in light of the lower response rate for the 2005 NASP membership data. Many school psychologists who are Regular members of the NASP are unaccounted for in the membership data relative to these select demographic variables (i.e., response rates by item are much higher within the national database compared to the membership database). Fagan and Wise (2007) contend that the NASP includes about 70% of all school psychologists in the field, suggesting that use of membership in the NASP for purposes of research is appropriate because it is highly representative of the field of school psychology.

Procedure

The 2004-2005 national database served as the basis for analyses conducted for the purpose of answering the specified research questions. The variables were grouped into four general categories: demographic characteristics, professional practices related to special education, professional practices related to direct and indirect services, and employment conditions. The state variable was coded (i.e., 1 through 52, including the 50 states, District of Columbia, and Puerto Rico), then the states were grouped together according to the nine U.S. Census Regions. The data were examined using analysis of variance (ANOVA) procedures to determine if the means of each continuous variable

differed statistically by region. Additionally, data involving categorical variables were examined using chi-square analyses to determine if differences across regions were statistically significant.

Variables

There were four categories of dependent variables that included demographic characteristics, professional practices related to special education, professional practices related to direct and indirect services, and variables related to employment conditions. The demographic variables of interest to this research included gender, ethnicity, highest degree earned, national certification, certification that allows for independent practice in non-school settings, licensure that allows for independent practice in non-school settings, membership in the state school psychology association, age, years of experience in school psychology, years of experience in teaching, and graduate training in school psychology.

Professional practice variables related to special education included the number of section 504 plans completed, the number of initial special education evaluations completed, the number of special education reevaluations completed, and the percentage of total time spent on activities related to special education. Professional practice variables related to direct and indirect services to students included the number of consultation cases conducted, the number of students individually counseled, the number of student groups conducted, the number of students served through groups, and the number of in-service training programs conducted. Variables related to employment conditions included the percentage of students in the respondent's district who were ethnic minorities, the percentage of students served by the responding school psychologist who were ethnic minorities, the ratio of students to school psychologist for

the district, the ratio of students to school psychologist for whom the responding school psychologist was responsible, the number of days specified in the work contract, the salary of the respondent (i.e., calculated as a daily rate of pay), the percentage of respondents who received administrative supervision, the percentage of respondents who received clinical supervision, and the percentage of respondents whose clinical supervisor held a degree in school psychology. The independent variable for the current study was region with nine levels representing the United States Census regions (i.e., Northeast, Mid-Atlantic, South Atlantic, East South Central, East North Central, West South Central, West North Central, Mountain, and Pacific).

Demographic Variables

Each of the demographic variables included in the present study is listed in Table 1, along with a description of how the information was coded.

Table 1

Demographic Variables

Variable	Coding
Gender (gen)	Female = 0; Male = 1
Ethnicity (eth)	African American (AA) = 0; Caucasian (C) = 1; American Indian/Alaska Native (AI/AN) = 2; Asian American/Pacific Islanders (API) = 3; Hispanics (H) = 4; "other" ethnicities (O) = 5
Highest Degree Earned (high)	Bachelors = 0; Masters = 1; Specialist = 2; Doctorate = 3

Variable	Coding
National Certification (NCSP)	NCSP = 1; No NCSP = 0
Certification Allows Independent Practice (certnon)	Allowed = 1; Not allowed = 0
Licensure Allows Independent Practice (licnon)	Allowed = 1; Not allowed = 0
Membership (memb)	Membership in state school psychology association = 1; Non members = 0
Years of School Psychology Experience (spexp)	Exact number of years of experience in school psychology
Years of Teaching Experience (tchexp)	Exact number of years of experience in teaching.
Hours Prior to Entry (prior)	Number of graduate credit hours obtained prior to entry into the field of school psychology
Age (age)	Exact age of respondent

Professional Practices Variables Related to Special Education

Each of the professional practice variables related to special education included in the present study is listed in Table 2, along with a description of how the information was coded.

Table 2

Professional Practices Variables Related to Special Education

Variable	Coding
Section 504 (504)	Number of Section 504 Plans assisted in developing
Initial Evaluations (initial)	Exact number of psychoeducational evaluations conducted for the purpose of considering eligibility for special education services
Reevaluations (reeval)	Exact number of psychoeducational reevaluations conducted for the purpose of reevaluating the students' continued need for special education services (i.e., no differentiation between three year reevaluations and special reevaluations)
Total Work Time (timespedu)	Percentage of total work time spent on activities relating to special education

Professional Practices Variables Related to Direct and Indirect Services to Students

Each of the professional practice variables related to direct and indirect services to students included in the present study is listed in Table 3, along with a description of how the information was coded.

Table 3

Professional Practices Variables Related to Direct and Indirect Services to Students

Variable	Coding
Consultation (consult)	Number of consultation cases completed
Individual Counseling (counsel)	Number of students individually counseled
Groups (grp)	Number of student groups conducted
Students Served in Groups (stgrp)	Number of students served in groups
In-Service Programs (inserv)	Number of in-service training programs conducted

Employment Conditions Variables

Each of the variables related to employment conditions that were included in the present study are listed in Table 4, along with a description of how the information was coded.

Table 4

Variables Related to Employment Conditions

Variable	Coding
Ethnic Minority Students In District (ethdis)	Percentage of minority students enrolled in district

Variable	Coding
Ethnic Minority Students Served (ethser)	Percentage of minority students served by respondent
District Ratio (ratio)	Ratio of students to school psychologist for the entire school district
Ratio Served (rser)	Ratio of students to school psychologist based on individual respondent's caseload
Contract (cont)	Number of days in work contract
Per Diem (perdiem)	Daily rate of pay = annual salary divided by number of days in contract
Admin. Supervision (asrecsup)	Received administrative supervision = 1; did not receive administrative supervision = 0
Clinical Supervision (csrecsup)	Received clinical supervision = 1; did not receive clinical supervision = 0
Degree of Clinical Supervisor (csdegsc)	Degree in school psychology yes = 1 no = 0; degree in psychology yes = 1 no = 0; degree in other area yes = 1 no = 0; doctoral degree yes = 1 no = 0; masters/specialist degree yes = 1 no = 0

Region

The independent variable for the purposes of the present study was the United States census regions. A listing of the states within each of the nine U.S. census regions is provided in Table 5.

Table 5

Regional Groupings of States

Region	State
Northeast (NE)	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
Mid Atlantic (MA)	New Jersey, New York, Pennsylvania
South Atlantic (SA)	Washington D.C., Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia
East South Central (ESC)	Alabama, Kentucky, Mississippi, Tennessee
East North Central (ENC)	Illinois, Indiana, Michigan, Ohio, Wisconsin
West South Central (WSC)	Arkansas, Louisiana, Oklahoma, Texas
West North Central (WNC)	Iowa, Kansas, Minnesota, Missouri, North Dakota, Nebraska, South Dakota
Mountain (Mtn)	Arizona, Colorado, Idaho, Montana, New Mexico, Nevada, Utah, Wyoming

Region	State
Pacific (Pac)	Alaska, California, Hawaii, Oregon, Washington

CHAPTER FOUR

Results

The present study explored differences in demographic characteristics, professional practices related to special education, professional practices related to direct and indirect services with students, and employment conditions of school psychologists across the nine United States census regions. The reader is referred to Appendix A for information related to response rates for each region and for states within each region.

This chapter will present results for each of the four research questions. An overview of descriptive information will be presented for the variables examined related to each research question. Preliminary analyses were conducted to examine differences between states within each region to determine how representative the aggregated regional data were and to ensure that outliers were not skewing the data. These preliminary analyses will be discussed as well. Finally, the analyses (i.e., ANOVAs, chi-square analyses, and follow up *t*-tests) conducted to answer the research questions will be discussed.

There are a large number of comparisons, which can inflate Type I errors; therefore, an *a priori* alpha level of .01 was maintained for all analyses conducted. In general, for each continuous variable ANOVA was used to determine if statistically significant regional differences existed and effect sizes were calculated using eta squared. Eta squared values are as follows: small effect sizes are less than .01, moderate effect

sizes are from .10 to .24, and large effect sizes are .25 and greater. For regional differences with moderate or large effect sizes, the Scheffé post hoc procedure was used to determine where the regional differences were, and eta squared was used as the measure of effect size. In analyzing categorical variables, chi square analyses were conducted and Cramer's V was the measure of effect size. Cramer's V values are as follows: small effect sizes are less than .20, medium effect sizes are between .20 and .39, and large effect sizes are .40 and larger. For regional differences with moderate or large effect sizes, multiple comparisons were calculated using a method developed by Cox and Key (1993) to determine where the regional differences were for these categorical variables.

Research Question One

To what extent are there differences in demographic characteristics (e.g., gender, age, ethnicity, years of experience, and level of preparation) of school psychologists across regions of the United States?

There were clear relationships among three of the continuous variables explored. Based on the calculated Pearson correlation coefficients, the following variables were positively correlated at the .01 significance level: age and years of experience in the field of school psychology ($r = .73$) and age and years of teaching experience ($r = .27$). As would be expected, these correlations indicate that as age increases the number of years of experience in school psychology and the number of years of experience in teaching increase, respectively.

Descriptive statistics for demographic variables. Percentages for the categorical variables (e.g., gender) and means and standard deviations for the continuous variables

(e.g., age) related to demographic characteristics are reported in Appendix B. Several noteworthy trends were noted. Respondents from the South Atlantic (80.5%) and West North Central (80.2%) regions included the highest percentages of females, while the lowest percentage of females resided in the Mountain (58.4%) region. The majority of respondents reported their ethnicity as Caucasian (overall sample = 92.6%); however, the region with the greatest percentage of non-Caucasian respondents was the Pacific (11.2%). Respondents from the South Atlantic region reported the highest percentages of African Americans (4%), while there were no African American respondents from the West North Central and Mountain regions. The highest percentage of American Indian/Alaskan Natives was in the Pacific region (1.8%), and the lowest percentages were in the South Atlantic (0.3%) and East North Central regions (0.3%). The highest percentage of respondents reporting their ethnicity as Asian American/Pacific Islander was in the Mountain region (2.3%), while no respondents in the East South Central region reported Asian American/Pacific Islander as their ethnicity. The region with the highest percentage of respondents who reported Hispanic ethnicity was Pacific (5.9%), while there were no persons of Hispanic ethnicity represented in the East South Central or West North Central regions. The highest percentage of respondents indicating their ethnicity as something “other” than a designated category (e.g., Caucasian, African American) was in the Northeast (3.3%), while there were no respondents in the East South Central, West South Central, or West North Central regions who indicated “other” as their ethnicity.

When considering preparation and credentialing among school psychologists, there are variations in college degrees, certification, and licensure. Only 0.3% of

respondents in the South Atlantic region reported a bachelor's degree as the highest degree earned, while there were no respondents in any other region who reported holding only a bachelor's degree. While respondents from the Pacific region reported the highest percentage of respondents indicating a master's degree as the highest degree earned (62.8%), the Pacific region was also the region with the lowest percentage of respondents indicating an educational specialist (Ed.S.) degree or a doctorate (Ph.D.) as the highest degree earned (13.4% and 23.8%, respectively). While respondents from the South Atlantic (16.6%) region reported the lowest percentage of persons whose highest degree earned was a master's degree, this region also had the largest percentage of respondents indicating an educational specialist (Ed.S.) degree. Finally, participants from the West South Central region indicated the largest percentage of respondents reporting a doctorate (Ph.D.) as the highest degree earned. Because some universities do not offer a specialist degree, but provide specialist-level preparation, it is also of interest to consider the number of semester hours of graduate training in school psychology completed prior to entry in the field. The number of semester hours ranged from 0 to 150, with a mean of 66.6 ($SD=26.4$). This distribution was slightly positively skewed ($sk=0.87$) and leptokurtic ($k=1.85$), suggesting a non-normal distribution. This distribution suggests that a number of respondents indicated semester hours slightly less than the mean. One explanation for this is that the number of semester hours and/or degree required for entry to the field has changed over the years. The highest mean number of graduate semester hours in school psychology prior to entering the field was reported from respondents in the West South Central ($M=70.5$, $SD=32.3$) region, with the lowest mean coming from respondents in the Pacific region ($M=63.7$, $SD=31.3$). These results were directly related

to highest degree earned in that the highest percentage of respondents reporting a doctoral degree as the highest degree earned were also in the West South Central region, while the lowest percentage of respondents reporting a doctoral degree as the highest degree earned were in the Pacific region.

Respondents from the Mid Atlantic (65.2%) region had the highest percentage of Nationally Certified School Psychologists (NCSP), but only 33.8% of respondents from the East South Central region held the NCSP credential. While only 5.2% of participants in the West South Central region have certification that allows independent practice in non-school settings, 32.6% in the Northeast are certified to conduct independent practice in non-school settings. Additionally, 84.8% of respondents in the East South Central region have licensure that allows for independent practice in non-school settings, and only 33.3% in the West North Central have licensure that allows for independent practice in non-school settings.

Since all participants are considered “Regular” members of the National Association of School Psychologists (NASP), it is interesting to consider which members are also involved in school psychology associations at the state level. In the Pacific region, 79.1% of respondents indicated that they are members of their state school psychology association. The lowest percentage of membership at the state level was in the Mid Atlantic region, with 61.5%.

The ages of respondents ranged from 24 to 76 years, with an overall mean of 46.2 ($SD=10.9$). The distribution of responses was slightly negatively skewed ($sk=-0.22$) and platykurtic ($k=-1.01$). The highest mean age was reported from respondents in the West South Central ($M=49.3$, $SD=10.3$) region, while the lowest mean age was in the Mid

Atlantic ($M=44.4$, $SD=11.0$) region. Years of experience in school psychology ranged from 0 to 42 years, with an overall mean of 14.8 years ($SD=9.4$). The distribution for years of experience in school psychology was slightly positively skewed ($sk=0.35$) and platykurtic ($k=-1.03$). Respondents reporting the highest number of years of experience in school psychology were from the East South Central ($M=15.9$, $SD=9.4$) region, and respondents reporting the lowest number of years of experience in school psychology were from the Mid Atlantic ($M=13.8$, $SD=9.6$) region. Years of experience in teaching ranged from 0 to 30, with a mean of 2.1 ($SD=4.5$). This distribution was positively skewed ($sk=3.02$) and leptokurtic ($k=10.24$). This distribution is peaked (i.e., suggests that a number of respondents indicated years of experience less than the mean) with a heavy tail. However, the median number of years of teaching experience was 2.11, which is essentially the same as the mean. The mean number of years of experience in teaching was only 1.5 ($SD=3.5$) for respondents residing in the East South Central and East North Central regions, with the highest mean number of years of teaching experience reported by respondents residing in the Northeast region ($M=2.9$, $SD=5.3$).

Preliminary analyses for demographic characteristics. Preliminary data were reviewed to look at variability in demographic characteristics between states within each region. Knowing the variability between states within each region is beneficial in understanding the distribution of the data for each of the states that make up each region and to ensure that there are no extreme outliers that may be skewing the data for the entire region. Each continuous variable was examined by state to consider means and standard deviations for each state within each region. Each categorical variable was examined by state to consider column percentages between states within each region. An

analysis of variance (ANOVA) was conducted for each continuous demographic variable, and chi-square analyses were conducted for each categorical variable, to determine if there were statistically significant differences between states.

Preliminary analyses revealed a statistically significant difference relative to age between states within the West South Central region $F(3, 96) = 4.8, p < .01$, and relative to the average number of years of experience in school psychology between states within the Mountain region $F(7, 136) = 3.1, p < .01$. However, no pairwise comparisons were significant at the $p < .01$ level. Additionally, there was a statistically significant difference between states within the West South Central region relative to the average number of years of experience in teaching $F(3, 94) = 5.7, p < .01$. Results of the Scheffé *post hoc* procedure indicated the difference was between Oklahoma and Texas, where there was a mean difference of 5.6 years ($p < .01$). It is noteworthy to mention that years of experience in teaching ranged from 0 to 28 in Oklahoma ($M = 6.7, SD = 9.4$) and from 0 to 17 in Texas ($M = 1.02, SD = 2.6$). This mean difference could potentially skew the data for this particular region in relation to years of experience in teaching, and should be considered when viewing the results of the ANOVA.

Regional differences for demographic variables. Regional differences for demographic characteristics were analyzed utilizing analysis of variance (ANOVA) for continuous variables. Eta squares were computed as a measure of effect size to assess the strength of statistically significant relationships. For moderate and/or large estimates of effect size, *post hoc* procedures were utilized following the ANOVA to determine where the actual statistically significant differences lie. An *a priori* alpha level of .01 was maintained to minimize the probability of falsely rejecting the null hypothesis. The

Scheffé procedure was chosen as the most appropriate *post hoc* procedure to use for computing multiple comparisons once the F statistic indicated a significant overall difference. The Scheffé procedure was selected because of its flexibility. The Scheffé procedure can explore all pairwise comparisons as well as more complex contrasts (i.e., involving more than two groups for significance) (Stevens, 1999). The Scheffé procedure can be somewhat more stringent than other *post hoc* procedures because a large critical value is necessary for significance, meaning power (i.e., the probability of an accurate decision when rejecting a null hypothesis) may suffer (Stevens, 1999). According to Stevens (1999), the three factors that impact power are the alpha level set by the researcher, the sample size, and the effect size. Power should not be a concern for the current study because an adequate alpha level has been selected, all sample sizes are large (i.e., more than 100 participants per group), and effect sizes will be discussed. Prior to conducting all regional analyses, the distribution of the means of each variable were examined by region to ensure approximately normal distributions (Appendix B).

An analysis of variance revealed that there was a statistically significant regional difference based on age, $F(8, 1720) = 3.7, p < .01$. Eta squared is an estimate of variability in the dependent variable that is accounted for by the independent variable and is interpreted similarly to an effect size. The estimated effect size for the regional difference based on age was small ($\eta^2 = .02$); therefore, multiple comparisons between regions were not computed relative to age.

Chi-square analyses were conducted to analyze regional differences relative to categorical variables. Based on the chi-square analyses, there were regional differences among responding school psychologists with respect to gender $\chi^2(8, N = 1734) = 33.23, p$

< .01, ethnicity $\chi^2(40, N = 1693) = 68.06, p < .01$, highest degree earned $\chi^2(24, N = 1731) = 194.02, p < .01$, certification as a NCSP $\chi^2(8, N = 1734) = 60.14, p < .01$, certification that allows for independent practice in non-school settings $\chi^2(8, N = 1549) = 53.08, p < .01$, licensure that allows for independent practice in non-school settings $\chi^2(8, N = 784) = 70.56, p < .01$, and membership in state psychological associations $\chi^2(8, N = 1735) = 33.19, p < .01$. Cramer's V was calculated as the measure of effect sizes for each statistically significant regional difference, and results indicated medium effect sizes for regional differences based on highest degree earned ($V = .20$) and licensure that allows for independent practice in non-school settings ($V = .30$). Multiple comparisons were computed for these two variables to further explore these regional differences. Effect sizes for the remaining regional differences were small; therefore, multiple comparisons were not computed for those variables.

Multiple comparisons were calculated to further explore the strong, statistically significant regional differences in highest degree earned and licensures that allows for independent practice in non-school settings. The multiple comparisons were calculated using a model developed by Cox and Key (1993). This method involved deriving a chi-square value for each individual region, then determining the differences in chi square values between each of the 36 possible multiple comparisons. Differences were compared to the theoretical distribution value (3.841). When further exploring respondents who report a specialist degree as the highest degree earned, respondents in the South Atlantic region reported higher percentages than all other regions. Respondents in the Pacific region reported lower percentages with a specialist degree compared with all other regions except the South Atlantic region. Respondents in the

Mountain region reported higher percentages than those in the Mid Atlantic region. Respondents residing in the Mountain and East South Central regions reported significantly lower percentages with specialist degrees compared with the Northeast, West South Central, and West North Central regions. Those in the East North Central region reported lower percentages with a specialist degree than those in the West South Central region. Finally, when further exploring those reporting a doctoral degree as the highest degree earned, respondents in the West South Central region reported significantly higher percentage with a Doctoral degree compared with those in the Northeast and South Atlantic regions.

Results of multiple comparisons related to licensure that allows for independent practice in non-school settings indicated that significantly lower percentages of respondents in the West North Central region held licensure that allowed for independent practice in non-school settings compared with those in the Northeast, Mid Atlantic, South Atlantic, East South Central, East North Central, Mountain and Pacific regions. Lower percentages of respondents in the West South Central also reported licensure that allowed for independent practice in non-school settings compared with those in the Pacific region.

Results of ANOVA conducted to explore regional differences in demographic characteristics of responding school psychologists indicated that while statistically significant regional differences existed relative to age, the effect sizes were small. Considering both the ANOVA and estimated effect size, the regional differences based on age are not strong enough to discuss further. Results of chi-square analyses indicated that there were statistically significant regional differences based on highest degree earned and licensure that allows for independent practice in non-school settings. These

statistically significant regional differences were considered strong based on moderate effect sizes. There were numerous relationships between the regions discussed.

Research Question Two

To what extent are there differences in professional practices that relate to special education (e.g., number of initial special education evaluations, number of special education reevaluations, total evaluations, percentage of time spent involved in activities related to special education, and number of 504 plans developed) for school psychologists across regions of the United States?

In reviewing the relationships between the variables explored for research question two, there were several correlations that were statistically significant. Although the correlations were significant, the relationships were not that strong. Correlations ranged from -0.37 ($p < .01$) to 0.37 ($p < .01$). It was expected that the variables would be correlated since they are all associated with professional practices related to special education. While many of the variables were correlated, they are all measuring separate activities; therefore, none of the variables could be replaced or combined for the purposes of reducing the number of analyses conducted.

Descriptive statistics for professional practices related to special education.

Means and standard deviations for each variable associated with professional practices related to special education are reported in Appendix D. Noteworthy trends will be discussed in the paragraphs to follow. The number of Section 504 plans ranged from 0 to 100, with a mean of 5.9 ($SD = 9.2$). The West South Central ($M = 7.8$, $SD = 20.3$) region was the region with the highest reported mean number of Section 504 plans, while the West North Central ($M = 2.6$, $SD = 3.9$) was the region with the lowest mean. The

number of initial evaluations and re-evaluations completed ranged from 0 to 200, with means of 34.5 ($SD = 29.7$) and 34.0 ($SD = 26.9$), respectively. Respondents in the East South Central region reported the highest mean number of initial evaluations ($M = 58.1$, $SD = 42.9$) and reevaluations ($M = 84.1$, $SD = 40.5$). Respondents in the Northeast region reported the lowest mean number of initial evaluations ($M = 27.0$, $SD = 20.4$) and re-evaluations ($M = 28.0$, $SD = 23.5$) completed. The percentage of time spent on activities related to special education ranged from 0 to 100, with a mean of 80.1 ($SD = 21.8$). Respondents from the West South Central ($M = 90.2$, $SD = 15.3$) region reported spending the highest percentage of their time on activities related to special education. While the South Atlantic region reported the lowest percentage of time on activities related to special education, the mean percentage of time spent was still 75.5% ($SD = 25.2$).

Preliminary analyses for professional practices related to special education.

Preliminary analyses were conducted to better understand any significant differences in means between the states within each region. Means and standard deviations were considered along with ANOVA to determine if such differences exist and may inadvertently skew the regional data. There were no statistically significant differences between states within any of the regions relative to the general variable that represents the total percent of time spent on special education related activities.

Results of the ANOVA indicated that there were statistically significant $F(2, 245) = 7.6$, $p < .01$ differences between states (New York, New Jersey, and Pennsylvania) within the Mid Atlantic region for the number of Section 504 plans that school psychologists assisted with writing. Scheffé *post hoc* analyses revealed that the

differences were between New Jersey ($M = 2.9$) and New York ($M = 9.0$), where the mean difference of 6.1 was statistically significant ($p < .01$). These differences between states within this region may need to be considered when examining regional differences.

Results of the ANOVA revealed statistically significant differences between states within four regions (i.e., Mid Atlantic, South Atlantic, East North Central, West South Central) relative to the number of initial evaluations completed. Within the Mid Atlantic $F(2, 245) = 37.7, p < .01$ region the outlier appeared to be Pennsylvania, where respondents reported conducting significantly more initial evaluations. The mean response from Pennsylvania was different from New York ($p < .01$) by 28.8 mean evaluations, and different from New Jersey ($p < .01$) by 31.8 mean evaluations. Within the South Atlantic $F(8, 207) = 6.5, p < .01$, Florida appears to be the outlier with respondents reporting significantly more initial evaluations. The statistically significant mean differences were between Florida and Maryland ($M = 42.3, p < .01$), Florida and North Carolina ($M = 33.7, p < .01$), and Florida and Virginia ($M = 29.1, p < .01$). Within the East North Central $F(4, 212) = 7.6, p < .01$ region, Indiana appears to be the outlier with respondents reporting significantly more initial evaluations. The statistically significant mean differences were between Indiana and Illinois ($M = 36.9, p < .01$), Indiana and Ohio ($M = 27.4, p < .01$), and Indiana and Wisconsin ($M = 33.7, p < .01$). All of these differences should be taken into consideration when analyzing regional differences.

Result of the ANOVA based on the number of re-evaluations completed revealed statistically significant differences between states within the South Atlantic $F(8, 210) = 3.7, p < .01$ and West North Central $F(6, 81) = 4.3, p < .01$ regions. There were mean

differences of 28.9 between South Carolina and Florida ($p < .01$) and 30.0 between South Carolina and Georgia ($p < .01$). There was a mean difference of 69.6 between Iowa and South Dakota ($p < .01$).

Regional differences in professional practices related to special education.

Regional differences in professional practices related to special education were analyzed using analysis of variance (ANOVA) only because all variables related to research question two were continuous. The Scheffé *post hoc* procedure was conducted following each ANOVA to determine where the actual statistically significant differences were located. Prior to conducting all regional analyses, the distribution of means for each variable was examined by region to ensure approximately normal distributions (Appendix E).

ANOVA revealed that there were statistically significant regional differences in the mean number of Section 504 plans assisted with writing $F(8, 1159) = 3.45, p < .01$, the mean number of initial special education evaluations conducted $F(8, 1168) = 6.51, p < .01$, the mean number of re-evaluations conducted $F(8, 1175) = 11.62, p < .01$, and the mean percent of total time spent on special education activities $F(8, 1146) = 4.05, p < .01$. Effect sizes were computed for each statistically significant regional difference, and results indicated moderate effect sizes for regional differences based on the number of re-evaluations conducted ($\eta^2 = .10$). Multiple comparisons were computed for this variable to further explore this regional difference. Effect sizes for the remaining regional differences were small; therefore, multiple comparisons were not computed for these variables.

The Scheffé *post hoc* procedure was utilized for examining multiple comparisons to further explore the statistically significant regional differences. Cohen's effect size was calculated for each of the 36 possible multiple comparisons and those values are reported as well. Based on Cohen's effect sizes, values at or below .2 are considered small, values between .2 and .5 are considered moderate, and values at or above .8 are considered large. Only regional differences that were significant at the .01 level and had a moderate or large effect size are discussed. Results of the Scheffé *post hoc* procedure indicated the mean number of re-evaluations completed in the Mid Atlantic region was significantly lower than the East South Central ($d = -0.82$), East North Central ($d = -0.51$), Mountain ($d = -0.63$) and Pacific ($d = -0.61$) regions. The mean number of re-evaluations completed in the South Atlantic region was significantly lower than the East South Central ($d = -0.84$), East North Central ($d = -0.54$), Mountain ($d = -0.65$) and Pacific ($d = -0.64$) regions.

The database used for the current study included a question regarding respondents' actual caseloads measured by the ratio of students that respondents reported they served. Having access to these data made it possible to divide the professional practices variables (i.e., related to special education) by the actual number of students respondents reported serving. This newly calculated variable was analyzed by region to determine if regional differences existed for each of the professional practices related to special education variables (i.e., Section 504 plans assisted with writing, initial evaluations, re-evaluations, and percentage of total time spent on special education related activities). ANOVAs were conducted for each newly created variable to determine regional differences. Results of the ANOVAs conducted using the newly

created variables based on caseloads were similar, with slightly fewer statistically significant regional differences and small effect sizes.

Research question two investigated regional differences in professional practices related to special education. Results of the ANOVAs indicated statistically significant regional differences in the number of Section 504 plans assisted with writing, number of initial special education evaluations conducted, number of re-evaluations conducted, and percentage of total time spent on special education activities. However, only the regional differences in the number of re-evaluations conducted resulted in a moderate effect size, suggesting this statistically significant regional difference was moderate. Further exploration of the regional difference using *post hoc* procedures led to the realization that respondents residing in the Mid Atlantic and South Atlantic regions reported conducting significantly fewer re-evaluations than respondents from the East South Central, East North Central, Mountain, and Pacific regions. All of these statistically significant multiple comparisons were of moderate or large effect sizes, suggesting that these relationships are strong and significant.

Research Question Three

To what extent are there differences in professional practices related to direct and indirect services (e.g., number of students served through consultation, number of students served through individual counseling, number of students served through groups, number of student intervention groups conducted, number of in-service training programs delivered) for school psychologists across regions of the United States?

Based on the calculated Pearson correlation coefficients, correlations between the variables ranged from $r = 0.12$ to $r = 0.68$. The strongest correlation was between the

number of groups conducted and the number of students served in groups ($r = 0.68$). While highly correlated variables could suggest redundancy, for the purposes of this study it is important to look at these two variables separately. In the field of school psychology, it is of interest to professionals to distinguish between the number of separate groups conducted during the school year, as compared to the actual number of students served in groups. For example, one school psychologist might conduct two student groups per year with a total of 10 students served per group, for a total of 20 students served in groups. Another school psychologist might conduct 5 student groups per year with a total of 4 students served per group, resulting in the same total number of 20 students served in groups. Therefore, statistically, it might seem practical to combine these two highly correlated variables; however, combining these two variables would not make sense conceptually as they are measuring two distinct professional practice variables.

Descriptive statistics for professional practices related to direct and indirect services. Means and standard deviations for each variable associated with professional practices related to direct and indirect services for students are reported in Appendix F. Noteworthy trends will be discussed in the paragraphs that follow. The number of consultations completed ranged from 0 to 400, with a mean of 41.7 ($SD = 53.9$) and median of 25. The South Atlantic ($M = 57.3, SD = 81.6$) region was the region with the highest reported mean number of consultations completed, while the West North Central ($M = 31.6, SD = 46.2$) was the region with the lowest mean. The mean number of students individually counseled ranged from 0 to 200, with a mean of 10.0 ($SD = 17.4$) and a median of 4. Respondents in the Pacific region individually counseled the highest

mean number of students ($M = 14.5$, $SD = 23.1$), while the lowest mean number of students individually counseled was in the East South Central region ($M = 5.2$, $SD = 8.4$). The mean number of student groups conducted ranged from 0 to 40, with a mean of 1.7 ($SD = 3.7$) and a median of 0. The lowest mean number of student groups conducted was in the East South Central region ($M = .63$, $SD = 2.0$), while the highest mean number of student groups was in the Northeast region ($M = 3.6$, $SD = 4.8$). The number of students served in groups ranged from 0 to 200, with a mean of 8.9 ($SD = 20.8$) and a median of 0. The Northeast region ($M = 17.5$, $SD = 29.6$) indicated the highest mean number of students served in groups, while the lowest mean number was in the East South Central ($M = 4.6$, $SD = 15.2$) region. The mean number of in-service trainings provided ranged from 0 to 50, with a mean of 2.6 ($SD = 4.4$) and a median of 1. The highest mean number of in-service trainings provided was reported by the East South Central ($M = 4.8$, $SD = 6.0$) region, with the lowest mean number of trainings provided by respondents in the Northeast region ($M = 1.7$, $SD = 3.4$).

Preliminary analyses for professional practices related to direct and indirect services. Preliminary analyses were conducted to determine if there were significant differences in means between the states within each region relative to professional practice variables related to direct and indirect services. Means and standard deviations were considered along with ANOVA to determine if such differences existed and may have inadvertently skewed the regional data. There were no statistically significant differences between states within any of the regions relative to the number of students served in groups or the number of in-service trainings provided.

There were statistically significant differences found between states within the Mid Atlantic region relative to the number of students individually counseled $F(2, 1186) = 6.1, p < .01$, the number of consultations conducted $F(2, 6267) = 4.9, p < .01$, and the number of student groups conducted $F(2, 46) = 4.5, p < .01$. There was a difference of 7.3 ($p < .01$) between the means for New York and Pennsylvania for the number of students counseled. There was a statistically significant mean difference between New Jersey and Pennsylvania ($M = 19.3, p < .01$) for consultations conducted. There was a statistically significant ($F = 6.5, p < .01$) difference between states in the East South Central region related to the number of students counseled as well. Within the East South Central region, Alabama appears to be the outlier. However, this state only had a sample size of two and these two respondents may not be representative of others in the state of Alabama. This small sample size indicates that the mean for this region is likely unstable. In general, all differences between states within regions should be considered when drawing conclusions based on results of regional analyses conducted.

Regional differences in professional practices related to direct and indirect services. Regional differences in professional practices related to direct and indirect services were analyzed using analysis of variance (ANOVA) because all dependent variables related to research question three were continuous. The Scheffé *post hoc* procedure was conducted following the ANOVA to evaluate the statistical significance of the pairwise differences. Prior to conducting all regional analyses, the distribution of means for each variable was examined by region to ensure approximately normal distributions (Appendix G).

ANOVA revealed that there were statistically significant regional differences in the mean number consultations conducted $F(8, 1122) = 3.53, p < .01$, students individually counseled $F(8, 1169) = 3.55, p < .01$, number of student groups conducted $F(8, 1171) = 4.94, p < .01$, number of students served in groups $F(8, 1165) = 3.21, p < .01$, and the number of in-service trainings conducted $F(8, 1163) = 3.07, p < .01$. Effect sizes were computed for each statistically significant regional difference. Results indicated all effect sizes were small; therefore, multiple comparisons between regions were not computed for these variables.

Similar to research question two, these professional practices variables were recalculated by dividing each variable by the number of students that respondents reported serving. These newly calculated variables were analyzed to determine if regional differences existed related to each of the professional practices related to direct and indirect services variables (e.g., consultations, students individually counseled, etc.) based on responding school psychologists caseloads. ANOVA were conducted for each newly created variable to determine regional differences. Results of the ANOVA conducted using the newly created variables based on caseloads were similar, with slightly fewer statistically significant regional differences and all effect sizes were small.

Results of analyses conducted to explore regional differences in professional practices related to direct and indirect services with students indicated that while statistically significant regional differences existed, the effect sizes were small. Based on small effect sizes, additional multiple comparisons were not calculated as these regional differences were not considered strong.

Research Question Four

To what extent are there differences in employment conditions (e.g., percentage of students in the district who were ethnic minorities, percentage of ethnic minority students the responding school psychologist served, ratio of students to school psychologist for the district, ratio of students to school psychologist the responding school psychologist was responsible for serving, number of days in the contract, salary per diem, percentage of respondents who received administrative supervision, percentage of respondents who received clinical supervision, percentage of respondents whose clinical supervisor held a degree in school psychology) for school psychologists across regions of the United States?

In reviewing the relationships between the variables explored for the fourth research question, there were several statistically significant Pearson correlation coefficients. Although the correlations were statistically significant, many of the relationships were not strong. Correlations ranged from -0.336 ($p < .01$) to 0.90 ($p < .01$). Coincidentally, these two extremes were the only strong correlations and were to be expected. The percentage of ethnic minorities in the district was highly correlated with the percentage of ethnic minorities served by the responding school psychologists. While this correlation might suggest redundancy, both variables are particularly interesting to the field. For example, a responding school psychologist may be responsible for serving a particular ethnic minority group as their job description (e.g., bi-lingual school psychologist serving Hispanic students). For the purposes of this study, it is important to consider trends in these two variables separately as the two distinct variables are similarly related to ethnic minorities, yet measuring two unique areas related to ethnic minorities.

Descriptive statistics for employment conditions. Means and standard deviations for each variable associated with employment conditions are displayed in Appendix H. Noteworthy trends will be discussed in the paragraphs to follow. The percentage of students in the district who were ethnic minorities ranged from 0 to 100%, with a mean of 31.1 ($SD = 29.33$). The Pacific ($M = 43.6, SD = 28.9$) region was the region with the highest reported percentage of students who were ethnic minorities, while the lowest percentage was in the Northeast ($M = 17.7, SD = 24$) region. The percentage of students served who are ethnic minorities ranged from 0 to 100%, with a mean of 33.1 ($SD = 32.6$). The highest percentage reported was, again, the Pacific ($M = 45.7, SD = 32.3$) region, with the Northeast ($M = 17.6, SD = 27.4$) region reporting the lowest percentage. The ratio of students to school psychologists ranged from 0 to 8000, with a mean of 1,485.3 ($SD = 1033.2$). The lowest reported ratio was from the Northeast ($M = 911.23, SD = 899.1$) region, with the highest reported ratio from the East South Central ($M = 2,257.05, SD = 1389.1$). The ratio of students to school psychologists that was reflective of the respondents' actual caseloads ranged from 0 to 8,000, with a mean of 1,196 ($SD = 1046.7$). The lowest reported mean number of students served was 738.4 ($SD = 878.1$) in the Northeast region, while the highest mean number of students served came from the East South Central ($M = 1,908.3, SD = 1616.7$) region.

The number of days in a participant's contract ranged from 89 to 260, with an overall mean of 195.1 ($SD = 17.7$). The lowest mean number of days in a participant's contract was in the Northeast ($M = 185.9, SD = 10.6$) region, with the highest mean number of days was in the South Atlantic ($M = 208.4, SD = 21.1$) region. Lastly, per diem salaries ranged from a daily rate of \$128.00 to a daily rate of \$704.17, with a mean

of \$312.66 ($SD = 83.8$). The highest mean daily rate was reported in the Mid Atlantic ($M = \$353.41$, $SD = 103.9$), and the lowest mean daily rate was reported in the West South Central ($M = \$247.13$, $SD = 38.9$).

Preliminary analyses related to employment conditions. Preliminary analyses were conducted to determine if there were significant differences in means between the states within each region relative to variables regarding employment conditions. Means and standard deviations were considered along with ANOVA to determine if such differences existed and might inadvertently skew the regional data. Relative to the percentage of students in the district who are considered ethnic minorities, there were statistically significant differences among the states within the East North Central region $F(3, 36) = 6.3$, $p < .01$ and the Mountain region $F(7, 86) = 4.0$, $p < .01$. Although statistically significant differences existed, there were no statistically significant pairwise comparisons for the East North Central or Mountain regions.

Relative to the percentage of ethnic minority students served by responding school psychologists, there were statistically significant differences between states within the East South Central region $F(3, 134) = 10.4$, $p < .01$, Mountain region $F(7, 89) = 6.3$, $p < .01$, and the Pacific region $F(4, 115) = 9.3$, $p < .01$. Within the East South Central region, Mississippi appeared to be consistently higher than the remaining three states (i.e., Alabama, Kentucky, and Tennessee). In addition, respondents from Tennessee also indicated significantly higher percentages of ethnic minority students served when compared to Alabama. Within the Mountain region, New Mexico appeared to be the outlier, with respondents indicating significantly higher percentages of ethnic minority students served compared to Colorado, Idaho, Montana, and Wyoming. There were no

pairwise comparisons made within the Pacific region due to low sample size within one of the states.

Relative to the ratio of students to school psychologist in the district, there were statistically significant differences between states within the Mid Atlantic region $F(2, 206) = 55.8, p < .01$, South Atlantic $F(8, 166) = 3.7, p < .01$, East South Central $F(3, 37) = 4.6, p < .01$, East North Central region $F(4, 186) = 3.8, p < .01$, Mountain region $F(7, 84) = 3.6, p < .01$, and the Pacific region $F(4, 107) = 7.0, p < .01$. There were no statistically significant pairwise comparisons within the South Atlantic and Pacific regions due to low sample size within one of the states. Within the Mid Atlantic region, respondents from Pennsylvania reported significantly higher ratios compared to respondents in New York and New Jersey. Within the East South Central region, respondents from Mississippi reported significantly higher ratios than respondents in Kentucky and Tennessee. Within the East North Central region, respondents in Indiana reported significantly higher ratios than respondents in Wisconsin. Finally, within the Mountain region, respondents in Utah reported higher ratios than those in Arizona and Colorado.

In terms of the ratio of school psychologist to students based on respondents actual caseload, there were statistically significant differences between states within the Mid Atlantic $F(2, 218) = 92.3, p < .01$, South Atlantic $F(8, 186) = 5.7, p < .01$, East South Central $F(3, 125) = 19.0, p < .01$, West South Central $F(3, 40) = 7.2, p < .01$, Mountain $F(7, 89) = 3.1, p < .01$, and Pacific regions $F(4, 107) = 3.9, p < .01$. Within the Mid Atlantic region, all three states were significantly different. Respondents from Pennsylvania reported significantly higher ratios of students served compared to New

York and New Jersey, while respondents from New York also reported higher ratios served than those in New Jersey. Within the South Atlantic region, respondents from Georgia reported significantly higher ratios than those in Delaware, North Carolina, and Virginia. Within the East South Central region, respondents residing in Mississippi reported higher ratios of students served compared to all other states (i.e., Alabama, Kentucky, and Tennessee), while those in Alabama reported significantly lower ratios served compared to Kentucky and Tennessee. Within the West South Central region, respondents in Oklahoma reported higher ratios than those residing in Arkansas and Texas. Finally, there were no statistically significant pairwise comparisons within the Mountain and Pacific regions.

Preliminary analyses related to the number of days in the respondents contract revealed statistically significant differences between states within the Mid Atlantic $F(2, 237) = 25.4, p < .01$, South Atlantic $F(8, 172) = 3.8, p < .01$, East South Central $F(3, 144) = 22.4, p < .01$, East North Central region $F(4, 210) = 15.6, p < .01$, West South Central $F(3, 50) = 6.8, p < .01$, West North Central $F(6, 83) = 4.4, p < .01$, and Mountain regions $F(7, 91) = 3.0, p < .01$. There were statistically significant differences between states in terms of per diem salary for the Mid Atlantic $F(2, 231) = 7.5, p < .01$, South Atlantic $F(8, 168) = 5.8, p \leq .01$, East North Central region $F(4, 208) = 4.5, p \leq .01$, and Pacific regions $F(4, 119) = 13.9, p < .01$. There were no statistically significant pairwise comparisons within the Pacific region. Within the Mid Atlantic region, respondents from Pennsylvania reported significantly lower *per diem* salaries than those in New York and New Jersey. Within the South Atlantic region, respondents in Florida reported significantly lower *per diem* salaries than those residing in Maryland. Within the East

North Central region, respondents in Illinois reported significantly higher *per diem* salaries than those residing in Wisconsin.

Regional differences in employment practices. Regional differences in employment conditions were analyzed using analysis of variance (ANOVA) for continuous variables and chi-square analyses for categorical variables. The Scheffé *post hoc* procedure was conducted following each ANOVA to compare pairwise differences between the regions. Prior to conducting all regional analyses, the distribution of scores for each variable was examined by region to ensure approximately normal distributions (Appendix I).

ANOVA revealed that there were statistically significant regional differences in the mean percentage of students who were ethnic minorities for the district $F(8, 1052) = 14.0, p < .01$, the mean percentage of students served who are ethnic minorities $F(8, 1071) = 13.5, p < .01$, the mean ratio of school psychologist to students for the district $F(8, 999) = 21.5, p < .01$, the mean ratio of school psychologist to students based on respondents' caseloads $F(8, 1032) = 19.3, p < .01$, the mean number of days in work contracts $F(8, 1116) = 25.2, p < .01$, and the mean salary calculated as a *per diem* $F(8, 1092) = 27.4, p < .01$. Effect sizes were computed for each statistically significant regional difference, and results indicated moderate effect sizes for regional differences based on percentage of students who were ethnic minorities for the district ($\eta^2 = .10$), percentage of students served who are ethnic minorities ($\eta^2 = .10$), ratio of school psychologist to students for the district ($\eta^2 = .15$), ratio of school psychologist to students based on respondents' caseloads ($\eta^2 = .13$), number of days in work ($\eta^2 = .15$), and per

diem ($\eta^2 = .17$). Multiple comparisons were computed for these variables to further explore the statistically significant regional differences.

The Scheffé *post hoc* procedure was utilized for examining multiple comparisons to further explore the statistically significant regional differences. Cohen's effect size was calculated for each of the 36 possible multiple comparisons and those values are reported as well. Only regional differences that were significant at the .01 level and had a moderate or large effect size are discussed. Based on results of the Scheffé procedure, respondents in the Northeast region reported significantly lower percentages of students who are ethnic minorities than those in the West South Central ($d = -0.91$) and Mountain ($d = -0.70$) regions. Respondents in the South Atlantic region indicated significantly higher percentages of students who are ethnic minorities (i.e., in the district) than those in the Northeast ($d = 0.97$), Mid Atlantic ($d = 0.50$), East North Central ($d = 0.66$), and West North Central ($d = 0.97$) regions. Finally, respondents in the Pacific region reported significantly higher percentages of students who are ethnic minorities than those in the Northeast ($d = 0.97$), Mid Atlantic ($d = 0.52$), East North Central ($d = 0.68$), and West North Central ($d = 0.97$), regions.

In terms of the percentage of students served who are ethnic minorities, respondents in the South Atlantic region reported significantly higher percentages of students served who are ethnic minorities than those in the Northeast ($d = 0.93$), Mid Atlantic ($d = 0.50$), East North Central ($d = 0.60$), and West North Central ($d = 0.94$) regions. Respondents in the Mountain region reported significantly higher percentages of students served who are ethnic minorities than those in the Northeast ($d = 0.68$) region. Finally, respondents in the Pacific region reported significantly higher percentages of

students served who are ethnic minorities than those in the Northeast ($d = 0.93$), Mid Atlantic ($d = 0.50$), East North Central ($d = 0.59$), and West North Central ($d = 0.95$) regions.

Scheffé *post hoc* procedures revealed significantly lower ratios of school psychologists to students (i.e., for the district) in the Northeast region compared to the South Atlantic ($d = -1.14$), East South Central ($d = -1.26$), East North Central ($d = -0.64$), West South Central ($d = -0.92$), and Pacific ($d = -0.81$) regions. Respondents in the Mid Atlantic region reported significantly lower ratios than those residing in the South Atlantic ($d = -1.11$), East South Central ($d = -1.34$), East North Central ($d = -0.58$), West South Central ($d = -0.98$), and Pacific ($d = -0.73$) regions. Respondents in the East North Central region reported lower ratios than those in the South Atlantic ($d = -0.48$) and East South Central ($d = -0.68$) regions. Respondents in the West North Central region reported lower ratios than those in the South Atlantic ($d = -0.63$) and East South Central ($d = -0.82$) regions. Finally, respondents in the Mountain region reported lower ratios of school psychologists to students (i.e., for the district) than those residing in the South Atlantic ($d = -0.60$) region.

The Scheffé *post hoc* procedure revealed that relative to the ratio of school psychologist to students based on respondents' caseloads, respondents in the Northeast regions reported significantly lower ratios than those residing in the South Atlantic ($d = -0.97$), East South Central ($d = -1.07$), East North Central ($d = -0.58$), and Pacific ($d = -0.64$) regions. Respondents in the Mid Atlantic region also reported significantly lower ratios (i.e., based on actual caseloads) than those in the East South Central ($d = -1.34$), East North Central ($d = -0.65$), and Pacific ($d = -0.73$) regions. Finally, respondents in

the South Atlantic reported significantly higher ratios than those in the Northeast ($d = 0.97$), Mid Atlantic ($d = 1.09$), and Mountain ($d = 0.68$) regions.

When further analyzing the regional differences related to number of days in respondents' contracts, respondents in the Northeast region reported significantly shorter contracts (i.e., fewer number of work days) than those in the East South Central ($d = -1.42$), East North Central ($d = -0.60$), and West South Central ($d = -1.11$) regions. Respondents in the Mid Atlantic region reported significantly shorter contracts than those in the East South Central ($d = -0.79$) and West South Central ($d = -0.63$) regions. Finally, participants living in the South Atlantic region reported significantly longer contracts than those residing in the Northeast ($d = 1.26$), Mid Atlantic ($d = 0.99$), East North Central ($d = 0.68$), West North Central ($d = 0.94$), Mountain ($d = 0.81$), and Pacific ($d = 0.79$) regions.

Finally, *post hoc* procedures revealed regional differences relative to salary *per diem* (i.e., calculated as a daily rate of pay), indicating that respondents in the Northeast region earned significantly higher salaries *per diem* than those in the South Atlantic ($d = 0.88$), East South Central ($d = 1.23$), West South Central ($d = 1.49$), West North Central ($d = 1.15$), and Mountain ($d = 0.82$) regions. Respondents in the Mid Atlantic region reported higher salaries *per diem* than those in the South Atlantic ($d = 0.80$), East South Central ($d = 0.96$), West South Central ($d = 1.11$), West North Central ($d = 0.91$), and Mountain ($d = 0.71$) regions. Respondents in the East North Central region reported significantly higher salaries *per diem* than those residing in the West South Central ($d = 0.92$) and West North Central ($d = 0.64$) regions. Lastly, respondents in the Pacific region reported significantly higher salaries *per diem* than those in the South Atlantic ($d =$

0.89), East South Central ($d = 1.24$), West South Central ($d = 1.50$), West North Central ($d = 1.16$), and Mountain ($d = 0.83$) regions.

Chi-square analyses were conducted to analyze regional differences relative to categorical variables. Based on the chi-square analyses, there were regional differences among responding school psychologists with respect to percentage of respondents who received administrative supervision, $\chi^2(8, N = 1184) = 20.20, p < .01$, the percentage of respondents who received clinical supervision $\chi^2(8, N = 1181) = 60.25, p < .01$, and the percentage of respondents whose clinical supervisor held a degree in school psychology $\chi^2(8, N = 1181) = 28.78, p < .01$. Effect sizes were computed for each statistically significant regional difference using Cramer's V , and results indicated moderate effect sizes for regional differences based on the percentage of respondents who received clinical supervision ($V = .23$). Multiple comparisons were computed for this variable to further explore the regional differences. Effect sizes for the remaining regional differences were small; therefore, multiple comparisons were not computed.

Using the Cox and Key (1993) method of multiple comparisons, the regional differences in clinical supervision were further explored. Based on results of the multiple comparisons, a higher percentage of respondents in the Northeast region reported receiving clinical supervision compared with all other regions. Higher percentages of respondents in the East South Central region reported receiving clinical supervision compared with those in the Pacific region.

Research question four explored regional differences in employment conditions of school psychologists. Statistically significant regional differences were discovered with moderate to large effect sizes related to the percentage of students who were ethnic

minorities for the district, percentage of students served who were ethnic minorities, ratio of school psychologist to students for the district, ratio of school psychologist to students based on respondents' caseloads, number of days in work, *per diem*, and the percentage of respondents who reported that they received clinical supervision. Multiple comparisons were computed to further explore all of these strong, statistically significant regional differences and to look at trends.

CHAPTER FIVE

Discussion

The present study examined differences in demographic characteristics, professional practices related to special education, professional practices related to direct and indirect services with students, and employment conditions of school psychologists across the nine United States census regions. While this study is descriptive in nature, it is a comprehensive study that encompasses a number of variables. The following discussion addresses the findings of this study that are statistically and practically significant relative to regional differences in the field of school psychology. Additionally, the implications of these findings with regard to school psychologists and future research are discussed.

Research Implications

Regional Differences in Demographic Characteristics

Research articles have discussed the “graying of the profession” for a number of years as the average age of school psychologists has increased significantly over time (Curtis et al., 2003). Between the 1980-1981 school year and the 1999-2000 school year, the average age of school psychologists increased from 38.8 to 45.2 (Curtis et al., 2002; Smith, 1984). The database used in the present study supports this trend as the average age of responding school psychologists was 46.2 years during the 2004-2005 school year (Curtis et al., 2008). One cannot accurately predict retirement based on age, but it is safe

to assume that those older in age may be closer to retirement than those who are much younger. Years of experience may be a better predictor of school psychologists being near retirement, because some may enter the field at an older age. However, there were no significant regional differences relative to years of experience in school psychology. In examining trends in the field, the average age of school psychologists has increased consistently over time (Smith, 1984; Curtis et al., 2002; Curtis et al., 2008).

Results indicated that there were statistically significant regional differences in gender, ethnicity, highest degree earned, national certification, licensure, state certification, and membership in the state psychological association. Research dated back to the 1969-1970 school year indicates that the percentage of males in the field of school psychology has decreased from 59% (Farling & Hoedt, 1971) to 30% in 1999-2000 (Curtis et al., 2002). The database used for the present study (i.e., based on the 2004-2005 school year) indicated only 26% of responding school psychologists were males, which supports the continuation of this trend (Curtis et al., 2008). This study supports the literature that there is a feminization of the field, and further adds that there are regions where this feminization is more apparent. For example, in the South Atlantic region and West North Central regions, 80% of respondents were females, whereas only 58% of respondents in the Mountain region were females.

Over the course of almost two decades, there has been little change in the percentage of school psychologists who are reportedly members of minority groups. Specifically, the percentage of school psychologists who were members of minority groups increased from 6.1% during the 1989-1990 school year (Graden & Curtis, 1991) to 7.2% during the 1999-2000 school year (Curtis et al., 2002). The 2004-2005 database

indicates that there has been no improvement in terms of better representation of minority groups in the field of school psychology based on responding school psychologists. The present study revealed that the field continues to consist of primarily Caucasian school psychologists.

The literature indicates that the level of preparation based on highest degree earned has changed over the years. During the 1969-1970 school year 93% of school psychologists involved in a study conducted by Farling and Hoedt (1971) held a master's degree as their highest degree earned. The level of preparation has shifted rather dramatically. According to the database used for the present study, only 16.9% of respondents held a master's degree, while 38.5% held a specialist degree and 44.6% held a doctoral degree. The 2004-2005 database supports past findings and trends that suggest a decrease in the percentage of master's level school psychologists, and an increase in the percentage of specialist and doctoral level school psychologists (Curtis et al., 2008). Furthermore, results of the present study revealed that there are strong, statistically significant regional differences in school psychologists' highest degree earned, as well as licensure that allows for independent practice in non-school settings.

Specifically, respondents in the South Atlantic region reported the highest percentage of respondents with a specialist degree, while respondents in the Pacific region reported the lowest percentages of specialist degrees. Respondents in the West South Central region reported significantly higher percentages of respondents with a doctoral degree than those in the Northeast and South Atlantic regions. Respondents in the West North Central and West South Central regions reported significantly lower

percentages of respondents with licensure that allows for independent practice in non school settings.

Regional Differences in Professional Practices Related to Special Education

Professional practices of school psychologists have been reviewed in the literature for years. For three decades, researchers have discussed the discrepancies between psychological services that emphasize traditional special education related activities and psychological services that emphasize consultation and intervention-based activities (Curtis et al., 1999; Curtis et al., 2002; Meacham & Peckham, 1978; Smith, 1984). Until recently (Abshier, Curtis, & Grier, 2003; Hosp & Reschly, 2002), professional practices related to special education have not been examined regionally. Results of the 2004-2005 database were consistent with many findings of the study conducted by Abshier et al. (2003). For example, Abshier et al. (2003) and results of the 2004-2005 database consistently revealed that respondents in the East South Central region completed the highest number of initial evaluations and re-evaluations across the 1999-2000 and 2004-2005 school years. Hosp and Reschly (2002) examined a few variables similar to the professional practices variables related to special education that were used in the present study. However, due to the differences in variables used, it would be difficult to make comparisons between the Hosp and Reschly (2002) database and the 2004-2005 database used for the present study. Results based on the 2004-2005 database revealed a strong, statistically significant regional difference in the number of re-evaluations completed. Specifically, respondents in the Mid Atlantic and South Atlantic regions reported conducting significantly fewer re-evaluations than respondents from the East South Central, East North Central, Mountain, and Pacific regions. This finding is important to

the field of school psychology and further research could be conducted to better understand the basis for these regional differences.

Regional Differences in Professional Practices Related to Direct and Indirect Services with Students

The present study adds to the literature because the study of regional differences in professional practices variables related to direct and indirect services with students is extremely limited to date. Hosp and Reschly (2002) included similar variables (e.g., problem solving consultation, direct interventions, systems/organizational consultation, research/evaluation) in their study. Due to the differences in variables examined, true comparisons cannot be made between the Hosp and Reschly (2002) study and the present study. Based on data from the 1999-2000 school year, Abshier et al. (2003) examined many of the same professional practices variables related to direct and indirect services (i.e., with the exception of the number of students served in groups), and some comparisons could be made between the two studies. There were a few similar regional trends. For example, respondents from the South Atlantic region consistently reported the highest number of consultations (i.e., for the 1999-2000 and 2004-2005 school years). Also, respondents in the Northeast region consistently reported the highest number of student groups conducted. Knowing these trends and further examining the regional differences is important as these professional practice variables are all related to important practices in the field of school psychology. If the same regional trends continue, it would be important to further examine these areas and other variables to understand why psychologists in some regions are more likely to be involved in the provision of these direct and indirect psychological services with students.

Regional Differences Related to Employment Conditions

The present study included variables related to employment conditions that have not been examined before in a regional study. For example, the inclusion of variables related to administrative and clinical supervision is new to the literature. Hosp and Reschly (2002) examined regional differences in school psychologist to student ratios and annual salaries; however, the present study expanded on these variables as well. The present study added to the examination of ratios (i.e., of students to school psychologists) to include ratios based on actual caseloads. Annual salary was examined more closely by calculating salaries as a daily rate of pay (i.e., *per diem*) based on the annual salary respondents reported divided by the number of days in respondents' contracts (i.e., as reported by respondents). These two methods of examining common variables (e.g., salary and ratios) led to a more accurate understanding of the data. For example, comparing the ratio based on respondents' reporting of district figures (e.g., total number of students divided by total number of school psychologists) may be different than comparing the responding school psychologists' ratios based on the number of students served. Furthermore, an annual salary of \$50,000 may be quite different if one professional works 196 days and another works 260 days. Additionally, the present study included not only the percentage of students who are ethnic minorities for the entire district, but also the percentage of students who are ethnic minorities that responding school psychologists actually served as part of their caseload assignment. The expansion of common variables (e.g., salary) and the inclusion of new variables (e.g., supervision) adds to the body of literature, and examining regional trends relative to these variables is important to the field.

Results of the present study indicated that respondents in the Northeast region reported significantly lower percentages of students who were members of ethnic minority groups in the district and based on responding school psychologists' caseloads. Respondents in the South Atlantic and Pacific regions consistently reported the highest percentages of students who were members of ethnic minority groups in the district and on based responding school psychologists' caseloads. In reviewing regional differences in ratios of students to school psychologists, respondents in the Northeast and Mid Atlantic regions reported the lowest ratios for the district and based on respondents' caseloads. Respondents in the South Atlantic and East South Central consistently reported higher ratios of students to school psychologists for the district and based on caseloads. Respondents in the Northeast and Mid Atlantic regions reported significantly shorter contracts and the higher salaries compared with many other regions. Respondents in the Northeast region also reported higher percentages of respondents who received clinical supervision compared with every other region. While there are many trends related to respondents in the Northeast region (e.g., fewer ethnic minority students, lower ratios of students to school psychologists, shorter contracts, higher salaries, and more clinical supervision), it is important to note that there are regional differences that would be expected. For instance, one would expect the salary to be higher in the Northeast region because the cost of living is also much higher in the Northeast compared with other regions.

Implications for the Field of School Psychology

There are regions in which the average age of school psychologists is increasing more rapidly, along with the average number of years of experience in the field. Results

of the current study revealed these trends along with regional differences. Perhaps recruitment strategies could be used to target such regions, and concentrated effort could be made to recruit and retain school psychologists who are members of ethnic minority groups to provide better representation of these minority groups in the field of school psychology.

The NASP provides regional trainings annually to ensure professional development opportunities for school psychologists across the United States. Results of the current study may be helpful in understanding the professional development needs of school psychologists based on trends in current professional practices related to both special education and direct and indirect services with students. Regions where respondents reported spending higher amounts of time on special education related activities (e.g., higher percentage of time on assessment, increased number of initial or re-evaluations, etc.) may benefit from professional development offerings related to direct and indirect services with students (e.g., response to intervention and problem-solving processes). There may also be a need for further examination of why there are differences in professional practices as there could be an underlying systemic problem that needs to be addressed.

Limitations of the Present Study

The present study consisted of analyses of pre-existing data collected via a survey of school psychologists who were members of the NASP for the purpose of answering specific research questions. In general, there are several limitations related to survey research that must be considered when reviewing results of the current study. These limitations include low response rates, problems with the wording of survey items, and

difficulty generalizing results obtained from the sample of participants to the desired population (e.g., sampling members of the NASP as a basis for drawing conclusions about all school psychologists in the United States).

The national database used in this study was created based on the judgment that the best method to obtain data from a large sample of school psychologists was via survey and that Regular members of the NASP constituted a reasonable representation of the field as a whole, and were readily available. As noted earlier, Fagan and Wise (2007) contend that the membership of NASP includes approximately 70% of all school psychologists in the United States and, therefore, provides for strong representation of the entire field. In addition, the database used in the current study was created based on surveys completed and returned by 59.3% of the school psychologists sampled, a respectable response rate. Consequently, while the results may not be directly generalizable to school psychologists in the field who were not part of this study, the benefits of surveying NASP members given its representation of the field, and the strong response rate, outweigh the limitation relative to these issues.

The survey instrument itself has remained highly consistent over the years, reflecting only minor changes in wording and/or in the addition or deletion of a very small number of items. The survey procedure used to create the 2004-2005 database was the fourth conducted over the years (i.e., Graden & Curtis, 1991; Curtis et al., 1999; Curtis et al., 2002); only minor adjustments were made in the survey content for purposes of clarification and/or to add information to the database, which lends integrity to the survey instrument. For the purposes of the current study, conducting secondary analyses utilizing this existing database was considered appropriate.

There are many variables included in the present study in which measures could be taken to gather more accurate data. Such measures may include collecting data regarding student to school psychologist ratios by gathering these numbers from the school districts within each state. For example, obtaining a total number of school psychologists for the district and total number of students enrolled in the district and aggregating all of these data might result in a more accurate reporting of this ratio. For the purposes of the present study, survey data were used to measure this variable. This seems appropriate because studies conducted to date have utilized the same survey techniques for obtaining these data; therefore, data and results of the present study are comparable to those in the literature (Curtis et al., 1999; Curtis et al., 2002; Graden & Curtis, 1991; Hosp & Reschly, 2002; Lund et al., 1998; Worrell et al., 2006).

Implications for Future Research

Each of the research questions included in the present study could be expanded and developed into numerous individual studies. The present study is broad and includes a number of variables that encompass demographic information, professional practices related to special education, professional practices related to direct and indirect services with students, and employment conditions. The purpose of the database used for the present study is to provide a broad picture of the field on a national level. A better understanding of factors (e.g., beliefs of school psychologists, content of professional training, etc.) could be obtained relating to some of the issues identified (e.g., differences in the number of re-evaluations conducted) by examining these variables through additional in-depth research. Future research could be conducted across all four categories of variables.

Research could be conducted expanding the literature to better understand the disparity between students in school psychology graduate training programs who are ethnic minorities and school psychologists in the field who are ethnic minorities. Curtis et al. (2003) recommend research questions that might examine inaccurate reporting of data, as well as why school psychologists who are ethnic minorities might leave the field of school psychology at different rates than their non-minority counterparts. This is definitely an area that needs to be further explored.

While the sample size for the present study is large ($N = 1,748$), perhaps efforts could be made to increase the sample size in hopes of better representation of respondents from the states within regions. Along with increasing the representation from states that are typically underrepresented, perhaps measures could be taken to consider the number of Regular members of the NASP who actually reside in each state and ensure that all states are proportionately represented so that all regions include balanced samples from each state.

Additional research should be conducted to replicate the findings of the present study. Fortunately, the NASP has mandated that every five years Regular members of the NASP will be surveyed to collect this data. In following this policy, it is important that regional differences are compared every five years as well. This will inform the field of not only important information about school psychology as a whole, but also regarding trends in regional differences. Regional differences based on the NASP national database were first conducted in 2003 (Abshier et al., 2003) based on the 1999-2000 school year. These analyses should be continued in future research.

Survey data are based on self report and relies on honest reporting of data from responding school psychologists. Perhaps there are measures that could be taken to check the accuracy of the data, or even add to the database by collecting data from school districts and/or states to compile into the database. For example, when comparing ratios of school psychologists to students, this could possibly be gathered by collecting data from each district regarding the number of school psychologists hired and the total number of students enrolled in the district. While this would be a huge undertaking, if the focus of the study was to examine ratios, taking these additional measures may result in a more accurate and complete database. The same is true for salaries, as human resources departments would have access to the number of days in contracts and annual salaries for school psychologists. Data regarding the number of initial evaluations and re-evaluations could likely be gathered from the Director of Psychological Services in most districts as well.

Conclusions

It is important and of interest in the field of school psychology to report descriptive data regarding the demographic characteristics of school psychologists, professional practices related to special education, professional practices related to direct and indirect services with students, and the employment conditions of school psychologists. Examining regional differences across these variables over time adds to the literature and helps to better understand trends in the field of school psychology across the United States.

Due to the large number of variables included in the current study, it was important to narrow the focus to regional differences that were both statistically

significant and with moderate or large effect sizes. Based on these parameters, there were strong, statistically significant regional differences in highest degree earned, licensure that allows for independent practice in non-school settings, the number of re-evaluations conducted, the percentage of students who were ethnic minorities for the district, the percentage of students served who were ethnic minorities, the ratio of school psychologists to students, the ratio of school psychologists to students based on caseload, the number of days in respondents' work contracts, and salary calculated as *per diem*. There were interesting trends and similarities among some of the regional differences. The majority of the strong, statistically significant regional differences were among the variables related to employment conditions.

The trends were identical when comparing regional differences in the percentage of students who were ethnic minorities in the district and the percentage of students served who were ethnic minorities. For both variables, respondents reported significantly higher percentages of ethnic minorities (i.e., in the district and served) in the South Atlantic, West South Central, Mountain and Pacific regions. There were some similarities in trends for both variables related to ratios (i.e., school psychologist to students for district and caseload). Respondents in the Northeast and Mid Atlantic regions tended to report lower ratios, whereas respondents in the South Atlantic tended to report higher ratios. In general, respondents residing in the Northeast and Mid Atlantic regions worked fewer days (i.e., shorter contracts) and earned higher salaries (i.e., per diem). Respondents in the South Atlantic worked more days (i.e., longer contracts) and earned lower salaries (i.e., per diem). Respondents in the East North Central and Pacific regions also reported better pay compared with the remaining regions.

It is important to further analyze regional differences and trends related to the variables of interest to the current study. The dissemination of these results will add to the literature, support trends in the current literature, and provide useful information relative to the field of school psychology. We are experiencing a significant shortage of professionals in the field of school psychology, there are paradigm shifts in education, there are changes in service delivery models for school psychological services, differing ratios of school psychologists to students, limited diversity in the ethnicity of school psychologists, and differences in school psychologists' contracts and salaries. Being cognizant of all of the changes in motion, there is a wealth of information provided by the current study that would be beneficial and could serve as a foundation or stimulus for future research.

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Appendices

Appendix A: Table 6

Responses by Regions

Region (and states)	N	%
Northeast (NE)	160	9.3
Connecticut	59	3.4
Maine	16	0.9
Massachusetts	56	3.2
New Hampshire	15	0.9
Rhode Island	7	0.4
Vermont	7	0.4
Mid Atlantic (MA)	353	20.5
New Jersey	78	4.5
New York	167	9.6
Pennsylvania	108	6.2
South Atlantic (SA)	308	17.8
Delaware	7	0.4
Florida	80	4.6
Georgia	42	2.4
Maryland	48	2.8
North Carolina	35	2.0
South Carolina	22	1.3
Virginia	60	3.5

Appendix A: Table 6 - continued

Responses by Regions

Region (and states)	N	%
South Atlantic (continued)		
Washington, D.C.	9	0.5
West Virginia	5	0.3
East South Central (ESC)	65	3.8
Alabama	5	0.3
Kentucky	21	1.2
Mississippi	7	0.4
Tennessee	32	1.8
East North Central (ENC)	303	17.6
Illinois	92	5.3
Indiana	29	1.7
Michigan	43	2.5
Ohio	97	5.6
Wisconsin	42	2.4
West South Central (WSC)	97	5.6
Arkansas	9	0.5
Louisiana	21	1.2
Oklahoma	13	1.7
Texas	54	3.1

Appendix A: Table 6 - continued

Responses by Regions

Region (and states)	N	%
West North Central (WNC)	131	7.6
Iowa	23	1.3
Kansas	21	1.2
Minnesota	37	2.1
Missouri	22	1.3
Nebraska	21	1.2
North Dakota	5	0.3
South Dakota	2	0.1
Mountain (Mtn)	137	7.9
Arizona	48	2.8
Colorado	38	2.2
Idaho	8	0.5
Montana	7	0.4
Nevada	12	0.7
New Mexico	7	0.4
Utah	10	0.6
Wyoming	7	0.4

Appendix A: Table 6 - continued

Responses by Regions

Region (and states)	N	%
Pacific (Pac)	172	10.0
Alaska	9	0.5
California	117	6.7
Hawaii	2	0.1
Oregon	14	0.8
Washington	39	2.2

Appendix B: Table 7

Descriptive Statistics Related to Demographic Characteristics by Region

Variable	NE	MA	SA	ESC	ENC	WSC	WNC	Mtn	Pac
Gender (%)									
Female	68.6	71.7	80.5	72.3	76.2	77.3	80.2	58.4	73.8
Ethnicity (%)									
AA	0.7	3.2	4.0	1.6	1.7	1.1	0	0	1.2
C	91.5	91.9	91.7	96.9	95.0	93.6	98.4	90.8	88.8
AI/AN	0.7	0.6	0.3	1.6	0.3	1.1	0.8	2.3	1.8
API	1.3	0.6	0.3	0	1.3	1.1	0.8	2.3	1.2
H	2.6	3.5	3.3	0	1.3	3.2	0	3.1	5.9
O	3.3	0.3	0.3	0	0.3	0	0	1.5	1.2

Appendix B: Table 7 – continued

Descriptive Statistics Related to Demographic Characteristics by Region

Variable	NE	MA	SA	ESC	ENC	WSC	WNC	Mtn	Pac
Degree (%)									
Bachelors	0	0	0.3	0	0	0	0	0	0
Masters	24.2	33.8	16.6	16.9	43.2	34.0	29.8	24.1	62.8
Ed.S.	45.2	29.3	52.6	38.5	30.4	17.5	45.8	35.8	13.4
Ph.D.	30.6	36.9	30.5	44.6	26.4	48.5	24.4	40.1	23.8
NCSP (%)	51.3	65.2	40.9	33.8	45.4	42.3	48.9	47.4	61.0
Certnon (%)	32.6	24.6	10.1	11.3	22.2	5.2	16.2	19.7	14.1
Licnon (%)	77.0	77.5	73.8	84.8	57.2	42.0	33.3	54.2	70.0
Memstate (%)	69.4	61.5	72.4	78.5	76.9	76.3	65.6	76.6	79.1

Appendix B: Table 7 – continued

Descriptive Statistics Related to Demographic Characteristics by Region

Variable		NE	MA	SA	ESC	ENC	WSC	WNC	Mtn	Pac
Age	M	47.8	44.4	46.8	45.9	45.5	49.3	44.8	48.1	46.0
	SD	(10.1)	(11.0)	(11.0)	(10.6)	(11.1)	(10.3)	(10.7)	(10.5)	(10.5)
Exppsy	M	15.7	13.8	14.7	15.9	15.4	15.6	14.3	14.9	13.8
	SD	(9.7)	(9.5)	(9.1)	(9.4)	(9.8)	(9.0)	(9.2)	(9.6)	(9.3)
Expteac	M	2.9	2.0	2.5	1.5	1.5	2.2	1.6	2.4	2.1
	SD	(5.3)	(4.6)	(5.3)	(3.0)	(3.5)	(4.8)	(4.2)	(4.6)	(3.9)
Prior	M	65.0	67.0	66.7	69.3	66.5	70.5	66.9	68.4	64.3
	SD	(23.2)	(24.7)	(24.8)	(30.9)	(25.7)	(32.3)	(25.2)	(28.2)	(31.3)

Appendix B: Table 7 – continued

Descriptive Statistics Related to Demographic Characteristics by Region

Notes. AA = African America; C = Caucasian; AI/AN = American Indian/Alaska Native; API = Asian American/Pacific Islanders; H = Hispanic; O = other ethnicities; Ed.S. = education specialist degree; Ph.D. = doctoral degree; NCSP = Nationally Certified School Psychologist; certnon = certification that allows for independent practice in non-school settings; licnon = licensure that allows for independent practice in non-school settings; memstate = membership in a state school psychology association; M = mean; SD = standard deviation; Exppsy = years of experience as a school psychologist; Expteac = years of experience in teaching; prior = number of graduate credit hours obtained prior to entry into the field of school psychology.

Appendix C: Table 8

Distribution of Means for Demographic Variables by Region

Variable		NE	MA	SA	ESC	ENC	WSC	WNC	Mtn	Pac
Age	n	159	348	307	65	301	97	131	136	177
	sk	-0.13	0.06	-0.28	-0.44	-0.23	-0.46	-0.24	-0.64	-0.18
	k	-0.41	-1.02	-1.08	-1.13	-1.18	-0.66	-1.14	-0.77	-0.90
Exppsy	n	160	352	306	65	302	95	130	137	180
	sk	0.37	0.52	0.28	0.07	0.30	-0.01	0.29	0.35	0.50
	k	-0.96	-0.77	-1.04	-1.21	-1.23	-1.27	-1.19	-1.18	-0.75
Expteac	n	158	345	300	63	298	95	130	135	178
	sk	2.48	3.09	2.94	2.50	3.39	3.29	4.07	2.45	2.04
	k	6.66	10.07	9.23	6.19	13.68	12.27	19.73	5.68	3.77

Appendix C: Table 8 - continued

Distribution of Means for Demographic Variables by Region

Variable		NE	MA	SA	ESC	ENC	WSC	WNC	Mtn	Pac
Prior	n	159	353	307	65	303	97	131	137	181
	sk	0.36	1.18	1.13	0.49	0.65	0.64	0.95	0.63	1.0
	k	1.84	3.49	3.46	0.31	1.62	0.21	1.75	0.73	0.91

Notes. n = number of respondents; sk = Skewness; k = kurtosis; Exppsy = years of experience as a school psychologist; Expteac = years of experience in teaching; prior = number of graduate credit hours obtained prior to entry into the field of school psychology.

Appendix D: Table 9

Professional Practices Related to Special Education by Region

		Means and (Standard Deviations)									
Variable		NE	MA	SA	ESC	ENC	WSC	WNC	Mtn	Pac	
504	M	7.4	7.0	6.9	5.3	4.5	7.8	2.6	5.3	5.9	
	SD	(6.9)	(10.0)	(10.9)	(8.5)	(6.4)	(20.3)	(3.9)	(6.6)	(6.2)	
Initial	M	27.0	30.3	41.1	58.1	36.3	29.8	32.4	30.7	32.7	
	SD	(20.4)	(27.3)	(32.8)	(42.9)	(29.3)	(28.4)	(21.7)	(29.9)	(26.9)	
Reeval	M	28.0	27.6	26.6	48.0	40.4	27.7	38.3	44.0	41.5	
	SD	(23.5)	(21.4)	(21.8)	(40.5)	(29.3)	(22.8)	(23.3)	(34.9)	(26.2)	
Worktime	M	75.9	79.8	75.5	84.1	80.3	89.1	83.6	83.2	83.1	
	SD	(21.8)	(22.1)	(25.2)	(21.2)	(20.5)	(16.8)	(20.3)	(19.8)	(18.8)	

Notes. M = mean; SD = standard deviation; 504 = number of Section 504 plans; Initial = number of initial evaluations; Reeval = number of re-evaluations; Worktime = percentage of total work time spent on activities relating to special education.

Appendix E: Table 10

Distribution of Means for Professional Practice Variables Related to Special Education by Region

Variable		NE	MA	SA	ESC	ENC	WSC	WNC	Mtn	Pac
504	n	103	246	205	39	209	54	82	97	125
	sk	1.95	3.03	4.43	4.06	3.12	4.0	3.32	2.50	1.53
	k	5.86	12.04	29.09	20.23	14.34	16.36	14.40	8.62	2.40
Initial	n	104	246	208	40	213	53	82	98	125
	sk	1.64	1.56	1.63	1.07	2.16	2.25	0.59	2.19	2.34
	k	3.10	3.10	4.0	1.82	8.51	7.1	-0.17	7.81	10.84
Reeval	n	104	249	211	41	213	54	82	98	124
	sk	1.87	1.20	1.50	1.22	1.93	1.30	0.71	1.87	1.17
	k	5.04	1.30	2.89	1.08	7.29	1.34	0.26	4.73	2.38

Appendix E: Table 10 - continued

Distribution of Means for Professional Practice Variables Related to Special Education by Region

Variable		NE	MA	SA	ESC	ENC	WSC	WNC	Mtn	Pac
Worktime	n	102	239	205	40	213	51	80	95	122
	sk	-1.24	-1.51	-1.27	-1.67	-1.60	-2.62	-1.80	-1.83	-2.20
	k	1.70	2.18	0.64	1.90	2.50	8.59	3.13	3.11	6.12

Notes. n = number of respondents; sk = Skewness; k = kurtosis; 504 = number of Section 504 plans; Initial = number of initial evaluations; Reeval = number of re-evaluations; Worktime = percentage of total work time spent on activities relating to special education.

Appendix F: Table 11

Professional Practices Variables Related to Direct and Indirect Services to Students by Region

Variable		NE	MA	SA	ESC	ENC	WSC	WNC	Mtn	Pac
Consult	M	37.0	34.8	57.3	47.4	37.7	31.6	34.2	39.3	46.8
	SD	(46.8)	(36.3)	(81.6)	(64.5)	(37.3)	(46.2)	(40.9)	(47.2)	(59.8)
Stucoun	M	11.4	10.3	12.0	5.2	7.4	5.3	6.3	10.5	14.5
	SD	(16.1)	(14.3)	(22.5)	(8.4)	(16.6)	(8.5)	(10.4)	(14.8)	(23.1)
Grp	M	3.6	1.9	1.6	.63	1.2	.95	1.3	2.1	1.7
	SD	(4.8)	(3.3)	(4.1)	(2.0)	(3.5)	(2.7)	(3.1)	(3.8)	(3.7)
Stugroup	M	17.5	8.6	9.2	4.6	7.0	6.8	8.5	11.2	6.0
	SD	(29.6)	(16.1)	(23.3)	(15.2)	(14.8)	(27.6)	(26.1)	(25.4)	(11.4)

Appendix F: Table 11 - continued

Professional Practices Variables Related to Direct and Indirect Services to Students by Region

Variable		NE	MA	SA	ESC	ENC	WSC	WNC	Mtn	Pac
Inserv	M	1.7	2.1	3.1	4.8	2.4	3.4	2.7	2.5	2.8
	SD	(3.4)	(3.9)	(4.8)	(6.0)	(4.8)	(4.7)	(4.2)	(3.5)	(3.8)

Notes. M = mean; SD = standard deviation; consult = consultation cases; stucoun = students individual counseled; Grp = student groups conducted; stugroup = students served in groups; inserv = in-service training programs conducted.

Appendix G: Table 12

Distribution of Means for Professional Practice Variables Related to Direct and Indirect Services by Region

Variable		NE	MA	SA	ESC	ENC	WSC	WNC	Mtn	Pac
consult	n	98	235	201	39	206	51	81	91	121
	sk	5.35	2.41	2.61	2.53	2.13	4.31	4.62	3.18	3.03
	k	37.92	8.29	6.79	6.18	5.61	23.24	29.64	11.01	10.30
stucoun	n	102	246	209	41	217	52	84	94	125
	sk	3.10	3.14	3.89	2.52	4.91	2.42	2.52	3.42	4.89
	k	12.10	14.07	19.12	7.26	31.57	6.24	7.12	15.41	33.94
Grp	n	103	246	208	40	215	55	84	97	124
	sk	1.82	2.85	5.90	5.24	7.43	4.23	4.04	3.20	3.73
	k	3.10	10.72	45.80	30.08	74.43	20.39	19.59	12.24	16.69

Appendix G: Table 12 - continued

Distribution of Means for Professional Practice Variables Related to Direct and Indirect Services by Region

Variable		NE	MA	SA	ESC	ENC	WSC	WNC	Mtn	Pac
stugroup	n	104	245	209	40	210	54	83	97	124
	sk	3.34	3.35	4.98	5.52	2.69	6.72	5.91	5.12	2.73
	k	14.88	13.68	31.05	32.69	7.35	47.50	39.22	33.17	8.59
inserv	n	104	240	208	41	216	53	84	96	122
	sk	6.22	3.91	4.96	2.53	6.58	2.69	2.97	3.51	2.97
	k	48.43	18.71	35.76	7.54	55.53	8.86	9.63	17.89	11.94

Notes. n = number of respondents; sk = Skewness; k = kurtosis; consult = consultation cases; stucoun = students individual counseled; Grp = student groups conducted; stugroup = students served in groups; inserv = in-service training programs conducted.

Appendix H: Table 13

Descriptive Statistics Related to Employment Conditions by Region

Variable	Means and (Standard Deviations)								
	NE	MA	SA	ESC	ENC	WSC	WNC	Mtn	Pac
Ethdist	17.73 (24.0)	27.93 (31.1)	42.38 (26.1)	33.62 (33.4)	24.18 (28.5)	40.25 (26.6)	18.57 (20.0)	36.19 (29.1)	43.59 (28.9)
Ethser	17.64 (27.4)	29.13 (33.5)	45.34 (30.7)	35.62 (35.0)	26.72 (31.8)	41.78 (29.9)	18.37 (22.0)	37.89 (31.9)	45.66 (32.3)
Ratio	911.2 (899.1)	1003.3 (830.8)	2005.7 (989.2)	2257.1 (1389.1)	1528.1 (994.8)	1974.4 (1550.2)	1417.0 (793.0)	1445.4 (827.6)	1606.8 (826.8)
Resser	738.4 (878.1)	739.7 (727.2)	1761.3 (1129.6)	1908.3 (1616.7)	1324.9 (1073.0)	1056.2 (1081.5)	1178.0 (942.6)	1058.5 (779.9)	1341.8 (990.4)
Contract	185.9 (10.6)	189.3 (18.0)	208.4 (21.1)	203.2 (15.8)	195.31 (17.6)	200.5 (17.3)	191.2 (10.5)	193.4 (12.5)	194.4 (11.3)

Appendix H: Table 13 - continued

Descriptive Statistics Related to Employment Conditions by Region

Variable	Means and (Standard Deviations)								
	NE	MA	SA	ESC	ENC	WSC	WNC	Mtn	Pac
Perdiem	341.2 (72.0)	353.41 (103.9)	282.2 (63.6)	259.2 (50.0)	315.4 (80.2)	247.1 (38.9)	268.4 (50.5)	286.5 (59.6)	341.7 (70.8)

Notes. Ethdist = ethnic minority students in district; Ethser = ethnic minority students served; Ratio = ratio of students to school psychologists in district; Resser = ratio of students to school psychologists based on caseload; Contract = days in work contract; per diem = daily rate of pay.

Appendix I: Table 14

Distribution of Means for Employment Conditions by Region

Variable		NE	MA	SA	ESC	ENC	WSC	WNC	Mtn	Pac
ethdist	n	98	223	176	37	199	44	76	87	113
	sk	1.72	1.09	0.51	0.88	1.30	0.33	1.89	0.62	0.21
	k	1.96	-0.18	-0.53	-0.72	0.52	-0.94	3.37	-0.78	-1.18
ethser	n	98	217	193	37	199	45	77	90	116
	sk	1.72	1.01	0.25	0.69	1.19	0.36	1.66	0.55	0.16
	k	1.61	-0.48	-1.17	-0.99	0.02	-1.09	2.33	-0.92	-1.27
ratio	n	88	207	167	38	187	44	76	85	108
	sk	6.04	3.47	1.65	2.14	3.19	1.18	0.94	1.59	1.64
	k	45.33	24.0	7.61	6.96	16.36	1.34	1.19	4.70	4.71

Appendix I: Table 14 – continued

Distribution of Means for Employment Conditions by Region

Variable		NE	MA	SA	ESC	ENC	WSC	WNC	Mtn	Pac
resser	n	97	219	187	29	188	41	74	90	108
	sk	6.16	1.41	0.51	1.96	2.43	0.77	1.13	0.47	1.09
	k	49.29	2.0	0.03	6.21	12.23	-0.82	0.89	-0.61	2.18
contract	n	106	238	173	39	211	51	84	92	123
	sk	1.98	1.23	0.85	1.06	-0.42	0.84	-0.09	1.90	1.85
	k	30.0	8.33	0.32	2.98	8.20	1.97	5.52	7.53	9.56
perdiem	n	103	232	169	39	209	50	82	89	120
	sk	0.26	0.68	0.69	0.40	0.88	-0.55	0.28	0.10	-0.16
	k	-0.59	0.18	0.08	0.27	1.87	0.47	-0.54	0.34	-0.56

Appendix I: Table 14 – continued

Distribution of Means for Employment Conditions by Region

Notes. n = number of respondents; sk = Skewness; k = kurtosis; Ethdist = ethnic minority students in district; Ethser = ethnic minority students served; Ratio = ratio of students to school psychologists in district; Resser = ratio of students to school psychologists based on caseload; Contract = days in work contract; per diem = daily rate of pay.

Appendix J: *Comparison of 2005 NASP Membership to 2004-2005 NASP National**Database Respondents*

VARIABLES	2005 NASP Membership	2004-05 Database
GENDER		
Female	73.5%	74%
Male	26.5%	26%
Percent Responding	63.7%	99.9%
ETHNICITY		
White/Caucasian	88.5%	92.6%
American Indian/Alaska Native	0.9%	0.8%
Asian American/Pacific Islander	1.4%	0.9%
African American	3.1%	1.9%
Hispanic	3.8%	3.0%
Other	2.4%	0.8%
Percent Responding	73.8%	97.5%
HIGHEST DEGREE		
Bachelors	1.2%	0.1%
Master's	44.8%	32.6%
Specialist	22.9%	34.9%

Appendix J: *Comparison of 2005 NASP Membership to 2004-2005 NASP National**Database Respondents - continued*

VARIABLES	2005 NASP Membership	2004-05 Database
<hr/>		
HIGHEST DEGREE		
Doctorate	28.0%	32.4%
Percent Responding	80.4%	99.8%
<hr/>		
MEAN AGE IN YEARS		
	50.9	46.2
Percent Responding	80.4%	99.8%
<hr/>		

Appendix K: *National Association of School Psychologists*

Demographic Characteristics, Employment Conditions and Professional Practices

Survey 2004-2005 School Year

1. Gender female male
2. Age _____
3. Ethnicity (optional)
 American Indian/Alaska Native Asian American/Pacific Islander
 Black/African American Caucasian Hispanic Other
4. What language(s) do you speak fluently other than English? _____
If you speak another language, do you provide psychological services to students/families in that language? yes no
5. Disability no yes, specify: _____

PLEASE RESPOND TO ALL ITEMS BASED ON THE
2004-2005 SCHOOL YEAR!

6. Years of experience in school psychology _____
7. Years of classroom teaching experience (Pre-K-High School) _____
8. Primary position (e.g., school psychologist, university faculty, administrator, state department) _____
9. Annual salary (primary position) _____
10. State in which employed _____
11. Highest degree earned (e.g., bachelors, masters, specialist, doctorate)

Appendix K: *National Association of School Psychologists*

Demographic Characteristics, Employment Conditions and Professional Practices

Survey 2004-2005 School Year – continued

12. Total graduate-level training completed related to school psychology PRIOR TO ENTRY TO PROFESSIONAL PRACTICE (report total number of semester hours; 1 semester hour=1.5 quarter hour) _____

13. Certification/Licensure (Mark all that apply):

___ Nationally Certified School Psychologist

___ Certified by State Education Agency as School Psychologist

___ Certified by State Education Agency as Psychometrist, or similar title

(specify: _____)

___ Licensed School Psychologist (doctorate req□ d; State Board of Psychology)

___ Licensed Psychologist (doctorate req□ d; State Board of Psychology)

___ Licensed School Psychologist (non-doctoral; State Board of Psychology)

___ Licensed Psychological Associate or similar title (non-doctoral; State Board of Psychology; specify:_____)

14. If certified, does certificate allow for independent practice in non-school setting? ___
 yes ___ no

15. If licensed, does license allow for independent practice in non-school setting?
 ___ yes ___ no

16. Membership (please check all that apply):
 ___ State School Psychology Association

Appendix K: *National Association of School Psychologists*

Demographic Characteristics, Employment Conditions and Professional Practices

Survey 2004-2005 School Year – continued

- ___ National Education Association
- ___ American Federation of Teachers
- ___ Division of School Psychology (16), American Psychological Association
- ___ Local Teachers □ Union
- ___ American Psychological Association
- ___ American Counseling Association
- ___ Council for Exceptional Children
- ___ Other, specify: _____

17. For your PRIMARY employment, please estimate the average number of hours per week of employment in each of the following settings.

- _____ Public Schools _____ Private Schools _____ Faith-Based Schools
- _____ College/University _____ Independent Practice _____ State Department
- _____ Hospital/Medical Setting _____ Other, specify: _____

18. For any SECONDARY employment, please estimate the average number of hours per week of employment in each of the following settings.

- _____ Public Schools _____ Private Schools _____ Faith-Based Schools
- _____ College/University _____ Independent Practice _____ State Department _____
- Hospital/Medical Setting _____ Other, specify: _____

Appendix K: *National Association of School Psychologists**Demographic Characteristics, Employment Conditions and Professional Practices**Survey 2004-2005 School Year – continued*

If your PRIMARY employment for 2004-2005 was FULL-TIME in a public, private or faith-based preschool, elementary school, middle/jr. high school, and/or high school, please answer the remaining questions. Please respond based on the entire 2004-2005 school year.

If your PRIMARY employment was NOT in one or more of those settings, you have completed the survey. Please return it in the enclosed envelope. Thank you for your time and assistance.

19. Type of setting (i.e., urban, suburban, rural) _____

20. Please estimate average number of hours per week in each setting:

_____ Preschool

_____ Elementary School

_____ Middle/Jr. High School

_____ High School

_____ Other, specify: _____

21. % of students in district who are ethnic minority _____

22. % of students you serve who are ethnic minority _____

23. Ratio of School Psychologists to Students for DISTRICT 1: _____

How many students are YOU responsible for serving? _____

Appendix K: *National Association of School Psychologists**Demographic Characteristics, Employment Conditions and Professional Practices**Survey 2004-2005 School Year – continued*

24. What data did you use to answer items 27 – 35

____ estimated ____ personal log ____ central database (e.g., dept)

____ other (please specify) _____

25. Number of SECTION 504 PLANS that you assisted in developing ____26. Number of Psychoeducational Evaluations completed relating to INITIAL DETERMINATION of special education eligibility _____27. Number of REEVALUATIONS _____28. Number of CONSULTATION CASES (e.g., consultation for interventions, prereferral interventions, but NOT part of a multifaceted evaluation) _____29. Number of students COUNSELED INDIVIDUALLY (not sessions) _____30. Number of student GROUPS conducted (not sessions) _____31. Total number of STUDENTS served in groups (not sessions) _____32. Number of INSERVICE PROGRAMS conducted _____33. % of TOTAL WORK TIME in activities relating to special education _____34. % of TIME RELATING TO SPECIAL EDUCATION for each of following

____ conducting assessments ____ writing reports

____ attending team meetings

____ other (e.g., Medicaid documentation); specify: _____

Appendix K: *National Association of School Psychologists*

Demographic Characteristics, Employment Conditions and Professional Practices

Survey 2004-2005 School Year – continued

35. Check the top 3 foci of your continuing professional development activities:

- standardized psycho-educational assessment
- academic screening/progress monitoring (e.g., CBM, DIBELS)
- academic interventions
- behavioral assessment
- behavioral interventions
- social/emotional assessment
- social/emotional interventions
- consultation/problem-solving
- response to intervention
- crisis intervention
- other (specify) _____

Did you receive administrative (e.g., unit head, administrator) supervision during the past year? yes no; If yes, job title of that person _____

Average number of supervision hours/month _____

If yes, please indicate all of the following that describe that person:

- degree in school psychology degree in psychology
- degree in admin degree in other area; doctoral degree
- masters/specialist degree

Appendix K: *National Association of School Psychologists*

Demographic Characteristics, Employment Conditions and Professional Practices

Survey 2004-2005 School Year – continued

37. Did you receive clinical supervision during the past year? yes no

If yes, please indicate all of the following that describe your supervisor:

degree in school psychology degree in psychology degree in other area;

doctoral degree masters/specialist degree

number of school psychologists your supervisor supervised

36. Number of days in your 2004-2005 Contract Period _____

THANK YOU FOR YOUR TIME IN COMPLETING THIS SURVEY. PLEASE

RETURN IT IN THE ENCLOSED ENVELOPE

Note. Formatting of this survey instrument, but not content, was changed to comply with requirements of the Graduate School.

ABOUT THE AUTHOR

Dama Abshier received a Bachelor of Science degree in Psychology from the University of Florida in 1998. She earned a Master's degree (1999) and an Education Specialist degree (2003) in School Psychology from the University of South Florida. She was admitted to doctoral candidacy in the School Psychology Program at the University of South Florida in the summer of 2005, and has been working in an administrative role for the Exceptional Student Education department in the Marion County Public School system since July, 2002.

While attending the University of South Florida, Mrs. Abshier received the Tampa Campus Library Graduate Scholarship award in 2003, co-authored publications in the journal, *Cognitive Development* and in *Communique*. She co-presented four scholarly papers at annual conferences of the National Association of School Psychologists and has co-presented papers at the annual meetings of the American Psychological Society and the Early Childhood Association of Florida.