2008

Supervision in school psychology: Assessing the relationship with professional practices

Vicki Dumois Papaemaneul
University of South Florida

Supervision in School Psychology:

Assessing the Relationship with Professional Practices

by

Vicki Dumois Papaemanuel

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
Department of Psychological and Social Foundations
College of Education
University of South Florida

Major Professor: Michael J. Curtis, Ph.D.
George M. Batsche, Ed.D.
Constance V. Hines, Ph.D.
Jeffrey D. Kromrey, Ph.D.

Date of Approval:
October 28, 2008

Keywords: consultation, system-level change, professional development, clinical supervision, effective supervision

Table of Contents

List of Tables

Supervision in School Psychology:
Assessing the Relationship with Professional Practices
Vicki D. Papaemanuel

ABSTRACT

The present study examined the relationship between the occurrence of reported supervision and the professional practices of school psychologists. Information provided by more than 1,700 school psychologists in response to the *National Association of School Psychologists: Demographic and Professional Practices Survey 1999-2000 School Year - NASP-DPPS 2000* survey were used to create the 1999-2000 national database (Curtis, et al., 2000) and served as the basis for secondary analyses in the current study. The *NASP-DPPS* 2000 collected information regarding the demographic characteristics, employment conditions and professional practices of school psychologists the United States.

Correlational and multiple regression analyses were completed to examine the relationship between professional practices and the reported receipt of supervision, background of the supervisor, and ratio of school psychologists to supervisor. Professional practices did not appear to be significantly related to vary as a function of the occurrence of reported supervision. School psychologists reporting receiving supervision completed significantly more initial psychoeducational assessment and reevaluations than school psychologists who reported not receiving supervision. Initial pyshcoeducational assessment and reevaluations are professional practices that can be categorized as special education and direct service delivery model.

The subsample of school psychologists who reported the occurrence of supervision was examined for the remaining analyses. In addition, supervised school psychologists' professional practices did not vary as a function the supervisor's type of educational background (i.e., school psychology or non-school psychology), and level of educational preparation (i.e., doctoral or nondoctoral). Finally, the school psychologists-to-supervisor ratio and nature of the school psychologists' professional practices was examined. The remaining correlations were considered non-significant.

It was noted that the questions included in the NASP-DPPS 2000 survey did not allow for specific information about the type, topography, or quality of supervision. This limitation precluded drawing specific conclusions regarding the research questions addressed.

Chapter One

Introduction

The role of school psychology has continued to change and expand over time. Bracken (1999) discussed the expansion of the roles and functions of school psychologists over the past 30 years. He reported that role expansion has included a change in emphasis from a direct to a more indirect service delivery model and an increasing focus on crisis intervention and services for special populations.

The development of assessment tools to measure academic-specific skills represents another area of role expansion and relates to the oldest responsibility of school psychologists, i.e., psychoeducational evaluation. The sophistication and use of research to support the professional practices of school psychologists has advanced the scientific-basis of the field (Bracken, 1999). Finally, the availability of research through various school psychology publications has assisted the dissemination of needed information and support for school psychology as an applied science. The expansion of the school psychology literature has been demonstrated through the increased number of national and state level journals related to school psychology as well as through newsletters relating to specific professional techniques and disorders (Fagan, 2002). The field of school psychology has moved from the use of anecdotal claims of effective practices to more sophisticated approaches for hypothesis testing, research design, and statistical analysis (Bracken, 1999). These scientifically-based practices have allowed for the use of improved empirical approaches to study the field.

The evolution of the more comprehensive role of school psychologists is reflected in the mission statement of the National Association of School Psychologists, “NASP represents school

psychology and supports school psychologists to enhance the learning and mental health of all children and youth (NASP, 2007).

Over the past several decades, the development of the field of school psychology has also been reflected in the evolution of NASP standards for training and credentialing, principles for professional ethics, and guidelines for the provision of school psychological services. The term "standards" is commonly used to refer to enforceable requirements, while "principles" and "guidelines" represent recommendations, but are not typically enforceable outside of being required for continued membership in a professional organization. The ethical principles and guidelines for practice convey NASP's expected conduct of school psychologists, and inform the profession and public of the services that should be the goal of every school psychologist and psychological services unit (NASP, 2000a & 2000b). Ultimately, the organization's standards, principles and guidelines define the profession of school psychology and promote excellence in the provision of services (NASP, 2000a).

Blueprint for School Psychology Training and Practice

*School Psychology: A Blueprint for Training and Practice III (*Ysseldyke, J., Burns, M, Dawson, Kelley, B, Morrison, D, Ortiz, S. Rosenfield, S., & Telzrow, C., 2006) is the third edition of this publication to address the future of training and practice in school psychology. In addition to focusing on the professional competencies needed by school psychologists, the taskforce that developed *Blue Print III (2006)* examined the influences of the changing social, political, and economic context for the field. *Blueprint III* was included as an important element in the strategic planning process for the most recent review and revision of the NASP's standards for school psychology including: *Standards for Training and Field Placement Programs in School Psychology (NASP 2000d*) which became effective for programs seeking national approval in January 2002; *Standards for Credentialing of School Psychologists (NASP, 2000c)* which became effective in January 2005; and NASP's Professional Conduct Manual: *Principles*

for Professional Ethics (NASP, 2000b) which became effective in January 2001; and *Guidelines for the Provision of School Psychological Services(NASP, 2000a)* which become effective upon adoption.

The *Blueprint III* delineated 10 interrelated domains of training and practice in which the school psychologist might provide leadership and work in collaboration with other professionals: (a) data-based decision making and accountability, (b) interpersonal communication, collaboration, and consultation, (c) effective instruction and development of cognitive/academic skills, (d) socialization and development of life competencies, (e) student diversity in development and learning, (f) school structure, organization, and climate, (g) prevention, wellness promotion, and crisis intervention, (h) home school, community collaboration, (i) research and program evaluation, and (j) legal, ethical practice and professional development (Ysseldyke, et al., 2006).

Changes reflected in the *BluePrint III (2006)* publication, as well as in the various NASP standards, policies, and guidelines, reflect changes in the field over time from an emphasis on a narrow diagnostic role to a more comprehensive role that emphasizes indirect, focused services.

Supervised Continuing Professional Development

A reconceptualization of the primary school psychology service delivery model will require school psychologists to provide a broader range of services that are supported by empirical evidence. To assist school psychologists with this transition, there will be a need for profession-wide continuing professional development that is guided and facilitated by properly trained supervisors of school psychological services. Supervised professional development will support the reconceptualization of the field and promote the implementation of NASP standards by fostering the acquisition of needed skills and knowledge by school psychologists.

Continuing professional development, guided by the process of supervision, should be considered an appropriate method for gaining needed skills in school psychology, just as it is

established as a standard of practice by many other professions including nursing, social work, and counseling (ACES, 1993; Bambling, 2003; Fowler, 1998; National Association of Social Workers, 1999). However, relatively little is known about actual supervision practices in the field of school psychology and their relationship to the professional practices of school psychologists.

The preceding discussion provides a brief overview of the evolution of the field of school psychology over the last several decades, reflected in the evolution of NASP standards, principles and guidelines for practice. However, the actualization of NASP's vision and standards has yet to be realized and projected trends in the field suggest that school psychologists will continue to struggle to follow "best practices" in their professional work.

Statement of the Problem

The NASP standards act to define the profession and to provide a standard of excellence that school psychologists should strive to achieve. A critical requirement for the realization of the standards is the provision of quality supervision for school psychologists and a reasonable ratio of students-to-school psychologist in the professional practices setting. The ratio of students-to-school psychologist is associated with the types of services delivered by school psychologists. For example, lower ratios have been associated with more services emphasizing prevention and intervention rather than special education-related activities (Curtis, Hunley, Baker, & Walker 1999; Curtis, Chesno-Grier, et al., 2002; Curtis, et al. 2002b; and Smith, 1984). Unfortunately, demographic trends in the field of school psychology suggest that a critical shortage of school psychologists is already occurring and is likely to worsen in the years ahead (Curtis, Hunley, & Chesno-Grier, 2004). The current and projected personnel shortage is based on estimates of the number of school psychologists exiting the field through retirement and attrition as compared to the number of new school psychologists entering the field through graduation from university training programs (Curtis, et al., 2004).

The mean age and years of experience of practicing school psychologists has increased at an alarming rate in recent years, suggesting that the expected number of school psychologists retiring also will increase at a markedly higher rate (Curtis, et al., 2004). The impact of this "maturing" trend is exacerbated by the limited number of new school psychologists entering the field. That is, the large number of school psychologists who are projected to be leaving the field through retirements and attrition will not be replaced by newly graduated school psychologists (Curtis, et al., 2004; Thomas, 2000).

Approximately 1,750 recently graduated students enter the field as school psychologists each year (Curtis, et al., 2004; Thomas, 2000). The limited capacity of training programs, unfilled faculty positions, and unsuccessful recruitment of individuals into training programs appear to be influential factors in the resulting small number of new practitioners (Curtis, et al. 2004; and Miller & Palmoares, 2000). It is simply an issue of supply and demand where school psychologists will not be available to refill almost 9,000 (27%) out of an estimated 33, 000 existing positions between the years 2000 and 2010 (Curtis, et al.). The critical shortage of school psychologists may have a negative impact on the field and the clients school psychologists serve.

One implication of the projected shortage of school psychologists is a resulting increase in the ratio of students-to-school psychologist (Curtis, et al., 2004). Since school psychologists will not be available to fill needed positions, the remaining school psychologists will be required to serve their current caseload as well as the caseload of vacant openings. The higher ratios will likely reduce the amount of time school psychologists will have to engage in recommended professional practices (e.g., prevention and intervention focused services), as well as to participate in professional development activities. In addition, a large number of unfilled positions may result in alternative avenues for credentialing school psychologists, which could allow individuals who lack the recommended training and professional competencies to fill vacant positions (Curtis, et al., 2004; NASP, 2000a; Reschly, 2000; Thomas, 2000). The field of

school psychology must take specific and immediate steps to address the current and worsening shortage and the possible implications that it could bring.

Insight into the potential implications of a critical personnel shortage may be gained from looking to other fields. Similar issues were discussed by the American Association of Critical Care Nurses (AACN) in July of 2004. They suggested that a critical shortage of nurses was inevitable due to an aging nurse population, increased age of nurse educators, the declining number of students enrolled in nursing schools, and unsatisfactory working conditions (AACN, 2004). The ACCN suggested several implications of a critical shortage that were specific to the nursing field and several that were similar to the field of school psychology. For example, the hiring of less skilled personnel and higher patient-to-nurse ratios would result in decreased quality and/or quantity of services available to their clients (ACCN, 2004). In an attempt to address the critical shortage of nurses, AACN proposed several initiatives in Health Care's Human Crisis: The American Nursing Shortage (Kimball & O'Neil, 2002). This blueprint discussed an alternative view of the nursing profession that included attention to broader health and social issues instead of attempting to simply increase the number of nurses in the field (Kimball & O'Neil, 2002).

The field of school psychology also looked to the future to determine how best to address the implications of the critical shortage as well as to maintain high standards for meeting the needs of their clients. The 2002 Future of School Psychology Invitational Conference, which occurred more than 25 years after the preceding conference, was designed to anticipate changes in the field and to explore possible solutions (NASP, 2002). One outcome of the conference was a recommendation that school psychology's foundation be changed from a medically-based model to a public health paradigm of health promotion and problem prevention (NASP, 2002). A similar "paradigm shift" was suggested by Sheridan and Gutkin (2000). They advocated for a reconceptualization of the field of school psychology using an ecological perspective that focuses

on developing healthy environments that support children and a collaborative problem-solving approach to individual-, community-, and system-level services. Curtis, et al. (2004) suggested that this reconceptualization of the field could help address the projected critical shortage by increasing the efficiency and effectiveness of both the service delivery model and the school psychologist's role. School psychologists would be able to provide more indirect services such as problem-solving, individualized intervention development, evidenced-based activities, and services that result in positive outcomes for children. This would allow a smaller number of school psychologists to meet the needs of more children through the delivery of more effective and more efficient services (Curtis, et al., 2004). The service delivery model would be prevention-based and provide assistance to more children earlier to prevent problems from occurring or to quickly alleviate problems as they arise.

Supervision and continuing professional development should be synonymous in definition and action. For example, Sergiovanni and Starratt (2002) in *Supervision: A redefinition* discussed supervision as professional development instead of treating the two as separate functions. In years past, many supervisors have attempted to help teachers improve their skills through in-service education presentations chosen by the principal using a one-size fits all approach; the principal/supervisor was the driver deciding the course to take while the teacher/supervisee was the inert passenger. Instead, the authors suggested that teachers become responsible for their own growth. Supervision should be viewed as an integral part of a common set of concepts/skills shared by the school staff for improving the school (Sergiovanni & Starratt, 2002). The supervisor's role would be seen as that of an advocate, developer, and linker of resources in order for staff members to achieve their desired goal. A similar role of supervision as a vehicle for professional development has evolved within the field of school psychology as evidenced through the standards and other documents of NASP.

The National Association of School Psychologists' Supervision Work Group (NASP, 2004c) has defined supervision "as an ongoing, positive, systematic, collaborative process between a school psychologist and school psychology supervisor that focuses on promoting professional growth and exemplary professional practices leading to improved performance of all concerned – school psychologist, supervisor, students, and the entire school community" (p. 1). The process of supervision should be used to guide the professional development of a school psychologist specific to his/her needs relative to the needs of clients served. Supervision should not only function to increase the knowledge and skills of school psychologists, but to establish a system of accountability for the effectiveness of services provided as well. However, the reality regarding school psychologists receiving appropriate supervision has not been actualized in the field. During the 1999-2000 school year, only about 50% of school psychologists reported receiving supervision and within this subgroup, less than one-half were reported being supervised by a professional with a degree in school psychology. In other words, only about one of four school psychologists is supervised by a school psychologist (Curtis, et al., 2001). However, more recent data suggest that the situation may actually be even worse. In a recent study based on the 2004-2005 school year, Curtis, Lopez, Batsche, & Smith (2006) asked school psychologists for information about administrative versus clinical supervision. They found that only 12.1% of participating school psychologists reported receiving clinical supervision and that only 55% of their supervisors held a degree in school psychology.

Purpose of the Study

In order to meet the changing needs and demands of American society, practicing school psychologists must develop new skills that result in professional practices that are consistent with current NASP standards (NASP, 2000a). It was the premise of this researcher that continuing professional development, guided by the process of supervision, will promote the use of "best practices" in the delivery of school psychological services; however, little research exists to

support this premise. This study was exploratory in nature and was intended to provide some initial understanding of the relationship between the reported receipt of supervision and the professional practices of school psychologists. More specifically, it was intended to investigate the relationship between the reported receipt of supervision by school psychologists, selected characteristics of school psychologists and their supervisors, and the nature of the professional practices of school psychologists. For purposes of this study, the nature of the professional practices of school psychologists was measured by seven outcome (dependent) variables:

Professional Practices considered preventative or intervention-based:

i. the number of section 504 plans developed

ii. the number of consultation cases conducted

iii. the number of students counseled individually

iv. the number of student groups conducted

v. the number of teacher inservice programs delivered

Professional Practices considered special education based:

vi. the number of initial psychoeducational evaluations completed

vii. the number of reevaluations completed

Research Questions

This following research questions were addressed within the context of this study:

1 (a). What is the relationship between the receipt of supervision as reported by school psychologists and the nature of their professional practices?

Preliminary examination of the research would suggest that there is a positive relationship between the occurrence of supervision and the number of alternative professional practices delivered or cases completed by school psychologists. Additionally, demographic variables relating to the school psychologists (e.g., more years of experience in school psychology and higher level of degree earned) will be positively

related to the number of alternative professional practices delivered or cases completed by school psychologists.

1 (b). What is the relationship between the receipt of supervision as reported by school psychologists and the nature of their professional practices after controlling for school psychologist's years of experience in school psychology and level of degree earned?

Preliminary examination of the research would suggest that there is a positive relationship between the occurrence of reported supervision and the number of alternative professional practices delivered or cases completed by school psychologists. Consideration for differential outcomes regarding the types of professional practices should be considered.

2. For school psychologists who report receiving supervision, what is the relationship between selected demographic characteristics (their gender, age, ethnicity, years of experience in school psychology, years of classroom teaching experience, and highest degree earned) and the nature of their professional practices?

Preliminary research would suggest that there is a positive relationship between the school psychologist with more years of experience and higher levels of training and the number of alternative professional practices delivered or cases completed. Consideration for differential outcomes regarding the types of professional practices should be considered.

3 (a). For school psychologists who report receiving supervision, what is the relationship between their supervisor's educational background (i.e., area of specialization and level of degree earned) and the nature of the school psychologists' professional practices?

Preliminary examination of the research would suggest that there is a positive relationship between the relationship between the supervisor's area of specialization (i.e., school psychology or non-school psychology), and degree level (i.e., doctoral or

nondoctoral), and the nature of school psychologists' professional practices. Additionally, demographic characteristics of the school psychologists (e.g., more years of experience in school psychology and higher level of degree earned) will be positively related to the number of alternative professional practices delivered or cases completed by school psychologists. Consideration for differential outcomes regarding the types of professional practices should be considered.

3 (b). For school psychologists who report receiving supervision, what is the relationship between their supervisor's educational background (i.e., area of specialization and level of degree earned) and the nature of the school psychologist's professional practices after controlling for years of experience in school psychology and level of degree earned?

Preliminary examination of the research would suggest that there is a positive relationship between their type of supervisor's educational background (i.e., school psychology or non-school psychology), and level of educational preparation (i.e., doctoral or nondoctoral), and the nature of school psychologists' professional practices. Consideration for differential outcomes regarding the types of professional practices should be considered.

4 (a). For school psychologists who report receiving supervision, what is the relationship between the school psychologists-to-supervisor ratio and nature of the school psychologists' professional practices?

Preliminary examination of the research would suggest that there is a positive relationship between the ratio of school psychologists-to-supervisor and the nature of the school psychologists' professional practices. Additionally, demographic variables of the school psychologists (e.g., more years of experience in school psychology and higher level of degree earned) will be positively related to the number of alternative professional

practices delivered or cases completed by school psychologists. Consideration for differential outcomes regarding the types of professional practices should be considered.

4 (b). What is the relationship between the ratio of school psychologists-to-supervisor and the nature of the school psychologists' professional practices after controlling for school psychologists' years of experience in school psychology and level of degree earned?

Preliminary examination of the research would suggest that there is a positive relationship between the ratio of school psychologists-to-supervisor and the nature of the school psychologists' professional practices. Consideration for differential outcomes regarding the types of professional practices should be considered.

Data Source

A national database that provides information about the demographic characteristics, employment conditions and professional practices of school psychologists served as the source of data for analyses in the study. The database was created as a result of a NASP policy that mandates the completion of a national study every five years. In addition to providing a data-based view of the field, the information can be used to examine trends over time, as well as inform legislators, policymakers and other constituencies about the field. Graden and Curtis (1991) generated the first NASP-mandated database based on the 1989-90 academic year; Curtis, et al. (1999) developed a database for the 1994-95 school year; and Curtis, et al. (2002) completed a study that was based on the 1999-2000 school year. The present study involved analyses of the 1999-2000 database.

Definitions of Terms

Continuing professional development. The process of continuing professional growth through planned, structured activities that include: (a) activities that are goal-directed and enhance one's professional knowledge and skills, and (b) activities related to the field of school psychology that go beyond the ordinary aspects of one's employment (NASP, 2004a). Activity

formats could include workshop experiences, coursework, presentations, self-study, program development, or research; the activities should exceed the ordinary requirements of employment.

Professional practices. The domain-specific knowledge, skills and professional competencies demonstrated by school psychologists that frame the field and the types of psychological services delivered (NASP, 2000a and Ysseldyke, et al., 2006). The indirect professional practices delivered or cases completed that were examined in this study included: number of section 504 plans that the school psychologist assisted in developing, number of consultation cases conducted that related to interventions, prereferral intervention that was not a part of a multifactored evaluation, number of students counseled individually (not sessions), number of student groups conducted (not sessions), and number of inservice programs delivered to teachers, parents, and/or other personnel. Traditional or direct school psychological es, such as, psychoeducational assessments related to initial determination of special education or revaluations also were included in the analysis to determine what, if any, relationship exists with the occurrence of reported supervision.

School psychologists. For the purposes of this study, school psychologists were those persons identified as Regular Members of NASP during the 1999-2000 school year. The term practitioner and school psychologist were used interchangeably.

Supervision. An ongoing, positive, systematic, collaborative process between a school psychologist and a school psychology supervisor that focuses on promoting professional growth and exemplary professional practices leading to the improved performance of all concerned – school psychologist, supervisor, students, and the entire school community (NASP, 2004c).

Significance of the Study

It is anticipated that the results of this study will contribute to a better understanding of the potential role that supervision plays in increasing the delivery of recommended professional practices by school psychologists. These findings may serve as a stimulus for the beginning

consideration of using supervision as a method for providing school psychologists with needed knowledge and skills for actualization of the delivery of recommended professional practices that, in turn, will contribute to a reconceptualization of the field. More specifically, this study can be a catalyst for a more in-depth examination of the actual process of supervision including style of supervision, frequency, modes of interaction supervisor characteristics, supervisee characteristics and system variables.

Chapter Two

Review of the Literature

In this chapter, a discussion is provided first about the need for change in the organizing philosophy and structure of school psychological services. The next section focuses on a comparison of the professional practices recommended by the National Association of School Psychologists (NASP) with the actual professional practices of school psychologists in the field. The final section will examine the role of supervision in continuing professional development as a means for promoting a higher level of consistency between recommended and actual professional practices.

Failure of the Traditional Model of Psychological Services

In order to reconceptualize the dominant model that serves as a foundation for school psychological services delivery, the field first must examine shortcomings of the present paradigm. Such analyses will enable the focus of energy on needed direction and resources. This section provides a review of the limitations and criticisms of the most common model of school psychological services delivery currently in use by examining the orientation, organizing structures, and resulting professional practices that dominate the field today.

Despite the repeated "call to arms" by many scholars and child advocates for an alternative services delivery model for providing school-based psychological services to all children, the youth of America continue to face academic, social, health, and mental health difficulties at an alarming rate (Graden, Zins, & Curtis, 1989; Reschly & Ysseldyke, 2002; Sheridan & Gutkin, 2000). The frequency and severity of the problems faced by a growing number of children provide evidence that the current approach to services delivery is failing.

The National Research Council found that at least 25% of adolescents in the United States are at serious risk of not achieving productive adulthoods (CDC, 2008). Some of the detrimental situations experienced by children and youth include: (a) living in poverty, (b) having

mental health needs without treatment, (c) experiencing verbal, physical, and/or sexual violence at school/home, (d) being arrested for violent crimes, (e) engaging in high risk behaviors such as criminal acts, violent acts, alcohol/drug abuse, and sexual activity, (f) exhibiting suicidal ideation, attempts, and completion, (g) being obese or overweight, and (h) experiencing academic failure (CDC, 2008).

A recent report, using the 2000 census in Florida (Annie E. Casey Foundation, 2001), indicated that youths aged 10-24 years old engaged in the following high risk behaviors: 16% had four or more sex partners, 36% did not use a condom during the last sexual intercourse, 86% did not use birth control during the last sexual intercourse, 43% drank alcohol during the last month, 21% used marijuana during the last month, 9% attempted suicide during the past year, 32% were in a physical fight during the last year, 12% were overweight, 78% participated in insufficient moderate physical activity, and 54% engaged in cigarette smoking.

Poverty has been associated with a number of undesirable outcomes in areas such as education, and social and physical development. In 2006, 13 million children in the United States lived in poverty (Children's Defense Fund, 2007). Kominski, Jamieson, and Martinez (2001) also examined at-risk conditions of school-age children in the United States and reported that 46% of all children (i.e., over 24 million), have experienced at least one at-risk condition (e.g., disability, retention, ESL, neither parent employed, recently emigrated parent, familyannual income of less than $10, 000, and/or does not live with both parents). The percentage of children found experiencing one or more of these risk factors differed significantly across racial and geographic groups (Kominski, et al., 2001).

It is critical that an alternative services delivery model be implemented for school psychology. The alternative model should be based on an organizational foundation and guiding structures that (a) allow school psychologists to provide needed services, directly and indirectly,

to children, and (b) address the whole child, including social, health, and mental health issues as well as academic performance (Graden, et al., 1989; Sheridan & Gutkin, 2000).

The dominant current model for school psychological services delivery falls short of meeting children's needs for several reasons. This model is based on the premise that the etiology of all academic or behavioral difficulties lies within the child; therefore, the majority of time and resources are focused on the assessment, diagnosis, and treatment of the deficiencies of the child. However, theories of behaviorism, social psychology, educational psychology, and cognitive psychology would argue that there is an interactional relationship among all the variables within a given environment, including but not limited to the child (Bronfenbrenner, 1979; & Woody, LaVoie, & Epps, 1992). School psychologists need to work towards creating environments that foster academic and social development by examining the interplay of variables related to the student, teacher, family, school, curriculum, instructional methods, and community.

The traditional model for the delivery of school psychological services also limits the school psychologists' role, potential impact, and possible client base. Sheridan and Gutkin (2000) stated, "we are doing the wrong things for the wrong reasons" (p. 488). That is, more determination and hard work are not the answer; rather, a reconceptualization of school psychological services is needed. There is a need to move away from a theoretical orientation that focuses on the internal pathology of children and limits the effectiveness of proposed treatments.

Nastasi (1998) argues that the field of school psychology has no choice but to incorporate an ecological perspective that conceptualizes behavior in terms of the dynamic relationships of person-environment interactions. For example, she contends that using an ecological perspective would encourage an understanding of behavior in terms of key contexts (i.e., school, family, peer group, community, and society) where the behavior occurs. The ecological perspective's guiding premise is that behavior change should begin with an understanding of the reciprocal interactions between the individual and key contexts or environments. The "problem" is identified as the

discrepancy between the current level of performance and a desired level of performance as a result of a mismatch between student and environmental variables (Sheridan & Gutkin, 2000). Strategies to correct the "problem" would focus on reducing that discrepancy by providing the student with an environment that includes the necessary resources, which may relate to contextual variables.

The current predominant structure and organization of school psychological services does not allow for effective practices, consultation or self-advocacy. Many state and local policies and laws have dictated much of the structure and organization of services and the interpretation of those polices and laws leads to defined roles that narrow activities largely to assessment for special education eligibility (Reschly, 2000). Consequently, school psychologists ave been limited in the time available for carrying out consultation, problem-solving, and intervention development (Sheridan & Gutkin, 2000 and Ysseldyke, et al., 2006. School psychologists have only minutes to communicate information and potential interventions to teachers and parents; often, interaction is typified by a report or special education staffing meeting, regarding program eligibility. School psychologists, due to limited available time, are unable to engage in collaboration with other staff members for the purposes of pursuing a proactive and responsive approach to services delivery.

Ecological theory encourages the examination of a student-related problem from a systems perspective; however, involvement in the use of this model should not be exclusive to the field of school psychology. Much of the reform movement in school psychology to date has focused on school psychologists in isolation by examining training programs, skill levels, roles and practices without considering other interactive variables such as interdisciplinary training experiences, developing collaborative relationships, and expanding research and practice to a broader range of potential clients (Sheridan & Gutkin, 2000 and Ysseldyke, et al., 2006). Instead, Sheridan and Gutkin (2000) suggested the use of a multi-level system within the context of an

ecological perspective for structuring school psychological services. To facilitate change, school psychologists should examine their working relationships and roles within each of the key systems that impact the child – school, family, and community; school psychologists can no longer afford to work in isolation. The expansion of the school psychologist's role to reflect a greater emphasis on services at a systems level is observed in changes over time through revisions of NASP's *Guidelines for the Provision of School Psychological Services* (NASP, 1978a, 1981a, 1984a, 2000a). Additional support for a systems-perspective also is noted throughout Best Practices in School Psychology IV (Thomas & Grimes, 2002) as well as in the NASP position statement *Interagency Collaboration to Support the Mental Health Needs of Children and Families* (2001a).

The failure of the traditional services delivery model is revealed in an examination of the outcomes of the special education system. Traditionally, the primary role of school psychologists has been the assessment and identification of children in terms of meeting predetermined eligibility criteria for the receipt of special education services. The traditional model's foundation is based on the assumption that the diagnostic "label" given to the child provides information about the problem and the type of instructional strategies that work best for students experiencing such difficulties (Epps & Tindal, 1987; Fletcher, J.M., & Reschly, D.J., 2005-Winter; Fletcher, Coulter, Reschly, & Vaughn, 2004). Research indicates that practices based on this assumption have not resulted in increased student functioning (Carlberg & Kavale, 1980; Hanushek, Kain, Rivkin, 2002; Hocutt, 1996; Kavale & Forness, 1999; and Wang & Baker, 1985-86).

Meta-analyses and longitudinal studies examining the effect sizes or the significant differences found between treatment groups (students receiving special education services) compared to control groups (students not receiving such) suggest that there are minimal differences between the two groups and in some cases negative or detrimental effects for students in the treatment groups (Carlberg & Kavale, 1980; Hocutt, 1996; Kavale & Forness, 1999; and

Wang & Baker, 1985-86). Additionally, identification of a student in terms of the specific special education program or category through which services are delivered, such as specific learning disabilities or emotionally handicapped, provides little direction when developing goals and interventions for that child (Epps & Tindal, 1987; Fletcher & Reschly, 2005-Winter; Fletcher, Coulter, Reschly, & Vaughn, 2004). That is, students found eligible for learning disabilities programs do not represent students with unvarying instructional needs, but rather a heterogeneous group with individualized and specialized needs that cannot be gleaned from the label "Specific Learning Disabilities" (Epps & Tindal, 1987; Fletcher, J.M., & Reschly, D.J., 2005-Winter; Fletcher, Coulter, Reschly, & Vaughn, 2004). Each year, across the United States, three to five percent of all students are referred for special education evaluation and 92% of the students referred are evaluated. Seventy-four percent of those evaluated are found eligible and are subsequently served through special education (Christenson, Ysseldyke, & Algozzine, 1982). Of the students referred, evaluated and placed in special education, a disproportionate number are African-American male students (NRC, 2002, Shinn, Tindal, and Spira, 1987).

School psychologists are contributing to a failing system that limits the positive outcomes for student educational performance while focusing a majority of their time and energy on an isolated number of children. In contrast to this, NASP supports the use of a problem-solving model that emphasizes student- and situation-specific interventions that have been demonstrated to result in the most significant and positive effects on academic and behavioral performance (Reschly, 1995); these findings are in direct contrast to findings regarding the efficacy of the special education-based system of services delivery (Fuchs, Mock, Morgan, & Young, 2003; Iverson, 2002; Kovaleski, 2002).

Schools must be able to meet the ever-changing needs of students by acknowledging the influences of race, ethnicity, religion, resources, life experiences, background, and ability (NASP, 2000a). The dynamic and diverse student population served in today's schools cannot be

contained within a standard, constant course of development and learning. NASP advocates for an educational system that is responsive to the changing and challenging needs of students and their families. However, the current services delivery model that is present in many schools and focuses on testing, labeling, and placing students in special education limits the school system's ability to be responsive to diverse student needs. An alternative services delivery model is needed to provide organizing structures that support school psychologists through the process of supervised professional development. Such a process would support school psychologists' ability to respond to the changing cultural and social demands facing students.

Recommended Professional Practices

Standards for the training, credentialing, and professional practices of school psychologists are one of the ways to move the profession in the direction advocated above. NASP developed the *Guidelines for the Provision of School Psychological Services* (NASP, 2000a) to demonstrate "best practices" in the delivery of comprehensive school psychological services. Foremost, the guidelines are meant to delineate services and define the field as well as to inform policy- and decision-makers and the public regarding the characteristics of comprehensive school psychological services (NASP, 2000a). Ultimately, the guidelines are meant to stimulate professional development and ensure competent professional practices by school psychologists.

Through the years, revisions of the standards have demonstrated a gradual shift in philosophy towards training and practices that emphasize the use of ecologically-based information about the student and his/her environment with the goal of improving the quality of educational outcomes. In addition, the 2000 adoption of NASP standards demonstrates a shift towards the use of outcome-based data to evaluate the effectiveness of school psychological services. This shift can be observed in the training standards for the preparation of school psychologists as well as in the guidelines for the delivery of psychological services. The training standards require school psychology programs to teach a data-based decision making process that

drives assessment and intervention development. Relatedly, to support the use of the data-based decision-making process in the field, the guidelines for psychological services have evolve ovet time promote the establishment of performance-based accountability systems (NASP, 1978a, 1978b, 1981a, 1981b,1984a, 1984b, 2000a, 2000b, 2000c, 2000d, & 2000e).

The professional practices guidelines recommend that all school psychologists possess knowledge and professional competencies in and engage in professional practices that demonstrate (a) collaboration and consultation, (b) systems-perspective on school organization and climate, (c) effective instruction and development of cognitive and academic skills, (d) cultural competence and sensitivity, (e) prevention-based mental health and wellness, (f) socialization and development of life competencies, (g) family, school, and community collaboration, and (h) data-based decision-making (NASP, 2000a). The following paragraphs will review in greater depth each of the recommended professional practice areas reflected in the *Guidelines for the Provision of School Psychological Services* adopted by NASP in 2000.

Collaboration and Consultation

The professional role of the consultant has long been seen by school psychologists as highly desirable (Reschly, 2000). To function effectively inthis area, school psychologists need to have knowledge and skills in consultative methods, strategies targeting academic and behavior performance, and staff development (NASP, 2000a) The consultant role would allow school psychologists to become an integral part of providing all students with challenging goals and effective instructional strategies, and of monitoring progress towards identified academic goals (NASP, 2000a).

Systems-Perspective on School Organization and Climate

Creating positive climates through systemtic change is another professional function recommended by NASP for all school psychologists. School psychologists should facilitate a systems-approach to problem solving by creating structures and policies that promote schools as safe and engaging places for all members of the community *(*Ysseldyke, et al., 2006; Curtis & Meyers, 1985; Thomas & Grimes, 2002). Curtis & Stollar (2002) review key elements and specific steps for leading schools through strategic planning and systematic change processes. Key elements that can facilitate change process include recognizing that each school building is a unique system and represents the unit and target of change, obtaining the commitment of both key personnel and all major stakeholders in the change process, collecting information and data on the needs of the school as a system, identifying specific goals for change, demonstrating change strategies, developing and planning for the implementation of specific strategies, evaluating progress toward goal attainment and revising the change plan and/or recycling to an earlier stage in the change process when appropriate.

Effective Instruction and Development of Cognitive and Academic Skills

School psychologists should be prepared to help students achieve academic goals through the application of learning theory, cognitive strategies, and current research (NASP, 2000a). Through assessment data, school psychologists can assist schools in developing effective instructional strategies that address cognitive, academic, and work-related concerns specific to each child's needs. The school psychologist's role also could include the dissemination of current research on effective instruction.

Advocacy for Appropriate Educational Services for All Children and *Rights Without Labels* are two position statements that were originally adopted by NASP in the 1980's, but that have been revised and reaffirmed since original adoption. The first position statement promotes an alternative services delivery model of non-categorical funding and services to ensure success

for all students (Thomas & Grimes, 2002). NASP suggested that this alternative service delivery model will promote independence for students by allowing them to work within the broadest possible environments, as well as for staff by providing training and support necessary to meet the diverse needs of more students.

The latter position statement suggests that students should have access to needed instructional strategies regardless of eligibility for specific education (Thomas & Grimes, 2002). To accomplish the recommendations of this guideline, NASP argues that staff may need to have additional support system/resources, staff retraining, and continuing professional development. School psychologists could play a critical role in this process by acting as consultants to guide staff based on current research relating to instructional assessment and intervention delivery strategies, implementation of strategies, and monitoring procedures. In addition, they could contribute to the continuing professional development of staff through the presentation of in-service education programs emphasizing empirically-based practices.

Cultural Competence and Sensitivity

School psychologists should expand their knowledge regarding the development and learning of increasingly diverse populations of students and their families. At the same time, it is essential that they engage in collaboration with the home, school, and community that promotes academic and behavioral growth as well as assist students and families of diverse backgrounds in feeling welcomed and empowered. *Racism, Prejudice, and Discrimination* (NASP, 2004b) is a position statement consistent with this professional function that was originally adopted by NASP in 1993. This position statement argues that school psychologists have a pivotal role in making schools more sensitive and tolerant of all members.

Prevention-Based Mental Health and Wellness

Creating safe schools that meet the mental health needs of students would be part of an ecologically driven model of school psychological services and a desired professional function of

school psychologists (NASP, 2003). Several position statements of NASP support the inclusion of this function within the role of the school psychologist. The position statement, *Mental Health Services in the Schools* (NASP, 2003), argues that the school is the optimal setting to coordinate mental health services and that the school psychologist is critical in providing those services. The school setting provides the perfect location for both preventative actions and intervening treatments. In 2001, NASP adopted, *Interagency Collaboration to Support the Mental Health Needs of Children and Families*, to describe the need for a collaborative approach to meeting the mental health needs of children. The position statement suggested that school psychologists could play the role of facilitators of collaboration, assisting in the creation of a comprehensive system of mental health care across students, families, schools, and community agencies.

Safe Schools

School psychologists should strive to foster positive climates within schools that create respect among all members of the school community and provide avenues for addressing students' needs without labeling or "profiling" them. Through this guideline, NASP encompasses an emphasis on the importance of prevention in reducing the occurrence of disruptive behavior, bullying, physical violence, and suicide, while fostering environments that increase positive learning and behavior (NASP, 2000a). NASP goes on to encourage school psychologists to engage in the development of systematic team building, problem identification processes, response plans for crisis situations, and procedures for early warning signs to identify and intervene with "at-risk" students. *Early warning, timely response: A guide to safe schools and preventing and responding to school violence* was created (Dwyer, Osher, & Warger, 1998) to establish the need for preventive measures to promote safety in schools, a prerequisite for student learning, and discusses the role that school psychologists can play.

Socialization and Development of Life Competencies

School psychologists have an opportunity to contribute to the creation of optimal learning environments, including strategies that provide, appropriate alternative approaches to classroom management. Functional analysis of a problem, treatment integrity, and generalization are critical skills needed by school psychologists to accomplish this professional function.

Data-Based Decision Making

An organizing theme for a school psychologist's role should be the use of a data driven decision-making process for assessing children's needs and problem solving (NASP, 2000a). National, state, and local legislative forces are increasing the demand for quantifiable data relating to student academic growth and the efficacy of services provided. For example, federal legislation, the No Child Left Behind Act (US Department of Education; 2001), requires that states use research-based instructional strategies and implement accountability procedures that measure the quality of education students receive. Ecologically-sensitive data should be gathered to better understand the student, the learning environment, and other contributing variables such as peer, teacher, curriculum, school, family, and community (Knoff & Batsche, 1995; Ysseldyke & Christenson, 1996). Data collected should be measurable and quantifiable, collected through methods such as observations of percent of time on-task or reading fluency measures of words read correctly; the data should be used to establish baseline performance and to demonstrate growth as a result of interventions. School psychologists are trained to define goals and problems in measurable terms, develop effective, assessment-linked interventions, monitor the effectiveness of interventions, and have a system-level perspective that allows for the use of comprehensive accountability procedures.

Professional Practices of School Psychologists

In order to work towards a reconceptualization of the school psychological services delivery model, the field first must examine the actual practices of school psychologists to understand the reality of their work within the context of the current dominant services delivery model. Many studies have explored information relating to the demographic characteristics and professional practices of school psychologists (e.g., Curtis, 2001; Curtis, Chesno-Grier, et al., 2002; and Curtis, et al, 2002b; Graden & Curtis; 1991; Reschly, 2000; Thomas, 2000). In order to examine trends over time relative to specific variables, NASP adopted a policy creating a national database that describes the demographic characteristics, employment conditions and professional practices of school psychologists and requiring national study updates every five years (Graden & Curtis, 1991). The following sections will review the archived data from the national study that was based on the 1999-2000 school year (Curtis, 2002; Curtis et al., 2002a; and Curtis, Hunley, et al., 2002).

Ratio of School Psychologist to Students

Although NASP recommends that, on average, the number of students assigned to a school psychologist should not exceed 1000 in order to assure that school psychologists will be able to meet the needs of all students, recent research indicated that this ratio had been achieved in only five states (Reschly, 2000; Thomas, 2000). Curtis, et al. (2002b) found that only 36% of school psychologists across the United States serve 1000 student or less, while 31% serve more than 2000 students; the mean ratio for all participants in the study was 1:1682 students. Based on another study, Thomas (2000) reported that the national median ratio of school psychologist to students was 1:1500.

The ratio of school psychologist to students, that is, the average number of students within the school district population served by each school psychologist, impacts the types of practices school psychologists will be able to perform (Reschly, 2000). The larger the number of

students assigned to a school psychologist, the less likely it is that the school psychologist will be able to engage in direct or preventative services (Curtis, Hunley, et al., 2002; Reschly, 2000). For example, Reschly (2000) reported that the ratio directly influences assessment practices, the amount of time devoted to special education eligibility determination, and the use of assessment instruments. Curtis, et al. (2000b) found that school psychologists working under higher ratios engaged in significantly more services related to special education. In direct contrast, school psychologists working with a lower ratio were found to engage in significantly more direct intervention services such as individual and group counseling. Although, a decrease towards the recommended ratio has occurred over the last decade, the reported critical shortage of school psychologists over the next few years will likely reverse this positive trend (Curtis, et al., 2004).

Activities Related to Special Education

Although school psychologists continue to spend a majority of their time in the special education domain, some positive trends were noted in their reported professional practices (Curtis, 2001; Curtis, Hunley, et al., 2002). When comparing the national database of 1989-1990 to that for 1999-2000, more school psychologists reported completing 1 to 25 and 1 to 50 initial special education evaluations while fewer school psychologists reported completing 100 or more. Similar positive trends were noted in the percentage of reevaluations completed as reported by school psychologists, with more completing less than 25 in 1999-2000 as compared to 1989-1990, 42.5 and 31% respectively. Only 10% of the school psychologists reported completing more than 75 reevaluations in both studies.

Alternative Professional Practices

School psychologists also were asked to report information about other professional practices such as the number of consultation cases conducted, 504 plans developed, student groups conducted, individual students counseled, and inservice programs provided to parents or staff (Curtis, 2002; Curtis, Hunley, et al., 2002). More than three-quarters of school psychologists

reported participating in the development of Section 504 plans, with a mean of 9.3 plans developed per school year. Compared with 1994-1995, an increase in the percent of school psychologists being involved in more than 50 consultation cases was noted in 1999-2000; however, more school psychologists also reported that they were not involved in any consultation cases at all.

Another negative trend in the professional practices of school psychologists was noted when comparing the national databases from 1989-1999 to 1999-2000. More school psychologists reported that they were not involved in conducting individual counseling and delivering inservice programs. Equally disappointing is the fact that the amount of overall time spent in activities related to special education dramatically increased over that ten-year period as evidenced by the percentage of time reported in 1989-1990 compared to 1999-2000, 52.3% and 79.1%, respectively.

Demographic Characteristics of School Psychologists

Curtis, et al. (2002b) examined the relationship between demographic characteristics of school psychologists and their reported professional practices using the 1990-2000 national database. Significant trends were noted between practices and degree/level of training and years of experience. School psychologists with higher levels of training were involved in conducting more individual counseling, student groups, and in-service programs while school psychologists with less training reported spending more time completing initial special educational evaluations and in special education activities in general. School psychologists with more years of experience were involved in more consultation cases, but conducted fewer student groups**.** Although not statistically significant, other trends were noted between the professional practices and years of experience as well. School psychologists with more years of experience tended to serve fewer students through group counseling, spent less total time in special education and less total time in non-special education activities. In fact, more years of experience related to more

initial special education evaluations, 504 plans developed, individual counseling, and inservice programs conducted.

As a field, school psychologists identified as members of racial/ethnic minority groups continue to be underrepresented as compared to the population of the United States. The cultural/racial make-up of school psychology has remained stable over the last ten years with the exception of an increase in the percent of school psychologists identifying themselves as Hispanic (1.5% to 3.1%); however, the population of students served has greatly changed. Curtis, et al. (2002) found that school psychologists serving a higher percentage of minority students engaged in more consultation, individual counseling, and student groups. This would suggest that school psychologists were more likely to engage in indirect measures such as consultation and direct services such as individual/group counseling as the population served became increasingly diverse.

Critical Shortage Impact on the Field

It would appear that school psychologists are struggling to perform the practices recommended by NASP, perhaps reducing the likelihood that their services are resulting in positive outcomes for children. A critical requirement for the realization of the NASP standards and recommended professional practices is the ratio of students-to-school psychologist. As noted above, the ratio of students-to-school psychologist has been found to be associated with the type of services delivered by school psychologists. Lower ratios have been associated with the delivery of prevention and intervention services rather than special education-related activities (Curtis, Hunley, Baker, & Walker 1999; Curtis, et al., 2002; and Curtis, et al., 2002; Fischetti, & Crespi, 1999; Smith, 1984; Thomas, 2000). Unfortunately, demographic trends in the field suggest that school psychology is facing a critical shortage of personnel (Curtis, Hunley, & Chesno-Grier, 2004). The current and projected shortage was based on estimates of school psychologists exiting the field through retirement and attrition as compared with new school

psychologists entering the field through graduation from university programs (Curtis, et al., 2004).

The mean age and years of experience of practicing school psychologists increased at an alarming rate between 1989-1999 and 1999-2000, suggesting that the expected number of school psychologists retiring also will increase (Curtis, et al., 2004). The impact of this "maturing" trend is exacerbated by the limited number of new school psychologists entering the field. That is, the large number of school psychologists who are projected to be leaving the field through retirements will not be replaced by newly graduated school psychologists. Thomas (2000) reported that, for many states, over 50% of the school psychologists who were working full-time in school settings would be retiring within the next ten years. Using an expectancy index, Curtis, et al. (2004) projected, , that almost 40% of all school psychologists working full-time in school settings would reach retirement age by the year 2010.

Approximately 1,750 recently graduated students enter the field on average each year (Curtis, et al., 2004; Thomas, 2000). Limited capacity of training programs, unfilled faculty positions, and the unsuccessful recruitment of individuals into training programs may be to blame for the limited number of new school psychologists entering the field (Curtis, et al., 2004; Miller & Palmoares, 2000;). It is an issue of supply and demand where school psychologists will not be available to refill almost 9,000 out of an estimated 33, 000 existing positions between the years 2000 and 2010 (Curtis, et al., 2004)

One implication of the projected shortage of school psychologists is an increase in the ratio of students-to-school psychologist (Curtis, et al., 2004). Simply, school psychologists will not be available to fill vacant positions; therefore, the remaining school psychologists will be required to serve their current caseload, as well as, the uncovered caseload resulting from of unfilled openings. The higher ratios will likely reduce the amount of time school psychologists

will have to engage in recommended professional practices as well as in professional development activities.

Increased use of alternative routes to credentialing may be another potential implication of the projected shortage (Thomas, 2000). Individuals who meet minimal requirements (i.e., criteria lower than those established by national standards) may be allowed to fill needed positions and may lack recommended training and professional competencies (Curtis, et al., 2004; NASP, 2000a; Thomas, 2000). For the reasons noted above, the field of school psychology must take concrete steps to address the personnel shortage and its possible implications.

The 2002 Multisite Conference on the Future of School Psychology included discussion of the personnel shortage and strategies to address it, especially with regard to implications for positive outcomes for children, families, and schools (NASP, 2002). Ultimately, the participants were asked to answer the questions, "What is school psychology to become?" and "What steps need to be taken?" One of the work groups recommended that school psychology's foundation be changed from a medically-based model to a public health paradigm, emphasizing health promotion and problem prevention.

A similar "paradigm shift" also was suggested by Sheridan and Gutkin (2000). They advocated for a reconceptualization of the field using an ecological perspective that focuses on developing healthy environments that support children and a collaborative problem-solving approach to individual-, community-, and system-level services. Curtis, et al. (2004) suggested that this reconceptualization of the field could address the projected critical shortage through two changes: (a) the school psychologist's role should become that of a facilitator of resources, and (b) the movement of the field to a prevention-based model would lead to more effective and efficient services for more children. Within the proposed service delivery model, the role of school psychologists would focus on problem-solving, individualized intervention development, evidenced-based activities, and services that result in positive-outcomes for children (Curtis, et

al., 2004). Additionally, the proposed service delivery model would emphasize creating healthy environments that work toward the prevention of problems through collaboration with families and communities. Instead of focusing on intervention for one child who is already experiencing failure, preventive services would focus on supporting environmental systems that could assist many children (Graden, et al., 1989; Sheridan & Gutkin, 2000). This would allow fewer school psychologists to meet the needs of more children through effective services (Curtis, et al, 2004.).

Supervision as a Means for Continuing Professional Development

A reconceptualization of the primary school psychological service delivery model will require school psychologists to provide a broader range of effective services that are evidenced-based. To assist school psychologists with this transition, there will be a need for profession-wide continuing professional development that is guided by properly trained supervisors of school psychological services Supervised professional development will support the reconceptualization of the field and promote the implementation of NASP standards by fostering the acquisition of needed skills and knowledge by school psychologists.

NASP (2004c) has adopted a position statement to promote the use of professional supervision in the field. The definition of supervision according to a supervision work group of NASP (2004c) is "an ongoing, positive systematic, collaborative process between a school psychologist and school psychology supervisor that focuses on promoting professional growth and exemplary professional practices leading to improved performance of all concerned – school psychologist, supervisor, students, and the entire school community" (p. 1). The position acknowledges the need for both administrative and clinical supervision, but delineates the two as a function of type of activity and knowledge of the supervisor.

In the position statement on supervision, NASP (2004c) suggested that all school psychologists need supervision, regardless of experience or proficiency in order to best meet the changing needs of clients. It is recommended that clinical supervisors be nationally certified with

supervision training, knowledge, and/or experience. Supervision could occur in the form of one-to-one supervisory meetings or alternative options that might include: peer mentoring, peer coaching, peer supervision, video conferencing, or telephone contact. Some of the activities of supervision might be instruction, assigned reading, modeling, role-playing, reviewing taped sessions, or review notes, protocols, or reports. NASP suggests that training programs offer courses on supervision as part of graduate course work and postgraduate professional development. Ultimately, supervision should provide school psychologists and psychological services delivery units with an accountability system for assuring effective services and positive outcomes for students (NASP, 2004c).

Continuing professional development, guided by the process of supervision, should be considered a desired or even preferred method for gaining needed knowledge and skills in school psychology, just as it is established as a standard of practice by many other professions, including nursing, social work, and counseling (ACES, 1993; Bambling, 2003; Fowler, 1998; National Association of Social Workers, 1999). Sergiovanni & Starratt (2002) argued that supervision should be integrated within the professional development process instead of the two being viewed as separate functions. The supervisors' role is to assist the supervisee in the process of continuing professional development through being an advocate, developer, and linker of needed resources (Sergiovanni & Starratt, 2002).

The National Staff Development Council (NSDC, 2004) is an organization that promotes life-long learning for educators. The NSDC attempts to provide connections between professional development and improved student outcomes. Models of standards-driven staff development programs, learning strategies and designs, and current research on staff development are some of the resources available through NSDC. The organization suggests that supervision can play an integral part in staff development by establishing a climate for promoting high standards for

professional behavior, identifying needed resources and training opportunities, and monitoring professional growth that directly relates to positive outcomes for students.

Guskey and Sparks (1996) examined the components of professional development that resulted in positive student learning improvements. The authors suggested that a systematic approach to professional development would need to examine components individually and interactively to best demonstrate positive results as well as explore areas of failure. They argued that, due to the complexity of professional development, supervision would be beneficial in guiding the process.

Grimes and Tilly (1996) suggested that on-going staff development is critical for lasting educational change. In order to internalize an alternative model of service delivery, incorporate "best practice" standards for professional practices, or be responsive to the ever-changing client base, practicing school psychologists should be provided with the resources and support to expand their skills and knowledge. Continuing professional development (CPD) that is guided by supervision is a viable method for bringing about the symbiosis of "best practices" and "actual practices" (NASP, 2004a).

The guiding thesis of this paper was that school psychologists need on-going knowledge and skill development to promote professional practices that result in positive outcomes for their clients. The process of supervision becomes pivotal in the professional development of effective professional practices. Continuing professional development should be systematically planned and evaluated by the school psychologist and the supervisor. "Supervisors play a role in advocating, planning, and evaluating the needs of school psychologists," thus having a direct impact on the professional development and professional practices of school psychologists (Brown, 2002). The ultimate goal of supervision is to promote professional practices that result in positive, measurable mental health and educational outcomes for students (NASP, 2004c).

Outcome Data on Supervision

Other professionals in the social services fields such as social workers, nurses, counselors, and therapists are required to engage in supervised practice as indicated in the standards of their professions. It has been found that supervision has a direct impact on the outcome of services provided (Bambling, 2000; Hawkins & Shohet, 1989). Rose and Boyce (1999) examined the effects of clinical supervision on the quality of practice of qualified psychiatrists. Forty-two practitioners were interviewed to gather qualitative information about their perception of the supervision process. Themes were noted across the sampled practitioners including: fostered professional development, promoted continuing education, provided constructive criticism and reflective practice, increased awareness of professional standards and pride, and reduced sense of isolation (Rose and Boyce, 1999). The authors acknowledged that the study did not use quantitative data to examine outcomes in terms of actual gains in clinical practice.

A quantitative analysis of psychotherapy was conducted by examining the influence of supervision on outcomes for the client as well as the working alliance between the client and therapist (Bambling, 2003). Findings demonstrated positive outcomes for counseling clients when supervision of the therapist occurred, regardless of whether a process- or skill-focused supervisory process was utilized (Bambling, 2003). In fact, Bambling found that a single session of supervision resulted in significantly better performance by the therapist.

With the growing trend for accountability in the education system with regard to student learning, school psychologists will need to demonstrate that the services they provide result in measurable positive outcomes for children and their families. It is argued that continuing professional development, guided through supervision, offers school psychologists the opportunity to acquire needed skills and knowledge as well as establish a system for measuring efficacy.

The research base of studies on the supervision of school psychologists is limited. However, those available serve as a starting point for analysis of the field (Crespi & Fischetti, 2000; Curtis, et al., 2002). Research on supervision in related fields, such as medicine, social work, education, and nursing, were examined as well.

Dimensions of Supervision

The position of the school psychologist in the school setting is somewhat atypical from other educators in that they often work in isolation of other school psychologists who share similar roles, knowledge and skills (Harvey & Struzziero, 2000). For example, school psychologists do not have other similarly trained staff within the school setting to problem-solve difficult cases or situations. School psychologists rarely receive specific feedback on the "clinical" aspects of their practices nor do they have the opportunity to engage in collaboration with other school psychologists. Unfortunately, supervision is not mandated at the state or local level and therefore, rarely occurs beyond the internship years (Hunley, Harvey, Curtis, Portnoy, Chesno-Grier, & Helffrich, 2000; Curtis, et al., 2002). For example, Curtis, et al. found that 47.2% of school psychologists reported receiving no supervision. Furthermore, in many instances, supervisors of psychological services are not school psychologists and do not have specific training or knowledge of school psychology, thus offering little in terms of professional development or corrective feedback. Curtis, et al. found that of the fewer than half of school psychologists who reported being supervised, only 46.5% were supervised by individuals with a school psychology degree. Hunley, et al. (2000b) found that 90% of individuals identified as supervisors of school psychologists had little or no training in supervision prior to assuming such a position and 83% had yet to receive additional training.

Other fields offer and require supervisory training through graduate programs to develop supervisors with the skills needed for effective supervision. Licensed clinical social workers who provide supervision are required to receive additional training in the process of supervision. The

National Association of Social Workers (NASW, 1999) has delineated requirements for supervisors of social workers, including a minimum of 15 hours of supervision training in order to be considered of sufficient experience and training in the area.

Unfortunately, little research exists that examines the effectiveness of clinical supervision training programs. Yarrow and Millwater (1997) examined the effectiveness of a Master of Education level course in supervision and mentoring that focused on providing lead teachers with necessary skills to supervise/mentor beginning teachers. Most of the participants in the course had prior supervisory experience and used an apprenticeship model of supervision where the supervisor modeled good, professional practices (Yarrow & Millwater, 1987). The course provided training in interpersonal skills, supervision process skills (i.e., observation, feedback, coaching, assessment, etc.), and supervision strategy skills (i.e., consultation, conflict resolution, etc.). The researchers observed improvements in the participants' ability to challenge/confront supervisees to change behavior while simultaneously strengthening interpersonal relationships with them.

Structure of Supervision

Harvey and Struzziero (2000) discussed principles of effective supervision and suggested supervisory strategies within both education and psychology. They suggested that a supervisor should understand theories and models of supervision prior to adoption of a specific approach. In their book, *Effective Supervision in School Psychology* (2000), the authors examined various models based on such theories as leadership, consultation, client-centered, psychodynamic, ecological, behavioral, cognitive-behavioral, assessment, and elective and integrative approaches. A comprehensive model of supervision in school psychology was offered by Hunley, Curtis, and Batsche in NASP's *Best Practices in School Psychology IV* (2002a). The authors suggested the model incorporate two types of supervision (i.e., clinical and administration) that can occur at three levels (i.e., individual, building/program, district/agency).

Two general types of supervision exist with regard to the management and professional development of employees. The field of clinical psychology as well as other social services have a long history of linking the clinical model of supervision with the professional development of social workers, nurses, counselors, and therapists (Bambling, 2000; Hawkins & Shohet, 1989, Rose & Boyce, 1999). A general definition of clinical supervision is "an aspect of instructional supervision which draws upon data from first-hand observation of actual teaching, or other professional events, and involves face-to-face and other associated interactions between the observer and the person observed in the course of analyzing the observed professional behaviors and activities and seeking to define and/or develop next steps toward improved performance" (Goldhammer, Anderson, & Krajewski, 1993, p. 4). The supervisor and supervisee would be of the same profession while the supervisor would have additional training and knowledge of the supervision process. This model would include activities such as observing, analyzing, planning, and evaluating specific professional practices where growth is needed to assist the individual in becoming more effective.

Administrative supervision is another model that focuses on "managing" people and their roles. It can be defined as the management of personnel issues, logistics of services delivery, and legal, contractual and organizational practices (NASP, 2004c). Administrative supervisors would likely engage in monitoring attendance, punctuality, record-keeping, time management, and school-based polices; supervisors and supervisees in this model are not generally within the same profession (Fischetti & Crespi, 1999; Hunley, et al., 2000a). Administrative supervisors may have specific training in management and administration rather than discipline-specific knowledge (e.g., school psychology training). NASP recommends that school psychologists receive clinical supervision from a licensed/certified school psychologist who has additional training and knowledge of supervision while administrative supervision could be completed by other personnel (e.g., school principal or other administrator).

In summary, the purpose of clinical supervision is to ensure that high quality professional services are provided to the consumer, while the focus of administrative supervision relates to routine activities performed by the supervisee with little attention to the domain-specific professional behaviors. Clinical supervision would occur between individuals with similar educational backgrounds and focus on specific professional behaviors that are defined by professional standards and requirements (Hunley, et al., 2002a). Thus, it would be assumed that school psychologists who receive clinical supervision by supervisors holding a degree in school psychology would be provided with domain-specific staff development, feedback, & evaluation. Clinical supervisors, rather than administrative supervisors, would be more adequately able to provide specific examination and assistances for such professional activities as those included on the survey used in this study. Unfortunately, the question included on the national survey from which the database to be used in this study simply requested information about whether the respondent had received supervision or not. The survey did not request the respondent to delineate the type of supervision received. i.e., clinical versus administrative (see Appendix A).

As Hunley, et al. (2002a) noted, supervision of school psychologists can occur at three levels: individual, building/program, and district/agency. More specifically, they suggested that clinical and administrative supervision can occur at each level; therefore it is important to delineate the types of supervision that would be appropriate for each level as well as the activities appropriate for each level with respect to the type of supervision provided. For example, clinical supervision at the individual level might include examination of a school psychologist's counseling skills, while examining activities related to the completion of paperwork, such as reports, would be appropriate for administrative supervision at the individual level. By delineating the type and level of supervision with specific activities, school psychologists are more likely to be supervised by appropriately qualified supervisors who posses related domains of knowledge.

NASP has delineated specific guidelines for the supervision of school psychologists and psychological services units within school districts through position statement on the standards, methods, structure, training, and evaluation of the supervision process (NASP, 2004c). Reconceptualization of supervision is noted when reviewing the revisions of NASP's *Guidelines for the Provision of School Psychological Services* over time. The 1978, 1981 & 1984 versions of *Guidelines for the Provision of School Psychological Services* referenced the qualifications and duties of a supervisor of a psychological services unit. The 2000 version of *Guidelines for the Provision of School Psychological Services* additionally suggests that supervisors should be nationally certified school psychologists with a minimum of three years of experience, plus training in supervision.

NASP asserts that data-driven accountability and outcome-based evaluation systems should be used to assure effective psychological services. For the purposes of continuing professional growth and development, supervision should be on-going, regardless of degree or experience. Moreover, the Committee for Supervision, Evaluation, and Accountability was formed by NASP to provide support to supervisors as well as to work towards creating an "identity" for school psychology supervisors. These changes demonstrate NASP's shift in philosophy and commitment to the use of supervision as a tool for improving professional practices and service efficacy.

Specific recommendations relating to frequency and methods for supervision, as well as to ratios of school psychologists to supervisor have changed over the years as well. The 1992 *Guidelines for the Provision of School Psychological Services* recommended face-to-face supervision for the first three years of employment, while the 1997 *Standards for the Provision of School Psychological Services* also recommended a 1 to 10 ratio of school psychologists-to-supervisor. The most current standards do not offer specific recommendations on the ratio of school psychologists-to-supervisor, frequency of interactions, or topography/structure of

supervision; this difference may reflect the current thinking on supervision as demonstrated in recent publications. For example, Harvey and Struzziero (2000) have suggested that the level and frequency of supervision should be a function of the skills/knowledge of the school psychologists in a given situation. In other words, a school psychologist at the novice or beginner level may need close supervision, such as co-practice or frequent direct observation, while a school psychologist functioning at a competent level may need only occasional direct observation with more emphasis on indirect forms of supervision. Therefore, the emphasis would be placed on the competency of a school psychologist and not just the years of experience. Hunley, et al. (2002a) suggested that the type and level of supervision depends on the setting and activity; the focus should remain on the outcome of supervision. That is, the supervision process is appropriate if the school psychologist gains needed skills and demonstrates improved service effectiveness.

Other fields, such as social work, provide specifications for a supervision plan within the context of professional development. For example, in order to be a licensed independent clinical social worker, the National Association of Social Workers (2003) requires a minimum of 150 hours of face-to-face clinical supervision by a board-approved supervisor, with no more than 50 hours of that total being provided through group supervision. However, once a social worker becomes licensed, supervision is recommended, but not mandated for continuing licensure. Many fields, including school psychology do not specify requirements for supervision once individuals have moved beyond initial years of practice.

Despite the encouraging changes noted in all of NASP's standards and guidelines for the content of training programs, there continues to be little mention of coursework and practice relating to the process of supervision at the graduate level. In the most recent version of *Standards for Training and Field Placement Programs in School Psychology* (2000), NASP requires course work related to continuing professional development, such as, learning how to evaluate one's performance, knowing one's limitations, planning and engaging in continuing

professional development; however, references to supervision are absent. Despite criticism in the literature relating to the lack of pre-/post-graduate training in supervision, there appears to be minimal change in the training standards that would require preparation in the area of supervision (Harvey & Struzziero, 2000; Hunley, et al., 2002).

The Department of Education in Connecticut published *Guidelines for the Practice of School Psychology* (2004) as a tool to support school psychologists in making significant contributions to the educational and social development of children. This document closely follows the professional practices recommended by NASP and was based on *School Psychology: A Blueprint for Training and Practice III (*Ysseldyke, et al., 2006). Connecticut's DOE also followed NASP's position statement concerning the qualifications of supervisors, models of supervision, activities to be completed, and the role of supervision in professional development. Some examples of Connecticut's innovative ideas relating to supervision are discussed below. With small districts or districts "supervised" by non-school school psychologist personnel, the *Guidelines* suggest that a "lead school psychologist" could act in a supervisory position or that districts could share supervisors. Interestingly, it was recommended that school psychologists develop a yearly portfolio that would help with evaluation and work towards individual professional development goals. As an appendix to the guidelines, a sample supervisor evaluation form was adapted from NASP standards to elicit feedback from individuals within the psychological service units.

Preliminary Research on Supervision

A review of the literature on supervision relative to school psychologists proved limited and suggests a lack of knowledge about supervisors or the supervisory process, including the types of activities, frequency of meetings, and efficacy of the process. Likewise, only a small number of studies in other fields examined the efficacy of supervision as related to positive outcomes for clients (Kilminster & Jolly, 2000; Rose & Boyce, 1999). Crespi and Fischetti

(2000) conducted one of the few studies that examined the frequency and perceived outcome of supervision. They surveyed 500 practicing school psychologists sampled from the list of NASP Regular members; the usable sample of 323 questionnaires was completed by school psychologists who were representative of the larger NASP membership population The authors found that less than 10% of school psychologists received clinical supervision despite the belief by 70% of the respondents that supervision is viable and necessary. Of the 10% of school psychologists who received supervision, 80% felt that the supervision occurred under less than the recommended standards. Notwithstanding, a majority of this subsample reported an increase in skill, knowledge, and enthusiasm, and as a result of supervision, ultimately, being in need of supervision.

The study by Curtis, et al. (2002b) described above, also examined information about the receipt of supervision. Interestingly, they found that only 52.8% of school psychologists reported that they received supervision during the 1999-2000 school year. Of this subsample, only 46.5% received supervision by an individual with a degree in school psychology. The disparity between the reported occurrences of supervision may be explained by the fact that the survey used by Curtis, et al. only asked about the receipt of supervision, but did not specify or differentiate between clinical and administrative supervision. It is possible that respondents to that study were referring to either type of supervision, which would make comparison difficult with the Crespi & Fischetti study, which specifically asked about clinical supervision only.

School psychologists may need to look to other fields to examine possible methods for overcoming the limited availability of appropriate supervision. Using technology to assist with the supervision process, a study involving marriage and family therapists used live computer feedback to provide immediate supervision to student therapists (Kinsella, 2000). Kinsella found a reduction in undesirable behaviors of the student-therapist, such as irrelevant questioning and inappropriate nonverbal cues, but an increase in more functional behaviors such as appropriate

sequencing of questions and summarizing statements. Other studies also have reported positive results using alternative methods of supervision, such as, live computer feedback, phone-in, online chats, and group- and peer-supervision to overcome obstacles relating to time, distance, and supervisor availability (Boethius, & Oegren, 2000; Mauzey & Erdman, 1997; and Stofle & Hamilton, 1998).

Demographic information relating to supervisors. A national survey of self-identified supervisors of school psychologists was completed by Hunley, et al. (2000b). The authors collected information on the demographic characteristics and professional practices of the supervisors of school psychologists during the 1998-1999 school year. The authors surveyed school psychologists who identified themselves as supervisors on a NASP membership list; the completed and returned surveys resulted in a return rate of 47.9% of those sampled.

The demographic characteristics of the supervisors appeared to follow similar trends noted in the field of practitioners as found by Curtis, et al. (1999) and Curtis, et al. (2002b). Although, the majority of the supervisors were female (59%), the representation of women in a supervisory role was somewhat lower than the representation of women in the overall practitioner role (73.4%). With respect to age, more than three quarters of the sample of supervisors reported to be 46 years or older. An underrepresentation of ethnic/minority group members was found as only 7% of supervisors identified themselves as belonging to minority groups. On the other hand, that level of representation is comparable to ethnic minority representation in the field at large (Curtis, Hunley, et al., 2002). A majority of the supervisors had been in a non-supervising school psychologist position prior to the role of supervisor (59%) and 45% had been functioning as a supervisor for more than 10 years.

Generally, supervisors reported administrative level salary scales with salaries ranging from $40,000 to $75,000. The typical work setting for supervisors was the public school with 36% being in an urban setting, 43% a suburban setting, and 27% a rural setting. The majority of

supervisors (65%) indicated that they supervised up to 30 individuals from various professions. Nearly 70% of supervisors reported a range of 1000-2000:1 student-to-school psychologist ratios in the districts they served.

Training and credentialing levels also were examined across the sample of supervisors. The greatest percentage of supervisors held a doctoral degree (45%), while 17% held specialist degrees and 39% held a master degree. Surprisingly, 90% of the supervisors reported little or no training in the process of supervision prior to accepting their position as a supervisor with 83% still having received no additional training as of the time they completed the survey.

Relative to the credentialing of supervisors of school psychologists, expected trends were noted. For example, 96% of the supervisors reported being certified/licensed by a state education agency as a school psychologist, 57% were certified/licensed by a state education agency as a supervisor/administrator, and 78% reported being nationally certified through NASP. To a lesser degree, some supervisors held licenses by a state board of psychology as a doctoral school psychologist (8%), doctoral psychologist (27%), or non-doctoral school psychologist (17%).

NASP has provided recommendations and guidelines relating to the structure of supervision, but little information is known regarding the specific organization and function of supervision that exists in the public schools as it relates to school psychology. Overall, 82% of the responding supervisors reported that they were supervisors of school psychologists. However, the titles and expertise of the supervisors varied across the sample. For some school psychologists, supervision was provided by the school psychologist supervisor, as well as by other individuals (e.g., principal, director of pupil personnel/support services, director of special education).

Professional practices of supervisors. The responsibilities or functions of the supervisors were examined as well. Supervisors reported “frequently” engaging in the following activities: program administration, personnel issues, program development, and individual supervision.

However, supervisors providing individual supervision reported only spending an average of 1.64 hours per week in this activity. Other activities that were reported to occur "sometimes" included: intra-agency activities, inter-agency activities, conflict resolution between supervisees and another person, observing and evaluating supervisees, group supervision, reading reports, and developing and managing budgets. Supervisors who conducted group supervision indicated that it occurred on average 3.88 hours per week. Finally, supervisors reported that they "never" or "infrequently" engaged in research, personnel grievances, and grant writing.

Supervisors reported using a variety of tools for evaluating school psychologists, with direct observation (64%) being the most common form of performance evaluation. Other methods included using instruments designed specifically for school psychologists, instruments designed for teachers, and teacher instruments adapted for use with school psychologists.

Supervisors also were asked to describe their methods for self-evaluation. Supervisors described the use of formal and informal feedback from various sources as a means for evaluating their own performance. Lack of complaints, goal attainment, an increase in persons seeking consultation, an increase in the number of graduate students seeking placement within the system, respect/admiration, and a decrease in the employee turnover rate were some of the additional measures reported for self-evaluation.

Typically, job satisfaction as a supervisor related to the professional growth of him/herself as well as the growth of his/her staff. Many reported a desire to assist their staff by increasing the skill and competence of the staff leading to more efficient and effective services delivery for children. The realization of personal and professional growth in self and others proved rewarding to many of the supervisors. However, supervisors reported a desire to meet with other supervisors, learn about new or different supervision techniques, access supervision listserv's, and attend classes, mentoring/visitation programs, and/or workshops/presentations on related topics.

Summary

On final analysis, it would appear that the professional practices of school psychologists continue to fall short of recommended guidelines and "best practices." Consequently, the field of school psychology may be falling short of meeting the cultural and social demands of society and of the needs of many students. However, clinical supervision by school psychologists with supervision training is not occurring despite its proven efficacy in related fields. Concurrently, school psychologists are facing an increased demand for accountability in providing effective services to a diverse, ever-changing population of students. How can the field of school psychology move toward professional practices that result in positive outcomes for children?

In order to meet the changing needs and demands of American society, practicing school psychologists must develop new skills that result in professional practices that are consistent with current NASP standards (NASP, 2000a). It was the premise of this researcher that continuing professional development, guided by the process of supervision, would promote the use of "best practices" in the delivery of school psychological services; however, little research exists to support this premise. This study was exploratory in nature and was intended to provide some initial understanding of the relationship between the receipt of supervision and the reported professional practices of school psychologists.

Chapter Three

Method

While the research examining the frequency or type of supervision available to practicing school psychologists is sparse, even less is known about the impact of supervision on the nature and quality of services provided by school psychologists. Therefore, using archival data, this study undertook an exploratory examination of the role of supervision as it relates to the professional practices of school psychologists across the United States. More specifically, it investigated the relationship between the receipt of supervision, selected demographic characteristics of school psychologists and their supervisors and the nature of the professional practices and services delivered by the school psychologists.

This chapter provides a description of the procedures employed to answer the research questions posed in this study. First, a description of the development of the 1999-2000 NASP national database, which is the data source for this study, is provided. This description includes an overview of the sample and sampling procedures, the instrumentation, and the data collection procedures employed in the development of the database. Next, a discussion is provided regarding methodological issues pertinent to secondary data analyses. This is followed by a description of the research design and data analysis procedures that were employed in the current study.

Generation of 1999-2000 NASP Database

The source of the data that were used in this study was a national database developed by the National Association of School Psychologists (NASP) based on the 1999-2000 school year (Curtis, Chesno-Grier, et al., 2002). Although a number of studies have described the demographic characteristics and/or professional practices of school psychologists, there was a need for a comprehensive national database for which data were collected and added on a systematic basis over time. Therefore, NASP adopted a policy creating a national database that

described the demographic characteristics, employment conditions and professional practices of school psychologists, with national study updates to occur every five years. A national database that is updated on a regular basis allows for the examination of changes in the field by enabling repeated analyses of variables over time (Curtis & Graden, 1991). In order to answer the research questions posed in the present study, a secondary analysis was conducted using data collected by Curtis, et al. (2002b), based on the 1999-2000 school year. The most recent national database was collected in 2005; however, due to the nature of the research questions and the information gathered in the two studies the more recent national database was not used.

Sample

The initial mailing list for the 1999-2000 study consisted of 3,022 school psychologists obtained from a 20% random sampling of the 1999-2000 NASP *Regular* membership list by state. The final sample (N= 2,052) included in the national database consisted of those respondents who returned useable surveys, representing a 67.9% response rate (Curtis, et al., 2002). The primary positions held by members of the final sample were: 80% practicing school psychologist; 6% university faculty; 5% administrator; 2% private practice; and 7% other.

Table 1 provides a comparison of the final sample for the national database with total NASP membership on key demographic variables including gender, ethnicity, function, and years of experience. Review of these data show that the sample was highly representative of the NASP membership. Comparability is observed for gender, years of experience, and ethnicity. There were slight differences observed for function and highest degree earned. The database sample included a higher percentage of school psychologists who identified themselves as practicing school psychologists, as well as those with an Education Specialist degree (28%) and a doctoral degree (30.2%) as compared to that in the general NASP membership (15.4% and 25.6%, respectively). However, the differences noted can probably be explained by the fact that total NASP membership includes students (individuals who do not yet hold a graduate degree in

school psychology and who have not yet entered the field) and affiliate members (individuals who are interested in the field, but are not school psychologists) while the database sample was limited to only NASP Regular members, i.e., school psychologists.

Table 1

Demographic Characteristics of the Final Sample for the National Database Study and the NASP Membership

Characteristic	% of 1999-2000 National Database Sample	% of 2000 NASP Membership
Gender		
Female	69.9	72.7
Male	30.4	27.3
Ethnicity		
American Indian/Alaska National	0.6	0.4
Asian-American/Pacific Islander	0.6	1.0
Black/African American	1.9	2.2
Hispanic	3.1	3.2
White/Caucasian	92.8	91.9
Other	0.9	1.3
Highest Degree Earned		
M.A., M.S., Med.	41	51.2
Ed.S.	28.2	15.4
Ed.D., Ph.D., Psy.D.	30.2	25.6

Table 1 (cont'd)

Function		
School psychologist	80	71.9
Years of experience in School Psychology		
≤5	26.2	30.4
≤15	60.6	60.9
≥20	20.7	21.6

Note. Terminology used in Table 1 reflects that used in the current NASP membership database and differs from the terminology used on the database sample questionnaire.

Instrumentation

National Association of School Psychologists: Demographic and Professional Practices Survey 1999-2000 School Year (NASP-DPPS 2000). The original survey instrument was developed by Graden and Curtis in 1991 in order to create a national database that described demographic information as well as information relating to setting, employment conditions, training, and professional practices of school psychologists in the field based on the 1989-1990 school year. The authors developed a first draft of the survey instrument containing numerous questions relating to training, workplace issues, and professional practices (Curtis & Graden, 1991).

Content validation of instrument. In order to obtain evidence relative to the content validity of the instrument, two different groups of experts were utilized. The first group consisted of the NASP leadership, which included the NASP Delegate Assembly and Executive Board. These individuals were told the purpose of the survey. They were then asked to review the content covered as well as the wording of the items and to provide feedback on the extent to which they believed the instrument would yield the information for which it was designed. The

second group of experts consisted of five practicing school psychologists who were asked to complete the survey and to provide feedback on the clarity of the items, directions, structure, and adequacy of response options, as well as time and ease for completion.

Revisions were made to the instrument based on feedback provided from each of the two groups. The revised instrument was then approved by both the Delegate Assembly and the Executive Board. In order to allow for analyses of historical trends over time, it was decided that consistency should be maintained for most items on the survey. Consequently, relatively few changes have been made to the original survey instrument in subsequent national studies.

The NASP-DPPS 2000 (see Appendix A) instrument was comprised of 37 items with a variety of questions and response formats including dichotomous, nominal, and rate/frequency scales. Items 1-19 were designed to obtain information on the demographic characteristics of respondents including gender, age, ethnicity, experience, educational background, and employment setting. Items 20-37 solicited information about school-specific variables relative to the professional practices of full-time psychologists working in a school setting, including the number of 504 plans developed, the number of initial special education assessments, re-evaluation assessments, and consultation cases, the number of students served through individual counseling, and the number of student groups, and inservice programs conducted.

Data Collection Procedures

In June 2000, the *NASP- DPPS 200*0 was mailed to 3,022 school psychologists who constituted the initial random sample as described above. Included with the survey instrument were a pre-addressed, postage-paid return envelope and a cover letter. The content of the cover letter included: (a) an explanation of the purposes and confidential nature of the study to encourage subject participation, (b) directions for participants' responses to be based on the 1999-2000 school year, and (c) a description of an incentive to participate (i.e., five recipients who

returned a completed survey would be randomly selected to receive one year of free membership in NASP).

A code number was included on the return envelope to facilitate follow-up contact with non-respondents and to enable the selection of award recipients. To increase the response rate, two additional mailings were also completed. Altogether, 2,052 useable surveys were returned, yielding a final return rate of 67.9%.

Data gathered from the administration of the NASP-DPPS 2000 survey were used to create the 1999-2000 national database (Curtis, et al.2000b). This database served as the data source for the secondary analyses conducted in this study. The following section will review the appropriateness of the data source.

Secondary Data Analysis

Secondary data analysis allows for efficient use of time, cost, and resources; additionally, data can be combined from a variety of sources and trends can be examined over time (Beaulieu, 1992; Corti, Witzel, & Bishop, 2005). The archived data may allow for longitudinal, sub-group, and cross-cultural analysis. However, there also are some difficulties that may arise when conducting secondary analyses. For example, secondary analysis may involve data complexity due to large scale studies, lack of familiarity with the data, outdated time frames, and unknown individual values, beliefs, or reasons that may be underlying current trends (Beaulieu, 1992; Corti, Witzel). Additionally, the absence of key variables may present limitations due to differences in the purposes of studies, emergence of new theories, and different or indirect measures of desired variables.

Crawford (1997) presented a flowchart of the decision path for using secondary data. Decisions for each question that should be addressed include: (a) do the data help address specified research questions, (b) do the data apply to the population of interest, (c) do the data cover the time period of interest, (d) are the definitions, data collection methods, and analyses

acceptable, (e) can the original data be accessed, (f) is the risk of bias high, and (g) can the data be verified? Relative to this study, all of the questions could be answered affirmatively, with the exception of "f" which was answered in the negative, indicating that use of this database was appropriate.

The data that were analyzed in this study were considered indirect and limited measures of the desired variables. More specifically, the data were in the form of self-reported frequencies of professional practices and the availability of supervision obtained from participants' responses to a large-scale mailed survey. Thus, there was a reliance on the respondents to provide accurate and unequivocal information. It would have been beneficial to have more objective measures regarding amount, type, and outcome-based results of supervision. The unavailability of these types of data limited the reliability and validity of the findings. However, consistency of the measures across several studies, as well as the timeliness of the national database, supported its use to obtain initial information about the state of professional practices in the field and their relationship to supervision (Graden & Curtis, 1991, Curtis et al., 1999, Curtis, Chesno-Grier, et al., 2002; and Curtis, Hunley, et al., 2002).

The use of mailed surveys for data collection in studies provides specific advantages and disadvantages (Borg & Gall, 1989; Cui, 2003; Trochim, 2002). Mailed surveys are an indirect, unobtrusive, and inexpensive measure that allow access to a large sample of participants where many questions can be asked about a given topic. The standardized presentation of the survey allows for increased reliability and reduced research/observer subjectivity. On the other hand, surveys that are standardized and structured may reduce the appropriateness of questions for some respondents and do not allow the researcher to adapt the questions or administration as needed through the course of the study. However, the standardized structure of the survey results in more technically sound measures than other more subjective interview formats.

Relative to the quality of responses to surveys, detailed responses are not typical in mailed surveys; therefore, the respondent is not able to provide a context for his/her response. Relying on the participant to accurately recall and report information (e.g., recalling the number of evaluations completed last year) is an additional concern related to the type of questions included on a survey.

Low return rates can limit the reliability of the findings; however suggestions have been offered for improving return rates (Dillman, 1991; Fox, Crask, & Kim, 1998). For example, including incentives, using a postage-paid, pre-addressed return envelope, and completing follow-up mailings were found to result in higher return rates. The original study by Curtis, et al. (2002b) used several of these procedures, as previously described, in order to increase the return rates of the questionnaires.

Research Design

This study was correlational in design and involved secondary analyses of data drawn from the NASP-DPPS 2000 database. It explored the relationship between selected characteristics of school psychologists, the receipt of supervision as reported by respondents to the survey, selected characteristics of their supervisors and the professional practices of these school psychologists.

Study Variables

Predictor variables. The independent or predictor variables that were investigated in this study included selected demographic and other characteristics of school psychologists (including their gender, age, ethnicity, years of experience in school psychology, years of classroom teaching experience, level of degree earned, level of training and numbers of years of experience as school psychologists), the reported receipt of supervision, their supervisor's educational background in terms of area of specialization (psychology vs. non-psychology) and level of earned degree (doctorate vs. nondoctorate), and the school psychologists-to-supervisor ratio.

Predictor variables that are categorical were dummy coded for data analysis purposes. Dummy codes that were assigned to the variables are reported in the Table 2.

Dependent variables. The dependent variables for this study related to the nature of the school psychologist's professional practices as measured by each of the following: (i) the number of section 504 plans developed, (ii) the number of consultation cases completed, (iii) the number of students counseled individually, (iv) the number of student groups conducted, (v) number of inservice programs delivered, (vi) the number of initial psychoeducational evaluations completed, and (vii) the number of reevaluations completed. Thus, altogether seven dependent measures were employed within the context of this study to investigate the nature of the professional practices of the school psychologists.

Table 2

Dummy Coding for Categorical Predictor Variables

Predictor variable	Dummy code=1	Dummy code=0
	<u>School psychologist</u>	
Gender	Male	Female
Race	Caucasian	Minority (non –Caucasian)
Level of degree earned	Ph. D. or Ed.S.	M.A. or B.A.
Supervision	Received supervision	Did not receive supervision
	<u>Supervisor</u>	
Area of specialization	School psychology	Non-school psychology
Level of earned degree	Doctoral level	Non-doctoral (Ed.S. or below)

Data Analysis Procedures

Overview of Statistical Procedures

Inferential statistical procedures. To answer the research questions, inferential statistical procedures in the form of bivariate correlations and multiple regression analyses were utilized. These analyses allowed for the generalization of the study's findings to the population of school psychologists in the NASP membership while only examining the data from a sample of school psychologists.

Bivariate correlation was used to examine the strength and direction of the relationship between an independent or predictor variable and a dependent variable. The point-biserial correlation was used when the independent variable was a true categorical variable and the dependent variable was continuous.

Multiple regression analysis was used to investigate the relationship between a set of predictor (independent) variables and a continuous dependent variable. This analysis allowed for an estimation of how the predictor variables in combination and individually contribute to the variance in a given dependent variable. The coefficient of determination, the squared multiple correlation R^2, indicates the amount of variance in the dependent variable that is predictable from a linear combination of the predictor variables in the given sample. The adjusted R^2 provided an estimate of the squared population correlation.

In order to determine the unique contribution of one or more of the independent variables to prediction of the dependent variable, squared semi-partial correlations were computed. The squared semi-partial correlation indicated the proportion of variance in the dependent variable that was accounted for by a predictor variable or variables after the other independent variable(s) in the regression model were been taken into account or partialled out (Pedhazur, 1982).

Test of Assumptions

Assumptions underlying the bivariate correlation and multiple regression analyses were examined to detect any possible violations. The normality assumption requires that the variables have normal distributions. Non-normally distributed variables (e.g., outliers, skewed distributions) can distort the relationships among the variables and tests of significance. Visual inspection as well as diagnostic procedures were helpful in determining the normality of the distribution (Osborne & Waters, 2002).

The linearity assumption requires that the relationship between a dependent variable and an independent variable be linear. When the relationship is nonlinear, the regression analysis will underestimate the true relationship between the variables. Three methods suggested for detecting nonlinearity include: using theory or previous research to inform current analyses, examining residual plots, and/or using regression analyses that incorporate curvilinear components (Osborne & Waters, 2002).

The final assumption examined was homoscedasticity. Homoscedasticity means that the variance of errors is the same across all levels of the IV. If the error variance of the IV differs (i.e., heteroscedasticity), then distortion of the findings can result. A visual examination of the plot of standardized residuals by the regression standardized predicted value was used to test this assumption (Osborne & Waters, 2002).

Diagnostic procedures. For each regression analysis, diagnostic procedures were employed to detect any potential outliers or unusual scores that may be influential on the value of the correlation coefficient. An observation may be "distinct" relative to the sample but not influential. Bollen and Jackman (1985) suggested that an outlier is "influential" if its deletion from the analysis results in changes in estimated parameters. The first step in detecting the presence of outliers can be performed through a visual representation of the data using partial

regression plots. Partial regression plots are scattergrams of two residual variables (Bollen & Jackman, 1985).

The next level of diagnostic procedures included the following three classes of statistics: distance, leverage, and influence. Distance can be used as a diagnostic procedure to identify potential outliers in the dependent variable. Two specific measures in determining distance include: (a) the RESID which provides a measure of vertical distance between a given point and the regression line and (b) the studentized residuals which provide information about the "deviant residuals".

There are measures that examine the leverage which is useful in identifying potential outliers in the independent or predictor variables, thus indicating the degree to which the values for a set of predictor variable(s) are unusual. Hat Matrix Diagonal or h_i provides information about the "distance" of a case from the mean of the predictor variables.

Finally, influence combines both leverage and distance to identify those cases in the data set that are unusually influential. An outlier can be examined to see whether the error in the model changes when a specific data value is included or excluded from the model. Cook's D is the most common measure of influence and includes aspects of distance and leverage.

$DFITS_i$ and $DFBETS_{ij}$ are two procedures that are affected by both leverages and residuals; they provide a statistics that measures how much the estimated coefficients would change if each observation were removed from the data set.

Research Questions and Statistical Analyses

A description of the specific statistical procedures that were used to answer each research question follows. As was noted in Chapter 1, for each research question, the nature of school psychologist's professional practices was measured by the reported frequency of occurrence of each of the following seven professional practices:

i. the number of section 504 plans developed

ii. the number of consultations conducted

iii. the number of students counseled individually

iv. the number of student groups conducted

v. the number of inservice programs conducted

vi. the number of initial psychoeducational evaluations completed

vii. the number of reevaluations completed

Research question 1 was addressed using the complete sample (N = 2052). For research questions 2 to 4, the subgroup of school psychologists who reported receiving supervision (n = 1100) constituted the sample for data analysis purposes.

Research Question 1

(a). What is the relationship between the receipt of supervision as reported by school psychologists and the nature of their professional practices?

To answer this research question a point-biserial correlation was computed between the categorical independent variable, reported receipt of supervision (coded 1= received supervision, 0= did not receive supervision), and each of the seven continuous dependent variables. For each correlation, the proportion of variance in the dependent measure that was accounted for by the predictor variable was reported.

(b). What is the relationship between the receipt of supervision as reported by school psychologists and the nature of their professional practices after controlling for school psychologist's years of experience in school psychology and level of degree earned?

To answer this research question, multiple regression analyses were used and squared second-order semi-partial correlations $r^2_{y(1.23)}$ were computed to ascertain the relationship between the predictor variable, reported receipt of supervision (X_1), and each of the dependent variables(Y_i), while controlling for the school psychologist's years of experience in school psychology (X_2) and level of degree earned (X_3).

The squared semi-partial correlation was the difference between the multiple R^2 in the full model, $R^2_{Y.123}$, and the multiple R^2 in the reduced model, $R^2_{Y.23,}$ which contains as predictor variables only those predictors that were being controlled (i.e., X_2 and X_3). Separate analyses were done for each of the seven dependent measures.

Research Question 2:

> For school psychologists who report receiving supervision, what is the relationship between selected demographic characteristics (their gender, age, ethnicity, years of experience in school psychology, years of classroom teaching experience, and highest degree earned) and the nature of their professional practices?

To answer this research question, seven different multiple regression analyses were conducted. Each analysis contained as predictor variables, the school psychologists' gender, age, ethnicity, years of experience in school psychology, years of classroom teaching experience, and level degree earned; and as the dependent variable one of the seven practices delineated above.

Research Question 3

(a) For school psychologists who report receiving supervision, what is the relationship between their supervisor's educational background (viz., area of specialization and level of degree earned) and the nature of school psychologists' professional practices?

To answer this research question a series of multiple regression analyses were computed. Supervisor's educational background was operationalized in terms of two predictor variables: *supervisor's area of specialization, dummy* coded school psychology = 1 and non-school psychology = 0; and *supervisor's level of degree earned* , dummy coded doctoral level = 1 and non-doctoral level = 0. Thus, for each regression analysis the two predictor variables were supervisor's area of specialization and level of degree earned while the outcome variable was one of the seven dependent measures (professional practices) given above. The amount of variance

accounted for in each of the dependent variables was computed and reported. Separate analyses were done for each of the seven dependent measures (professional practices).

(b) For school psychologists who report receiving supervision, what is the relationship between supervisor's educational background (viz., area of specialization and level of degree earned) and the nature of the school psychologist's professional practices after controlling for school psychologists' years of experience in school psychology and level of degree earned?

This research question was answered by using multiple regression analyses and squared second-order, multiple semi-partial correlations $R^2_{y(12.34)}$ to determine the relationship between the predictor variables, supervisor area of specialization (X_1) and level of degree earned (X_2), and each of the dependent variables (Y_i), while controlling for the school psychologist's years of experience in school psychology (X_3) and level of degree earned (X_4).The squared semi-partial correlation ($R^2_{y(12.34)}$) was the difference between the multiple R^2 in the full model, $R^2_{y.1234}$, and the multiple R^2 in the reduced model, $R^2_{y.34}$, which contains as predictor variables only those predictors that were being controlled (i.e., $X_3$and X_4). As was noted for research question 3(a) above, supervisor's area of specialization was coded 1 = school psychology, 0 = non-school psychology; and supervisor's level of degree earned was coded 1 = doctoral level, 0 = non-doctoral level. Separate analyses were done for each of the seven dependent measures.

Research Question 4

(a). For school psychologists who report receiving supervision, what is relationship between the school psychologists-to-supervisor ratio and nature of the school psychologists' professional practices?

To answer this research question a Pearson product-moment correlation coefficient was computed between the continuous predictor variable ratio of school psychologists-to-supervisor and each of the seven dependent measures (professional practices). The correlation coefficient

shed light on the extent to which the ratio of school psychologists-to-supervisor contributed to the variance in each of the respective dependent measures.

(b). What is the relationship between school psychologists-to-supervisor ratio and the nature of the school psychologists' professional practices after controlling for school psychologists' years of experience in school psychology and level of degree earned?

To answer this question, multiple regression analyses were used and a squared second-order semi-partial correlations $r^2_{y(1.23)}$ were computed to determine the relationship between the predictor variable, school psychologists-to-supervisor ratio (X_1), and each of the dependent variables (Y_i), while controlling for the school psychologist's years of experience in school psychology (X_2) and level of degree earned (X_3).The squared semi-partial correlation was the difference between the multiple R^2 in the full model, $R^2_{y.123}$, and the multiple R^2 in the reduced model, $R^2_{y.23}$, which contained as predictor variables only those predictors that were being controlled (i.e., X_2 and X_3). Separate analyses were done for each of the seven dependent measures.

Limitations

There were some limiting factors within this study that could interfere with the reliability and validity of the findings. In future studies, researchers may wish to address the limitations to better understand the implications of supervision for the professional practices of school psychologists. The issues of nonrespondents of sampled individuals may prove limiting. Borg & Gall discussed the implications of the nonrespondent group representing a biased sampling. Within a sample group, the individuals who do not respond to the survey or questionnaire were found to be measurably different from those individuals who did respond (1989). Borg & Gall suggested that if nonrespondents represent less than 20% of the sample then their potential impact is not critical on the findings. The percent of nonrespondents for this study was 38%; therefore, the potential impact of this group on the findings may be significant and unknown.

Another limitation was the use of a retrospective survey to gather reported practices and availability of supervision. The results reflected self-reported frequency and time invested during the previous school year. The findings may have been impacted by the accuracy of recall as well as issues of social expectancy.

The lack of research on the role of supervision (e.g., amount, type, effectiveness) and outcome data on the professional practices of supervised school psychologists limited the ability to examine trends and patterns over time. There are few existing studies on supervision of school psychologists; therefore, this study should be viewed as part of the starting point analysis for future studies. Confirmatory studies of supervision's role in the professional practices can examine such factors regarding supervision such as the model of supervision, frequency of supervision, length of supervision sessions, action-steps of supervision as well as outcome-based effectiveness of supervision. With each new study, critical aspects or "best practices" of supervision can be established and recommended as a model for providing supervision of school psychologists.

Finally, a potential shortcoming of this study is related to the data collection on the professional practices of school psychologists. Frequency data, that is, the number of professional services performed, did not allow for the examination of how the supervision process potentially influences the quality of the professional service performed. Differential outcomes regarding the relationship between the receipt of supervision and the professional practices were expected due to the data reflecting frequency of services and not the quality of services. However, these outcomes may or may not have been related to qualitatively better professional practices (Borg & Gall, 1989). This study was unable to make specific statements about the role of supervision in developing the quality of the professional practices of school psychologists.

Chapter 4

Results

This chapter reports the results of the data analyses conducted to answer the four research questions posed in the study. First, findings relative to the assumptions that underlie the inferential statistical procedures employed are presented. This is followed by a reporting of the results of the analyses for each of the research questions.

Test of Assumptions

Assumptions of independence, linearity, normality, and homoscedasticity, as previously discussed in Chapter 3, were examined as part of the data analyses. The assumption of independence was maintained through the data collection process. Individual participants were randomly chosen from the NASP membership listing and mailed surveys were completed independently of each other. Linearity assumes a linear relationship between the dependent variable and predictor variables. Violations to this assumption can be observed in bivariate scatterplot of the variables of interest. Fortunately, multiple regression procedures are not greatly affected by minor deviations from this assumption. The assumptions of normality and homoscedasticity appear to have been violated. Normality assumption violations were noted through examining graphs of the variables' distributions (i.e., histograms, box plots, and normality probability plots). Homoscedasticity was examined through a visual examination of the plot of standardized residuals and the regression standardized predicted value; the resulting form was a fan shaped graph where residual variance increased regularly with changes in the independent variable. However, the robustness of the *F* test and the large sample size were judged to compensate for any violations (Hanushek & Jackson, 1977; Fox, 1991). Cohen and Cohen (1983) suggested "even fairly substantial departure from the assumptions will frequently result in little error of inference . . ." (p. 51). Further diagnostic procedures were used to investigate the violations for the potential impact on the findings.

Diagnostic procedures. For each regression analysis, diagnostic procedures were employed to identify any potential outliers or unusual scores that may be influential on the value of the correlation coefficient. Analyses were completed with and without corrections and no significant variance in findings was noted.

Data were found to be deviant with regard to vertical distance from the regression line using the studentized residuals. Observations with studentized residuals larger than 1.0 were removed and analyses were recomputed; however, no significant variance in findings was noted. The influence of outlying data points also was analyzed using Cook's D. No data points were considered to be influential using the cutoff Cook's D score of 2.0 or greater. Therefore, the data were analyzed as provided from the original study.

Results of the analyses for each of the research questions addressed in this study are presented below. For each of the research questions, selected demographic and/or professional experience variables for school psychologists were examined with respect to the nature of the professional practices of the school psychologist. As was noted earlier in Chapter 3, for purposes of this study, the nature of school psychologists' professional practices was measured by the frequency of occurrence or number of times each of the following practices was reported by the school psychologist to have occurred during the 1999-2000 school year: 1) the number of Section 504 plans developed, 2) the number of consultation cases conducted, 3) the number of students counseled individually, 4) the number of student groups conducted, 5) the number of inservice programs delivered, 6) the number of initial psychoeducational evaluations completed, and 7) the number of reevaluations completed. These seven practices served as outcome or dependent variables in the analyses.

Relationship between Occurrence of Supervision and School Psychologists' Professional Practice

Research Question 1

The first research question examined the relationship between the receipt of supervision as reported by school psychologists and the nature of their professional practices. The total sample of 2,052 respondents was used for the statistical analyses. Means and standard deviations of the frequency of occurrence of (or number of times) each of the seven professional practices was reported to have been conducted or completed by supervised and non-supervised school psychologists during the 1999-2000 school year are reported in Table 3. Not all of the 2,052 respondents answered all of the items on the survey. Therefore, the missing data, of course, were not included in the analyses and differing sample sizes will be noted in the following tables.

Table 3

Means and SDs of Frequency of Occurrence of Professional Practices by Receipt of Supervision of School Psychologists

Professional practices	Supervised (n = 675)		Not Supervised (n = 767)	
	Mean	SD	Mean	SD
Section 504 plans developed	6.71	8.00	6.67	7.90
Consultation cases completed	34.56	20.95	33.58	20.67
Students counseled individually	11.75	15.52	12.98	17.28
Student groups conducted	9.12	15.53	10.28	16.59
Inservice programs conducted	2.67	3.10	2.76	3.01
Initial psychoeducational evaluations completed	40.98	28.67	36.50	28.55
Reevaluations completed	36.32	26.31	33.03	25.92

N = 2,052.

A cursory examination of the data presented in Table 3 indicates little difference in the frequency of occurrence of several of the professional practices between school psychologists who reported receiving supervision and those who indicated that they were not supervised.

To determine the relationship between the categorical independent variable *receipt of supervision* (coded 1= received supervision, 0= did not receive supervision) and each of the seven professional practices variables (continuous dependent variables), point-biserial correlations were computed. The resultant correlations are reported in Table 4. Examination of Table 4 reveals that the receipt of supervision is significantly related ($p < .05$) to the occurrence of two professional practices. School psychologists who reported that they received supervision completed significantly more initial psychoeducational evaluations ($r = 0.080$, $p < .05$) and more reevaluations ($r = 0.063$, $p < .05$) than those who reported that they were not supervised.

Table 4

Correlation between Supervision of School Psychologists and Frequency of Occurrence of Professional Practices

Professional Practices	(r_{pb})	p
Section 504 plans developed	.003	.8997
Consultation cases completed	.024	.3801
Students counseled individually	-.039	.1408
Student groups conducted	-.035	.1834
Inservice programs conducted	-.0014	.5992
Initial psychoeducational evaluations completed	.080	.003*
Reevaluations completed	.063	.0170*

*Note. n = 1,442, * p < .05.*

The relationship between receipt of supervision and the nature of school psychologists' professional practices was reexamined after controlling for the school psychologist's years of experience in school psychology and level of degree earned. Level of degree earned was coded

1 = Ph.D. or Ed.S., and 0 = Master's or Bachelor's degree. Multiple regression analyses were used to obtain second-order semi-partial correlations (sp). The resulting data are presented in Table 5.

Table 5

Summary of Regression Analyses of Occurrence of Professional Practices of School Psychologists on Reported Supervision, Years of Experience and Highest Degree Earned

Professional Practices	sp
Section 504 plans developed	0.01
Consultation cases completed	0.033
Students counseled individually	0.039
Student groups conducted	0.044
Inservice programs conducted	0
Initial psychoeducational evaluations completed	0.085*
Reevaluations completed	0.067*

N = 1,442.

** p < .05.*

Examination of Table 5 reveals that both the number of initial psychoeducational evaluations and the number of reevaluations completed by school psychologists are significantly related ($p < .05$) to their receipt of supervision when controlling for years of experience in school psychology and highest degree earned (sp = .085 and .066, respectively). However, the occurrence of no other professional practices was significantly related to the receipt of supervision.

Relationship between Selected Demographic Characteristics of Supervised School Psychologists and Professional Practice

Research Question 2

The second research question examined the relationship between selected demographic characteristics of supervised school psychologists (gender, age, ethnicity, years of experience in school psychology, years of classroom teaching experience, and highest degree earned) and the nature of their professional practices. The subgroup of school psychologists who reported receiving supervision (n = 767) constituted the sample for data analysis purposes. The term "supervised school psychologist" will be used instead of "school psychologist who reported receipt of supervision."

Means and standard deviations of occurrence of each professional practice and demographic characteristics of the supervised school psychologists are presented in Tables 6 and 7.

Table 6

Means and SDs of Occurrence of Professional Practices of Supervised School Psychologists

Professional Practices	Mean	SD
Section 504 plans developed	6.71	8.00
Consultation cases completed	34.56	20.95
Students counseled individually	11.75	15.52
Student groups conducted	9.12	15.53
Inservice programs conducted	2.67	3.10
Initial psychoeducational evaluations completed	40.98	28.67
Reevaluations completed	36.32	26.31

n = 767.

As shown in Table 6, the average number of Section 504 plans completed was approximately

seven, while the number of consultation cases completed was about 35. On average, school psychologists counseled 11 students individually and conducted nine student groups during the 1999-2000 school year. They completed approximately 41 initial psychoeducational evaluations and 36 reevaluations, on average. The mean number of inservice programs delivered for the year was about three.

Examination of the data in Table 7, shows that in this sample of supervised school psychologists, the average age was approximately 44 years, the majority (91%) were Caucasian, and approximately 70% were female. On average, these school psychologists had completed almost 82 hours of graduate-level training, had approximately 12 years of experience in school psychology and two and one-half years of classroom teaching experience. The average students-to-school psychologist ratio was 1719:1.

Table 7

Means and SDs of the Demographic Characteristic of Supervised School Psychologists

Demographic characteristic	Mean	SD
Gender	0.30	0.457
Age	43.51	10.62
Ethnicity	0.913	0.282
Ratio of students-to-school psychologists	1719.23	1103.53
Years of experience in school psychology	11.81	8.44
Years of classroom teaching experience	2.45	4.82
Highest degree earned	0.527	0.50
Graduate semester hours completed in school psychology	81.79	34.50

Note: Gender was coded 1= male, 0=female; ethnicity was coded as 1= Caucasian, 0=Minority (non-Caucasian); Highest Degree Earned was coded as 1= Ph.D. or Ed.S., 0 = Bachelor's or Master's.

n = 767

To examine the relationship between a given professional practice and the linear combination of demographic characteristics of supervised school psychologists, multiple regression analysis was used. Thus, to address this research question seven separate regression analyses were conducted, one for each professional practice. (Bivarate correlations of the demographic characteristics and the professional practices of supervised school psychologists are reported in Appendix B).

Section 504 plans developed. The results of the multiple regression analysis of the number of Section 504 plans developed by supervised school psychologists on the six selected demographic characteristics are presented in Table 8.

Table 8

Summary of Regression Analysis of Number of Section 504 Plans Developed by Supervised School Psychologists on Demographic Characteristics (n = 729)

Demographic characteristic	b	SE	t	p
Gender	0.704	0.67	1.04	.298
Age	-0.008	0.0041	-0.19	.848
Ethnicity	1.851	1.060	1.75	.081
Years of experience in school psychology	0.027	0.05	0.54	.590
Years of classroom teaching experience	-0.002	0.069	-0.02	.982
Highest degree earned	0.788	0.595	1.32	.186

Note. $R^2 = .009$, *Adj.* $R^2 = 0.0008$, $F(6,722) = 1.10$, $p > .05$.

Examination of Table 8 reveals that the linear combination of demographic characteristics of supervised school psychologists investigated did not account for a significant portion of the variance observed in the number of Section 504 plans developed by these school psychologists,

$R^2 = .009$, $p > .05$. As is shown, none of the six demographic characteristics were related to the number of Section 504 Plans developed by supervised school psychologists.

Number of consultation cases completed. The results of the regression analysis of the number of consultation cases completed by supervised school psychologists on the six selected demographic characteristics are presented in Table 9. Although a review of these data indicated that the years of experience in school psychology was making a significant contribution ($p < .05$) to the variance in the outcome variable, number of consultations cases completed, the linear combination of the demographic characteristics of supervised school psychologists did not account for a significant portion of the variance observed in the dependent variable.

Table 9

Summary of Regression Analysis of the Number of Consultation cases completed by Supervised School Psychologists on Demographic Characteristics (n = 700)

Demographic characteristic	b	SE	t	p
Gender	1.578	1.820	0.87	.386
Age	-0.044	0.0110	-040	.687
Ethnicity	2.437	2.855	0.85	.397
Years of experience in school psychology	0.270	0.133	2.03	.042*
Years of classroom teaching experience	0.029	0.181	0.16	.872
Highest degree earned	0.220	1.592	0.14	.890

Note. ***$R^2 = .0134$, Adj. $R^2 =$*** *0.005, $F(6,693) = 1.57$, $p > .05$.*

Number of students counseled individually. The results of the regression analysis of the number of students counseled individually by supervised school psychologists on the six selected demographic characteristics are presented in Table 10. As is shown, the linear combination of demographic variables accounted for a small (1.9%) but statistically significant percent of the

variance in the outcome variable, number of students counseled individually ($R^2 = .019$, $p < .05$). The number of students counseled individually by supervised school psychologists varied as a function of the gender of the psychologist (b = 4.533, p < .05).

Table 10

Summary of Regression Analysis of Number of Students Counseled Individually by Supervised School Psychologists on Demographic Characteristics (n = 732)

Demographic characteristic	b	SE	t	p
Gender	4.53	1.298	3.49	.001*
Age	-0.004	0.078	-0.05	.962
Ethnicity	1.80	2.045	0.88	.379
Years of experience in school psychology	-0.047	0.095	-0.49	.621
Years of classroom teaching experience	0.157	0.131	1.20	.231
Highest degree earned	-0.40	1.137	-0.35	.727

Note. ***R^2 =.019***, ***Adj. R^2 =*** *0.011, F(6, 725) = 2.35, p <. 05.*

On average, female supervised school psychologists counseled five more students individually during the year than did their male counterparts while holding constant the remaining demographic variables.

Number of student groups conducted. The results of the regression analysis of the number of student groups conducted by supervised school psychologists on the six selected demographic characteristics are presented in Table 11.

As is shown, the linear combination of demographic variables accounts for a small (1.8%) but statistically significant percent of the variance in the outcome variable, number of students counseled individually by supervised school psychologists ($R^2 = .018$, $p < .05$). Age was found to make a significant unique contribution to the variance in the outcome variable.

More specifically, the number of student groups conducted by supervised school psychologists inversely varied as a function of the age of the psychologist, ($b = -0.182$, $p < .05$). Younger supervised school psychologists reported conducting more student groups. For every one year difference in age of the supervised school psychologists, 0.2 fewer groups were conducted while holding constant the remaining demographic variables.

Table 11

Summary of Regression Analysis of Number of Student Groups Conducted by Supervised School Psychologists on Demographic Characteristics (n = 726)

Demographic characteristic	b	SE	t	p
Gender	-0.688	1.333	-0.50	.616
Age	-0.182	0.081	-2.26	.024*
Ethnicity	3.170	2.106	1.50	.133
Years of experience in school psychology	-0.008	0.097	-0.08	.938
Years of classroom teaching experience	0.148	0.135	1.09	.274
Highest degree earned	-0.590	1.165	-0.51	.613

Note. $\boldsymbol{R^2 = 0.018}$, $\boldsymbol{Adj.\ R^2} = 0.010$, $F(6, 719) = 2.22$, $p < .05$.

Number of inservice programs conducted. Table 12 reports the results of the regression analysis of the number of inservice programs delivered by supervised school psychologists on the six selected demographic characteristics of the school psychologists.

Due to a statistically significant F-test, the overall model was considered to be statistically significant. However, this combination of variables only accounted for 2.7% of the variance observed in the number of inservice programs conducted by supervised school psychologists.

Several of the predictor variables provided information about the variance of the dependent variable. The number of inservice programs conducted by supervised psychologists positively

varied as a function of years of experience in school psychology (b = 0.058, p < .05), years of experience in classroom teaching (b = 0.062, p < .05), highest degree earned (b = 0.229, p < .05) and inversely with age (b = -0.038, p < .05). While holding the remaining predictor variables constant, younger supervised school psychologists with higher level of degrees, years of experience as a school psychologist and classroom teaching conducted more inservice programs.

Table 12

Summary of Regression Analysis of Number of Inservice Programs Delivered by Supervised School Psychologists on Demographic Characteristics (n = 737)

Demographic Characteristic	b	SE	t	p
Gender	0.476	0.260	1.83	0.068
Age	-0.038	0.016	-2.38	0.018*
Ethnicity	0.175	0.407	0.43	0.667
Years of experience in school psychology	0.058	0.019	3.04	0.002*
Years of classroom teaching experience	0.062	0.263	2.35	0.019*
Highest degree earned	0.467	0.229	2.04	0.042*

Note. $R^2 = .027$, $Adj.\ R^2 = 0.020$, $F(6, 730) = 3.40$, $p < .05$.

Number of initial psychoeducational evaluations completed. Table 13 reports the results of the regression analysis of the number of initial psychoeducational evaluations on the six selected demographic characteristics of supervised school psychologists.

Examination of Table 13 shows, that the regression model was not statistically significant. None of the demographic characteristics was related to the number of initial psychoeducational evaluations completed by supervised school psychologists.

Table 13

Summary of Regression Analysis of Number of Initial Psychoeducational Evaluations Completed by Supervised School Psychologists on Demographic Characteristics (n = 278)

Demographic Characteristic	b	SE	t	p
Gender	-4.654	2.440	-1.91	.057
Age	0.034	0.148	0.23	.817
Ethnicity	-4.493	3.843	-1.17	.243
Years of experience in school psychology	0.259	0.179	1.44	.150
Years of classroom teaching experience	0.043	0.245	0.17	.862
Highest degree earned	0.083	2.143	0.04	.970

Note. $\boldsymbol{R^2 = .011}$, $\boldsymbol{Adj.\ R^2 =}$ *0.003, F(6, 721) = 1.32, p > .05.*

Number of reevaluations completed. The results of the regression analysis of the number of reevaluations completed on the six selected demographic characteristics of supervised school psychologists are presented in Table 14.

As shown, the overall regression model was not statistically significant. Thus, the linear combination of demographic variables did not account for a significant percentage of the variance in the number of reevaluations completed by supervised school psychologists.

Table 14

Summary of Regression Analysis of the Number of Reevaluations Completed By Supervised School Psychologists on Demographic Characteristics (n = 730)

Demographic characteristic	b	SE	t	p
Gender	-0.202	2.234	-0.09	.928
Age	0.156	0.136	1.15	.250
Ethnicity	-2.741	3.553	-0.77	.441
Years of experience in school psychology	0.004	0.164	0.03	.980
Years of classroom teaching experience	-0.363	0.225	-1.61	.107
Highest degree earned	-0.889	1.963	-0.45	.651

Note. $R^2 = .007$, *Adj.* $R^2 = -0.002$, $F(6, 723) = 0.82$, $p > .05$.

Relationship between Supervisors' Educational Background and Supervised School Psychologists' Professional Practices

Research Question 3

The third research question related to the relationship between the nature of the professional practices of supervised school psychologists and their supervisor's educational background (viz., area of specialization and level of degree earned). The subgroup of school psychologists who reported receiving supervision (n = 767) constituted the sample for data analysis purposes. Means and standard deviations of the occurrence of a given professional practice (or number of times a practice was completed) by supervised school psychologists in 1999-2000 by area of specialization of their supervisor (school psychology = 1, non-school psychology = 0) are presented in Tables 15.

Table 15

Means and SDs of Occurrence of Professional Practices by Supervisor's Area of Specialization

	Supervisor Area of Specialization			
	School Psychology (n = 389)		Non-school Psychology (n = 373)	
Professional Practice	Mean	SD	Mean	SD
Section 504 plans developed	7.046	8.132	6.425	7.884
Consultation cases completed	34.284	21.529	34.744	20.333
Students counseled individually	11.903	15.535	11.466	15.356
Student groups conducted	9.050	15.582	9.231	15.546
Inservice programs conducted	2.60	3.122	2.778	3.052
Initial psychoeducational evaluations completed	41.985	28.664	40.300	28.649
Reevaluations completed	36.731	26.997	35.9710	25.588

Note. Supervisor area of specialization was coded 1 = school psychology and 0 = non-school psychology.

Means and standard deviations of the occurrence of a professional practice (or number of times a given practice was conducted or completed) by the supervised school psychologists by the level of the highest degree earned and by their supervisor (doctoral = 1, non-doctoral = 0) are presented in Tables 16. The means and standard deviations within this subsample are consistent with the means and standards of the larger sample.

Table 16

Means and SDs of Occurrence of Professional Practices by Supervised School Psychologists by Level of Supervisor's Highest Degree Earned

	Level of Supervisors' Highest Degree Earned			
	Doctoral (n = 487)		Non-doctoral (n = 271)	
Professional Practices	Mean	SD	Mean	SD
Section 504 plans developed	6.455	7.583	7.270	8.738
Consultation cases completed	33.883	20.561	35.844	21.428
Students counseled individually	12.064	15.991	10.838	13.984
Student groups conducted	9.3661	16.029	8.821	14.759
Inservice programs conducted	2.690	3.047	2.602	3.126
Initial psychoeducational evaluations completed	41.702	28.809	40.076	28.448
Reevaluations completed	37.0 23	26.054	35.525	26.860

Note. Level of supervisor's highest degree earned was coded: 0= doctoral, 1= non doctoral.

To examine the relationship between the professional practices of supervised school psychologists and the educational background (viz., area of academic specialization and level of highest degree earned) of their supervisors, a multiple regression analysis was employed. The predictor variables in the regression equation were the supervisors' area of specialization (school psychology = 1 and non- school psychology = 0) and level of degree earned (doctoral = 1, non-

doctoral = 0). The outcome variable was one of the seven professional practices. Altogether, seven separate regression analyses were conducted, one for each professional practices variable. Summary results of the series of regression analyses are presented in Table 17.

Table 17

Summary Results of Regression Analyses of Occurrence of Professional Practices of Supervised School Psychologists on Supervisors' Area of Specialization and Level of Degree Earned

Professional Practices	R^2	F	p
Section 504 plans developed	.004	1.63	.196
		(2, 741)	
Consultation cases completed	.002	0.74	.476
		(2, 708)	
Students counseled individually	.0015	.56	.569
		(2, 742)	
Student groups conducted	.0003	0.13	.882
		(2, 734)	
Inservice programs conducted	.002	0.79	.455
		(2, 746)	
Initial psychoeducational evaluations completed	.002	0.64	.527
		(2, 736)	
Reevaluations completed	.001	0.32	.723
		(2, 739)	

Note. Numbers in parentheses are degrees of freedom associated with the F test.

Examination of Table 17 reveals that for each of the seven regression analyses conducted, the linear combination of the two educational background variables of supervisors (area of

specialization and level of highest degree earned) was not statistically significant ($p > .05$). These findings suggest that there is no relationship between supervisors' area of specialization and degree level and the professional practices of the school psychologists whom they supervised.

These same relationships were reexamined after controlling for school psychologists' years of experience in school psychology and level of degree earned. Thus, to address this research question, seven separate multiple regression analyses were used to obtain squared second-order, multiple semi-partial correlations, one for each professional practices. Summary results of the series of regression analyses are presented in Table18.

Table 18

Relationship between Occurrence of Professional Practices of Supervised School Psychologists and Supervisors' Educational Background Controlling for Years of Experience, and Highest Degree Earned

Professional Practices	sp
Section 504 plans developed	0.071
Consultation cases completed	0.05
Students counseled individually	0.04
Student groups conducted	0.012
Inservice programs conducted	0.04
Initial psychoeducational evaluations completed	0.04
Reevaluations completed	0.028

Note. n = 767.

Examination of Table 18 reveals that for each of the seven regression analyses conducted, there was not a significant relationship between the two educational background variables of supervisors (viz., area of specialization and level of highest degree earned) and each respective

professional practices variable after controlling for the school psychologists' years of experience and degree level.

Relationship between School psychologists-to-supervisor Ratio and Supervised School Psychologists' Professional Practices

Research Question 4

The final research examined the relationship between the school psychologists-to-supervisor ratio and nature of the school psychologists' professional practices. Pearson product–moment correlations between the supervisor-to-school psychologist ratio and the reported occurrence of each of the seven professional practices by supervised school psychologists are reported in Table 19.

Table 19

Bivariate Correlations between School psychologists-to-supervisor Ratio and Occurrence of Professional Practices by School Psychologists

Professional Practices	(r_{pb})	p
Section 504 plans developed	-.033	.390
Consultation cases completed	.022	.578
Students counseled individually	.008	.832
Student groups conducted	.058	.127
Inservice programs conducted	.075	.049*
Initial psychoeducational evaluations completed	.020	.611
Reevaluations completed	.028	.470

Note. * $p < .05$.

Examination of the data in Table 19, shows a small, positive Pearson product-moment correlation coefficient between the continuous predictor variable ratio of school psychologists-to-supervisor and the number of inservice programs conducted ($r = .075$, $p < .05$). This finding was not expected; that is, no previous research found a significant relationship between the number of inservice programs conducted by school psychologists and any variable related to the occurrence of supervision. This small coefficient suggests that approximately 0.6% of the variance observed in the number of inservice programs conducted by supervised school psychologists can be attributed to the ratio of school psychologists-to-supervisor. The remaining correlations were not statistically significant, suggesting that there was no relationship between occurrence of the practice and the supervisor-to-school psychologist ratio.

Finally, in order assess the relationship between the nature of the professional practices of supervised school psychologists and the school psychologists-to-supervisor ratio, after controlling for years of experience and highest degree of the school psychologists, squared semi-partial correlations were computed using regression analyses with three predictor variables—supervisor-to-school psychologist ratio, years of experience and degree level of the supervised school psychologist.

Table 20

Correlation between Occurrence of Professional Practices and School psychologists-to-supervisor Ratio, Controlling for Years of Experience and Highest Degree Earned

Professional Practices	sp	ES
Section 504 plans developed	0.032	.001
Consultation cases completed	0.010	.0001
Students counseled individually	0.010	.0001
Student groups conducted	0.070	.005
Inservice programs conducted	0.055	.003
Initial psychoeducational evaluations completed	0.00	0
Reevaluations completed	0.022	.001

Note: n = 767.

Examination of Table 20 shows that the occurrence of none of the seven professional practices of school psychologists investigated was related to the supervisor-to-school psychologist ratio after controlling for years of experience and degree level of the school psychologist.

Chapter Five

Discussion

The purpose of this study was to examine the relationship between the reported occurrence of supervision, select demographic characteristics of the background of the supervisor (area and level of preparation), select demographic characteristics of the school psychologists, and the nature of the professional practices of school psychologists. It was anticipated that this study would provide a better understanding of the potential role that supervision could play in increasing the delivery of recommended professional practices by school psychologists. This chapter provides a summary the findings of the current study and suggests directions for future research relative to the supervision of school psychologists.

Statistical analyses were conducted representing secondary analyses of archived data. The source of data for this study was a national database created through the Research Committee of the NASP, based on the 1999-2000 school year (Curtis, Hunley, et al., 2002). Data included described the demographic characteristics, employment conditions, and professional practices of school psychologists across the United States. The sample used to create the database consisted of 20% of Regular Members of NASP, randomly selected by state. The sample represented in the database was found to be highly representative of the NASP membership.

Summary of findings

Despite the support offered through the literature for the importance of supervision, the data analyses completed as part of this study generated few significant findings when examining the nature of the relationship between the professional practices of school psychologists (the dependent variable in each research question) and the reported receipt of and conditions for

supervision. And where significant findings were noted, no clear pattern emerged that would facilitate greater understanding of supervision. For example, the hypothesis underlying the first research question purported that the professional practices of school psychologists who reported receiving supervision would be significantly more aligned with NASP standards, an intervention focused, indirect service delivery model. Professional practices such as the development of Section 504 plans, consultation, inservice programs, counseling, and student groups are considered to be more in line with the alternative service delivery model advocated by NASP; these would be in contrast to professional practices such as initial psychoeducational assessments and special education reevaluations. However, the findings in this study indicated that supervised school psychologists completed significantly more initial psychoeducational evaluations and reevaluations, even when other variables such as degree level and years of experience were held constant, a finding contradictory to the anticipated outcome.

With regard to the relationship between select demographic characteristics of supervised school psychologists and the nature of their professional practices, it was found that female school psychologists counseled more students individually, supervised school psychologists with more years of experience as a school psychologist completed more consultation cases and inservice programs, younger supervised school psychologists conducted more student groups and inservice programs, and supervised school psychologists with years of experience in classroom teaching or higher degrees earned conducted more inservice programs. However, no other significant relationships were found relating to other demographic characteristics or professional practices. In addition, no significant relationships were found between professional practices and the supervisor's type and level of preparation.

As discussed in chapter two, the two primary types of supervision (i.e., administrative versus clinical) would offer different types and levels of guidance and support to school psychologists relating to professional practices and to related continuing professional development. The premise

for promoting clinical supervision of school psychologists relates to the area of specialization of the supervisor (school psychology or non-school psychology) as well as to the activities occurring during supervision, being more focused on professional practices as opposed to adherence to administrative issues. Therefore, a school psychologist who received clinical supervision by a supervisor with an area of specialization in school psychology would be expected to engage in a more intervention-focused, indirect service delivery model (Brown, 2002; NASP, 2004a; NASP, 2004c). Clinical supervision has been demonstrated to guide continuing professional development resulting in positive outcomes for clients by other professions such as nursing, social work, and counseling (ACES, 1993; Bambling, 2003; Fowler, 1998; National Association of Social Workers, 1999). In contrast to clinical supervision, administrative or managerial supervision is more related to day-to-day functioning and management of people by supervisors who may not have domain-specific knowledge of school psychology.

A recent national study (Curtis, et al., 2006) involving more than 1,700 school psychologists found that while 49% of those participating reported receiving administrative supervision, only 12.3% reported receiving clinical supervision. Consequently, it is very likely that a dominant issue impacting the findings of this study relates to the fact that the NASP-DPPS 2000 survey did not collect information differentiating the type of supervision received (i.e., clinical or administrative). Although discussed above specifically as it may have impacted examination of the relationship between supervision and professional practices, this issue represented a significant factor with regard to efforts to answer all of the research questions. In essence, a rationale can be provided for the expectancy that clinical supervision would be much more likely to influence professional practices, because of the professional content and process focus of that type of supervision; conversely, expectancy that administrative supervision would influence professional practices would be lower since this type of supervision does not address professional content or processes specific to school psychology. For every research question, the nature of the

school psychologist's professional practices served as the dependent variable. Consequently, without the ability to determine whether or not school psychologists reporting data relative to their professional practices received clinical supervision precludes the opportunity to answer the research questions with any confidence. Clearly, this should represent a critical aspect of future research relating to the supervision of school psychologists.

As discussed in chapter two, the research base relating to the supervision of school psychologists is also limited with regard to examination of the relationship between the background of supervisors and the professional practices of school psychologists (Crespi & Fischetti, 2000; Curtis et al., 2002). Hunley et al. (2000) found that 90% of the individuals identified as supervisors of school psychologists had little or no training in supervision. The lack of training in the process of supervision may well limit the relationship between the receipt of supervision and the professional practices of supervised school psychologist, regardless of the model of supervision utilized. Relatedly, little mention of coursework and practice relating to the process of supervision was noted in recent NASP standards for training programs (NASP, 2000c). Other related fields such as, social work, require clinical supervisors to receive additional and on-going training in the process of supervision (NASW, 1999). Despite the willingness to support the use of supervision to promote continuing professional development, research does not exist that examines the effectiveness of the supervision training programs as it relates to changes in professional practices (Yarrow & Marrow, 1987).

The most recent *Guidelines for the Provision of School Psychological Services* (2000a) do not include specific recommendations about the ratio of school psychologists-to-supervisor, frequency of interactions, or topography/structure of supervision. This lack of specification in the standards may relate to changes in thinking on supervision; the model and level of supervision would depend on the need of the individual school psychologist. Discussion in the following section regarding future research may shed light on these results.

Implications for Future Research

As previously discussed there are limitations inherent in the type of data collection used in this study – survey method. Disadvantages with surveys include: (a) the researcher is not able to adapt the questions or administration as needed through the course of the study, (b) the respondent is not able to provide a detailed response or context for his/her response, and (c) the researcher must rely on the participant to accurately recall and report information (Borg & Gall, 1989; Cui, 2003; & Troche, 2002). These disadvantages should be addressed in the data collection methods employed in future studies examining supervision.

The questions included in the survey that generated the data analyzed in this study did not allow for specific information about the type, topography, or quality of supervision. The type of supervision (administrative or clinical) the topography of the supervision process (time, frequency, and method), and the quality of the supervision (the effectiveness of the supervision) need to be examined in order to better understand the potential impact of supervision on the school psychologists' professional practices. Surveys may be used to collect some aspects of this information such as the type and topography of supervision. However, researchers may need to expand data collection to include observation, interviews, and outcome measures.

Due to the potential cost and time demands of providing clinical supervision within the NASP recommended ratio, the field needs to substantiate the effectiveness of supervision with outcome-based measures that ultimately result in positive outcomes for their clients.

Finally, the field of school psychology may need to establish educational or training requirements or at least guidelines for supervisors. On the other hand, little information has been empirically validated to date relating to the specific training associated with effective supervision in the field of school psychology (Hunley, et al., 2000).

References

American Association of Critical-Care Nurses (2004). *ACCN Public Policy: Talking points and discussion questions for meetings with elected officials.* Aliso Viejo, CA: Author.

Annie E. Casey Foundation. (2001). *Kids Count Data Book 2001*. Baltimore MD.

Association for Counselor Education (ACE) (1993). *Ethical guidelines for counseling supervisors*. Washington, DC: Author.

Bambling, M. (2003). *Clinical supervision: Its influence on working alliance and client outcome in the brief treatment of major depression*. Unpublished doctoral dissertation, Department of Psychiatry, The University of Queensland.

Beaulieu, L. (1992). *Identifying needs using secondary data sources* (CD 28). Gainesville, FL: University of Florida, Florida Cooperative Extension Service.

Boethius & Oegren (2000). Role patterns in group supervision. *Clinical Supervisor*, 19(2), 45-69.

Bollen, K, & Jackman, R. (1985). Regression diagnostics: An expository treatment of outliers and influential cases. *Sociological Methods & Research*, 13(4), 510-542.

Borg, W.R.& Gall, M.D. (1989). *Educational research: An introduction* (5th ed.). New York: Longman.

Bracken, B. A. (1999). Advances in school psychology: Thirty years of role expansion. *Communiqué,* 27(8).

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design.* Cambridge, MA: Harvard University Press.

Brown, M. (2002). Best practices in professional development. In A. Thomas & J. Grimes (Ed.), *Best practices in school psychology IV* (pp. 181-194). Bethesda, MD: National Association of School Psychologists.

Carlberg, C. & Kavale, K. (1980). The efficacy of special versus regular class placement for exceptional children: A meta-analysis. *Journal of Special education*, 14, 295-309.

Center for Disease Control and Prevention (2008). Youth Risk Behavior Surveillance in the United States 2007. *Morbidity & Mortality Weekly Report*, 57(S S05), 1-131.

Children's Defense Fund (2006). *Annual Report 2006.* Washington DC: Census Bureau.

Christenson, S., Ysseldyke, J., & Algozzine, B. (1982). Institutional constraints and external pressures influencing referral decision. *Psychology in Schools*, 19, 341-345.

Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences* (2nd Ed.). Hillsdale, NJ: Erlbaum.

Connecticut State Department of Education (2004). *Guidelines for the practice of school psychology*. Hartford, CT: Author.

Corti, L., Witzel, A., & Bishop, W. (2005). *On the potentials and problems of secondary analysis*. Forum: Qualitative Social Research, 6(1), Article 49. Retrieved April 25, 2005, from http://www.qualitative-research.net/fqs/.

Crawford, I.M. (1997). Secondary Sources of Information. In *Food and Agriculture Organization of the United Nations.* Retrieved from Agriculture and Consumer Protection Department (ISBN 92 8051 1005-3).

Crespi, T. & Fischetti, B. (2000). Clinical supervision practices. The undiscovered country. *Communiqué*;', 28(7), 12.

Curtis, M.J. (2002, June). *The changing face of school psychology: Past present, future.* Keynote address to The Future of School Psychology 2002 Invitational Conference, Indianapolis, IN.

Curtis, M.J., Chesno-Grier, J.E., Abshier, D. W., Sutton, N.T., Hunley, S. A. (2002). School psychology: Turning the corner into the twenty-first century. *Communiqué'*, 30(8), 1-5.

Curtis, M.J., Hunley, S.A., & Chesno-Grier, J.E. (2004). The changing face of school psychology: Trends in data and projections for the future. *School Psychology Review*, 33(1), 44-66.

Curtis, M.J., Hunley, S.A., Walker, K.J., & Baker, A.C., (1999). Demographic characteristics and professional practices in school psychology. *School psychology Review*, 28, 104-116.

Curtis, M.J., Hunley, S.A., & Chesno-Grier, J.E. (2002). Relationship among the professional practices and demographic characteristics of school psychologists. *School Psychology Review*, 31, 30-42.

Curtis, M.J., Lopez, Al. D., Batsche, G., & Smith, G.M. (2006). *School psychology 2005: A national perspective*. Paper presented at the annual meeting of the National Association of School Psychologists, Anaheim, CA.

Curtis, M.J., & Meyers, J. (1985). School-based consultation: Guidelines for effective practice. In J. Grimes & A. Thomas (Eds.) *Best practices in school psychology* (pp.35-48). Washington, DC: National Association of School Psychologists.

Curtis, M.J. & Stollar, S. (2002). *Best practices in system-level change*. In A. Thomas & J. Grimes (Ed.), Best practices in school psychology IV (pp. 103-114). Bethesda, MD: National Association of School Psychologists.

Dillman, D.A. (1991). The design and administration of mail survey. *Annual Review of Sociology*, 17, 225-249.

Dwyer, K., Osher, D., & Warger, C. (1998). *Early warning, timely response: A guide to safe schools*. Washington DC: U.S. Department of Education.

Epps, S. Tindal, G. (1987). The effectiveness of differential programming in serving students with mild handicaps: Placement options and instructional programming. In M.C. Wang, M.C. Reynolds, & H.J. Walberg (Eds.), *Handbook of education research and practice*, (vol. 1, pp. 213-248). Oxford: Pergamon Press.

Fagan, T.K. (2002). School psychology: Recent descriptions, continued expansion, and an ongoing paradox. *School Psychology Review*, 31(1), 5-10.

Fischetti, B. A., & Crespi, T.D. (1999). Clinical supervision for school psychologists: National practices, trends, and future implications. *School Psychology International*, 20, 278-288.

Fletcher, J.M. , Coulter, W.A., Reschly, D.J., & Vaughn, S. (2004). Alternative approaches to the definitions and identification of learning disabilities: some questions and answers, "Ann Dyslexia. 2004 Dec, 54(2): 304-331.

Fletcher, J.M., & Reschly, D.J.(2005, Winter). Changing procedures for identifying learning disabilities: The danger of perpetuating old ideas. *The School Psychologist*, 10-15.

Fowler, J. (1998). Evaluating the efficacy of reflective practice within the context of clinical supervision. Journal of Advanced Nursing, 27, 379-382.

Fox, J. (1991). Regression diagnostics: An introduction. *Sage University Paper Series on Quantitative Application in the Social Sciences*, 07-079. Newbury Park, CA: Sage.

Fox, R.J., Crask, M.R., & Kim. J. (1988). Mail survey response rate: A meta analysis of selected techniques for inducing response. *Public Opinion Quarterly*, 52, 467-491.

Fuchs, D., Mock, D., Morgan, P.L.., & Young, C. L. (2003). Responsiveness-to-interventions: Definitions, evidence, and implications for the learning disabilities construct. *Learning Disabilities Research and Practice*, 18, 157-171.

Graden, J.L. & Curtis, M.J. (1991, June). *A demographic profile of school psychology: A report to the NASP Delegate Assembly*. Sliver Spring, MD: National Association of School Psychologist.

Graden, J.L., Zins, J.E., & Curtis, M.J.(1989). *Alternative educational delivery systems: Enhancing instructional options for all students.* Washington, DC: National Association of School Psychologists.

Goldhammer, R., Anderson, R., & Krajewski, R. (1993). *Clinical supervision: Special methods for the supervision of teachers* (3rd ed.). Orlando, FL: Harcourt Brace Jovanovich College Publishers.

Grimes, J., & Tilly, W. D. (1996). Policy and process: Means to lasting educational change. *School Psychology Review*, 4, 464-475.

Guskey, T. & Sparks, D. (1996). Exploring the relationship between staff development and improvements in student learning. *Journal of Staff Development* ,17(4).

Hanushek, E. & Jackson, J.E., (1977). *Statistical methods for social scientist.* New York: Academic.

Harvey, V. S., & Struzziero, J. (2000). *Effective supervision in school psychology.* Bethesda, MD: National Association of School Psychologists.

Hanushek, E.A., Kain, J.F., & Rivkin, S.G. (2002). Inferring program effects for special populations: Does special education raise achievement for students with disabilities? *Review of Economics and Statistics*, 84(4), 584-599.

Hawkins, P.& Shohet, R. (1989). *Supervision in the helping professions: an individual, group, and organizational approach.* Unpublished manuscript. Milton Keynes, PA: Open University Press. .

Hocutt, A. (1996). Effectiveness of special education: Is placement the critical factor? *The Future of Children*, 6, (1), 77-102

Hunley, S.A., Curtis, M.J., & Batsche, G. (2002). Best practices in supervision of school psychological services. In A. Thomas & J. Grimes (Ed.), *Best practices in school psychology IV* (4th ed., pp. 103-114). Bethesda, MD: National Association of School Psychologists.

Hunley, S.A., Harvey, V., Curtis, M., Portnoy, L. Chesno Grier, E., Helffrich, D. (2000, June). School psychology supervisors. A national study of demographics and professional practices. *Communiqué*', 28(8), 32-33.

Iverson, A. (2002). Best practice in problems-solving team structure and process. In Thomas & J. Grimes (Eds.), *Best practices in school psychology IV* (4th ed., pp.657-670). Bethesda, MD: National Association of School Psychologists.

Kavale, K.A. & Forness, S.R. (1999). *Effectiveness of special education.* In C.R. Reynolds & T.B. Gutkin (Eds.). *Handbook of school psychology* (3rd Ed.). (3rd ed., pp. 984-1024). New York: Wiley.

Kilminster, S.M., & Jolly, B.C. (2000) Effective supervision in clinical practice settings: A literature review. *Medical Education*, 34, 827-840.

Kimball, B., & O'Neil, E. (2002). *Health care's human crisis: The American nursing shortage.* Princeton, NJ; The Robert Wood Johnson Foundation.

Kinsella, J. A. (2000). *Direct supervision: A computer feedback method used in the live supervision of first practicum marriage and family therapy students*. Unpublished doctoral dissertation. The Sciences and Engineering.

Kominski, R., Jamieson, A., & Martinez, G. (2001). *At-risk conditions of U.S. School-age children* (Working Paper Series No. 52). Washington DC: U.S. Census Bureau.

Kovaleski, J.F. (2002). Instructional support teams in Pennsylvania: Twelve years later. *Communiqué* 31(1), 12.

Knoff, H. M. & Batsche, G.M. (1995)., Project Achieve: Analyzing a school reform process for at-risk and underachieving student. *School Psychology Review*, 24, 579-603.

Mauzey, E. & Erdman P. (1997). Trainee perceptions of live supervision phone-ins: A phenomenological study. *The Clinical Supervisor*, 15(2), 115-128.

Miller, D.C., & Palomares, R.S. (2000). Growth in school psychology: A necessary blueprint. *Communiqué,* 28(6), 6-7.

Nastasi, B. (1998). A model for mental health programming in schools and communities. *School Psychology Review*, 26, 165-174.

National Association of School Psychologist (1978a). Guidelines for the provision of school psychological services. *Professional Conduct Manual.* Bethesda, MD: Author.

National Association of School Psychologist (1981a). Guidelines for the provision of school psychological services. *Professional Conduct Manual.* Bethesda, MD: Author.

National Association of School Psychologist (1984a). Guidelines for the provision of school psychological services. *Professional Conduct Manual.* Bethesda, MD: Author.

National Association of School Psychologist (2000a). Guidelines for the provision of school psychological services. *Professional Conduct Manual.* Bethesda, MD: Author.

National Association of School Psychologist (1978b). Principles for Professional Ethics. *Professional Conduct Manual.* Bethesda, MD: Author.

National Association of School Psychologist (1981b). Principles for Professional Ethics. *Professional Conduct Manual.* Bethesda, MD: Author.

National Association of School Psychologist (1984b). Principles for Professional Ethics. *Professional Conduct Manual.* Bethesda, MD: Author.

National Association of School Psychologist (2000b). Principles for Professional Ethics. *Professional Conduct Manual.* Bethesda, MD: Author.

National Association of School Psychologists (2000c). Standards for training programs. *Standards for school psychology* Bethesda, MD: Author.

National Association of School Psychologist (2000d). Standards for the field placement. *Standards for school psychology* Bethesda, MD: Author.

National Association of School Psychologist (2000e). Standards for the credentialing. *Standards for school psychology.* Bethesda, MD: Author.

National Association of School Psychologists (2001a). Interagency collaboration to support the mental health needs of children and families Bethesda, MD: Author.

National Association of School Psychologists (2001b*). Advocacy for appropriate educational services for all children.* Bethesda, MD: Author.

National Association of School Psychologists (2002). Multisite School Psychology Futures Conference. National Association of School Psychology website: http://nasponline.org/about_sp/futures.aspx.

National Association of School Psychologists (2003*).Mental health services in schools.* Bethesda, MD: Author.

National Association of School Psychologists (2004a). NCSP renewal guidelines: Nationally certified school psychologist continuing professional development program. Bethesda, MD: Author.

National Association of School Psychologists (2004b). *Race, prejudice, and discrimination.* Bethesda, MD: Author.

National Association of School Psychologists (2004c). *Supervision in school psychology*. Bethesda, MD: National Association of School Psychologists.

National Association of School Psychologists (2007). *Strategic plan*, available at www.nasponline.org/about_nasp/mission.aspx

National Association of Social Workers (1999). *Code of Ethics.* Washington DC: Author.

National Research Council (2002). *Minority overrepresentation in special education*, available at http://www.nap.edu/catalog/10128.html?se_side.

National Staff Development Council (2003). Strategic plan (2002-2007): Priorities, indicators, and Strategies Work in Progress. Oxford, OH: Author.

Osborne, J. & Waters, E. (2002). Four assumptions of multiple regression that researcher should always test. *Practical Assessment, Research, & Evaluation*, 8(2). Retrieved April 25, 2005, from http://www.pareonline.net.

Pedhazur, E.J. (1982). *Multiple Regression in Behavioral Research* (3rd ed.). Orlando, FL: Harcourt Brace.

Reschly, D.J. (2000). The present and future status of school psychology in the United States. *School Psychological Review*, 29, 507-522.

Reschly, D.J., (1995). Psychological practice in the schools: System change in the heartland. In R.C. Talley & R.J. Shorts (Eds.), *Creating a new vision of school psychology: Emerging models of psychological practice in the schools (*pp. 23-27). Washington D.C: American Psychological Association.

Reschly, D.J., & Ysseldyke, J.E., (2002). Paradigm shift: The past is not the future. In J. Grimes & A. Thomas (Eds.) *Best practices in school psychology* (pp.35-48). Washington, DC: National Association of School Psychologists.

Rose, D. M. & Boyce, P. M. (1999). Clinical supervision and its effects on the quality of practice of qualified practitioners. *Australasian Psychiatry*, 7(1), 11-13.

Sergiovanni, T. J. & Starratt, R. J. (2002*). Supervision: A redefinition* (7th ed.). New York: McGraw-Hill.

Sheridan, S.M. & Gutkin, T.B. (2000). The ecology of school psychology: Examining and changing our paradigm for the 21st century. *School Psychology Review.* Bethesda, MD: National Association of School Psychologists.

Shinn, M.R., Tindal, G.A., & Spira, D.A. (1987). Special education referrals as an index of teacher tolerance: Are teachers imperfect tests? *Exceptional Children*, 54, 32-40.

Smith, D. (1984). Practicing school psychologists: Their characteristics, activities, and populations served. *Professional Psychological Research and Practice*, 15, 798-810.

Stofle, G. S. & Hamilton, S. (1998). Online supervision for social workers. *The New Social Worker*. Harrisburg: White Hat Communications.

Summary Health Statistics for U.S. Children: National Health Interview Survey, 2004 [Data file]. Hyattsville, MD: National Center for Health Statistics.

Thomas, A. (2000). School psychology 2000: What is average? *Communiqué,* 28(2), 28.

Trochim, W. (2001). *Research Methods Knowledge Base* (2nd. ed.). Cincinnati, OH: Atomic Dog Publishing.

U.S. Department of Education (2001). *No Child Left Behind* (PL 107-110). Washington, D.C.

Wang, M.C. & Baker, E.T. (1985-86). Mainstreaming programs: Design features and effects. *Journal of Special Education*. 19, 503-521.

Woody, R., LaVoie, J.C., & Epps, S. (1992). *School psychology: A developmental and social systems approach*. Needham Heights, MA: Allyn and Bacon.

Yarrow, A. & Millwater, J. (1997). Evaluating the effectiveness of a professional development course in supervision and mentoring. British *Journal of In-Service Education.* 23(3), p. 349-361.

Ysseldyke, J.E., & Christenson, S.L. (1996). Linking assessment to Intervention. In J.L. Graden, J.E. Zins,& M.J. Curtis (Eds.), *Alternative educational delivery systems: Enhancing instructional options for all students (pp. 91-110).* Washington, DC: National Association of School Psychologists

Ysseldyke, J., Burns, M, Dawson, Kelley, B, Morrison, D, Ortiz, S. Rosenfield, S., & Telzrow, C., 2006. *School psychology: A blueprint for training and practice III.* Bethesda, MD: National Association of School Psychologists.

Appendices

Appendix A: National Association of School Psychologists: Demographic and Professional Practices Survey 1999-2000 School Year (NASP-DPPS 2000)

National Association of School Psychologists
Demographics and Professional Practices Survey
1999-2000 School Year

1. Gender ___ female ___ male
2. Age ___
3. Ethnicity (optional)
   ___ African American ___ Caucasian ___ Native American/Alaska Native
   ___ Asian/Pacific Islander ___ Hispanic ___ Other
4. What language do you speak fluently other than English? _____
5. Disability ___no ___ yes, specify: _____

PLEASE RESPOND TO ALL ITEMS BASED ON THE 1999-2000 SCHOOL YEAR!

6. Years of experience in school psychology _____
7. Years of classroom teaching experience (Preschool-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) _____
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. Total graduate-level training completed TO DATE related to school psychology (semester hours) _____
14. 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: _____)
15. If certified, does certificate allow for independent practice in non-school setting?
    ___ yes ___ no
16. If licensed, does license allow for independent practice in non-school setting?
    ___ yes ___ no
17. Please indicate membership in any of the following:
    ___ State School Psychology Association
    ___ 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: _____
18. 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 _____ College/University
    _____ Private Practice _____ State Department _____ Hospital
    _____ Other, specify: _____
19. 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 _____ College/University
    _____ Private Practice _____ State Department _____ Hospital
    _____ Other, specify: _____

If your PRIMARY employment for 1999-2000 was FULL-TIME in a public or private preschool, elementary school, middle/jr. high school, and/or high school, please answer the remaining questions. Please respond based on the entire 1999-2000 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.

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

21. Please estimate average number of hours per week in each setting:
_____ Public Preschool _____ Private Preschool
_____ Public Elementary School _____ Private Elementary School
_____ Public Middle/Jr. High School _____ Private Middle/Jr. High School
_____ Public High School _____ Private High School
_____ Other, specify: _____

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

23. Ratio of School Psychologists to Students 1: _____

24. Number of SECTION 504 PLANS that you assisted in developing ____

25. Number of Psychoeducational Evaluations completed relating to INITIAL DETERMINATION of special education eligibility _____

26. Number of REEVALUATIONS _____

27. Number of CONSULTATIONS (e.g., consultation for interventions, prereferral interventions) that were not part of a multifactored evaluation _____

28. Number of students COUNSELED INDIVIDUALLY (not sessions) _____

29. Number of student GROUPS conducted (not sessions) _____

30. Total number of STUDENTS served in groups (not sessions) _____

31. Number of INSERVICE PROGRAMS conducted for teachers, parents, and/or other personnel _____

32. % of your TOTAL WORK TIME spent in psychoeducational evaluations relating to special education (may not total 100%)
____ conducting assessments
____ writing reports
____ attending team meetings
____ other (e.g., Medicaid documentation); specify: _____

33. % of your TOTAL WORK TIME spent in psychoeducational evaluations relating to all other purposes (may not be 100%) _____

34. Do you receive supervision as a school psychologist? ___ yes ___ no
If yes, please indicate all of the following characteristics that describe your immediate supervisor:
_____ degree in school psychology
_____ degree in other area; please specify: _____
_____ doctoral degree
_____ masters degree
_____ bachelors degree
_____ number of school psychologists your supervisor supervises
_____ total number of staff supervised by your supervisor

35. Number of days in your 1999-2000 Contract Period _____

36. What percentage of your position is funded from each of the following sources? (should total 100%)
____ Federal Special Education Funds ____ Federal-other
____ State Special Education Funds ____ State General Education Funds
____ Local General Education Funds ____ Other ____ Don't Know

37. How is your salary determined (e.g., separate schedule for school psychologists, teacher salary schedules, teacher salary schedule plus additional stipend, administrator salary schedule)? _____

THANK YOU FOR YOUR TIME IN COMPLETING THIS SURVEY. PLEASE RETURN IT IN THE ENCLOSED ENVELOPE. IF YOU HAVE MISPLACED THE ENVELOPE, PLEASE RETURN IT TO:

Michael J. Curtis
University of South Florida
4202 East Fowler Avenue, EDU 162
Tampa, FL 33620

Appendix B: Bivarate Correlations of the Demographic Characteristics and the Professional Practices of Supervised School Psychologists

The SAS System

Pearson Correlation Coefficients
Prob > |r| under H0: Rho=0
Number of Observations

	gender	age	race	ratio
gender Gender	1.00000 764	0.18375 <.0001 764	-0.01706 0.6399 754	0.01020 0.7848 719
age Age	0.18375 <.0001 764	1.00000 767	0.03722 0.3067 756	0.08395 0.0241 722
race Ethnicity	-0.01706 0.6399 754	0.03722 0.3067 756	1.00000 756	-0.03671 0.3279 712
ratio Ratio of School Psychologist to Students	0.01020 0.7848 719	0.08395 0.0241 722	-0.03671 0.3279 712	1.00000 722
exp_psy Years of experience in school psychology	0.26987 <.0001 760	0.64422 <.0001 763	0.05533 0.1293 753	0.13939 0.0002 718
exp_teac Years of classroom teaching experience	-0.06376 0.0794 758	0.31954 <.0001 761	-0.04190 0.2518 750	-0.00163 0.9654 716
degree Highest degree earned	0.02488 0.4972 747	-0.08956 0.0141 750	-0.03109 0.3985 740	0.02063 0.5839 707
to_date Total graduate-level training completed to date	0.13098 0.0012 607	0.11950 0.0031 610	0.00353 0.9311 604	0.08703 0.0363 579

sec_504	0.04403	0.01104	0.07010	0.06682
Number of section 504 Plans developed	0.2294	0.7627	0.0568	0.0758
	747	750	739	707
num_sp	-0.07050	0.09522	-0.08990	0.07130
Total number of staff supervised by your supervisor	0.0623	0.0116	0.0178	0.0665
	700	702	694	663
exp_psy	0.26987	0.64422	0.05533	0.13939
Years of experience in school psychology	<.0001	<.0001	0.1293	0.0002
	760	763	753	718
consult	0.05902	0.05178	0.03810	0.02967
Number of consultations	0.1144	0.1655	0.3111	0.4392
	717	719	709	682
stu_coun	0.12969	0.02345	0.03243	-0.12923
Number of students counseled individually	0.0004	0.5206	0.3777	0.0006
	750	753	742	709
stugroup	-0.04392	-0.11162	0.05173	-0.20254
Number of student groups conducted	0.2315	0.0023	0.1609	<.0001
	744	747	736	703
inservic	0.07499	0.01706	0.00960	0.01269
Number of inservice programs conducted for teachers	0.0394	0.6391	0.7933	0.7347
	755	758	747	716
initial	-0.04156	0.06093	-0.03707	0.35021
Number of initial psychoeducational evaluations	0.2572	0.0959	0.3146	<.0001
	745	748	738	707
re_eval	0.02166	0.05528	-0.01244	0.23543
Number of re evaluations	0.5543	0.1301	0.7355	<.0001
	748	751	740	709

	exp_psy	exp_teac	degree	to_date
gender Gender	0.26987 <.0001 760	0.06376 0.0794 758	0.02488 0.4972 747	0.13098 0.0012 607
age Age	0.64422 <.0001 763	0.31954 <.0001 761	-0.08956 0.0141 750	0.11950 0.0031 610
race Ethnicity	0.05533 0.1293 753	-0.04190 0.2518 750	-0.03109 0.3985 740	0.00353 0.9311 604
ratio Ratio of School Psychologist to Students	0.13939 0.0002 718	-0.00163 0.9654 716	0.02063 0.5839 707	0.08703 0.0363 579
exp_psy Years of experience in school psychology	1.00000 763	-0.02059 0.5714 758	-0.09501 0.0094 746	0.15563 0.0001 607
exp_teac Years of classroom teaching experience	-0.02059 0.5714 758	1.00000 761	0.00273 0.9407 744	-0.10229 0.0118 605
degree Highest degree earned	-0.09501 0.0094 746	0.00273 0.9407 744	1.00000 750	0.23156 <.0001 599
to_date Total graduate-level training completed to date	0.15563 0.0001 607	-0.10229 0.0118 605	0.23156 <.0001 599	1.00000 610
sec_504 Number of section 504 Plans developed	0.03496 0.3403 746	-0.00997 0.7860 744	0.06531 0.0772 733	0.02787 0.4956 600

num_sp	0.09334	0.04388	-0.01283	0.06480
Total number of staff supervised by your supervisor	0.0136	0.2476	0.7371	0.1239
	699	696	687	565
exp_psy	1.00000	-0.02059	-0.09501	0.15563
Years of experience in school psychology		0.5714	0.0094	0.0001
	763	758	746	607
consult	0.10634	-0.01002	-0.00971	0.00088
Number of consultations	0.0044	0.7895	0.7970	0.9832
	715	713	704	583
stu_coun	0.01490	0.03561	0.02093	0.11971
Number of students counseled individually	0.6839	0.3310	0.5709	0.0032
	749	747	736	603
stugroup	-0.08993	-0.00048	-0.00677	0.12238
Number of student groups conducted	0.0142	0.9895	0.8552	0.0028
	743	741	730	596
inservic	0.08370	0.04440	0.05385	0.15360
Number of inservice programs conducted for teachers	0.0215	0.2239	0.1431	0.0002
	754	752	741	604
initial	0.06286	0.01503	-0.02533	-0.04722
Number of initial psychoeducational evaluations	0.0866	0.6828	0.4941	0.2486
	744	742	731	599
re_eval	0.05363	-0.03991	-0.03176	-0.04705
Number of re evaluations	0.1431	0.2767	0.3902	0.2502
	747	745	734	599

	sec_504	num_sp	exp_psy	consult
gender Gender	0.04403 0.2294 747	-0.07050 0.0623 700	0.26987 <.0001 760	0.05902 0.1144 717
age Age	0.01104 0.7627 750	0.09522 0.0116 702	0.64422 <.0001 763	0.05178 0.1655 719
race Ethnicity	0.07010 0.0568 739	-0.08990 0.0178 694	0.05533 0.1293 753	0.03810 0.3111 709
ratio Ratio of School Psychologist to Students	0.06682 0.0758 707	0.07130 0.0665 663	0.13939 0.0002 718	0.02967 0.4392 682
exp_psy Years of experience in school psychology	0.03496 0.3403 746	0.09334 0.0136 699	1.00000 763	0.10634 0.0044 715
exp_teac Years of classroom teaching experience	-0.00997 0.7860 744	0.04388 0.2476 696	-0.02059 0.5714 758	-0.01002 0.7895 713
degree Highest degree earned	0.06531 0.0772 733	-0.01283 0.7371 687	-0.09501 0.0094 746	-0.00971 0.7970 704
to_date Total graduate-level training completed to date	0.02787 0.4956 600	0.06480 0.1239 565	0.15563 0.0001 607	0.00088 0.9832 583
sec_504 Number of section 504 Plans developed	1.00000 750	-0.03304 0.3869 688	0.03496 0.3403 746	0.18571 <.0001 709

num_sp Total number of staff supervised by your supervisor	-0.03304 0.3869 688	1.00000 702	0.09334 0.0136 699	0.02168 0.5781 660
exp_psy Years of experience in school psychology	0.03496 0.3403 746	0.09334 0.0136 699	1.00000 763	0.10634 0.0044 715
consult Number of consultations	0.18571 <.0001 709	0.02168 0.5781 660	0.10634 0.0044 715	1.00000 719
stu_coun Number of students counseled individually	0.10713 0.0035 743	0.00808 0.8323 690	0.01490 0.6839 749	0.21914 <.0001 717
stugroup Number of student groups conducted	0.02794 0.4495 735	0.05849 0.1265 684	-0.08993 0.0142 743	0.08044 0.0321 710
inservic Number of inservice programs conducted for teachers	0.13090 0.0003 745	0.07480 0.0485 696	0.08370 0.0215 754	0.22045 <.0001 716
initial Number of initial psychoeducational evaluations	0.07516 0.0414 737	0.01944 0.6113 686	0.06286 0.0866 744	-0.01546 0.6813 708
re_eval Number of re evaluations	0.11118 0.0025 740	0.02761 0.4696 688	0.05363 0.1431 747	-0.03855 0.3047 711

Appendix B: (Continued)

	stu_coun	stugroup	inservic	initial
gender Gender	0.12969 0.0004 750	-0.04392 0.2315 744	0.07499 0.0394 755	-0.04156 0.2572 745
age Age	0.02345 0.5206 753	-0.11162 0.0023 747	0.01706 0.6391 758	0.06093 0.0959 748
race Ethnicity	0.03243 0.3777 742	0.05173 0.1609 736	0.00960 0.7933 747	-0.03707 0.3146 738
ratio Ratio of School Psychologist to Students	-0.12923 0.0006 709	-0.20254 <.0001 703	0.01269 0.7347 716	0.35021 <.0001 707
exp_psy Years of experience in school psychology	0.01490 0.6839 749	-0.08993 0.0142 743	0.08370 0.0215 754	0.06286 0.0866 744
exp_teac Years of classroom teaching experience	0.03561 0.3310 747	-0.00048 0.9895 741	0.04440 0.2239 752	0.01503 0.6828 742
degree Highest degree earned	0.02093 0.5709 736	-0.00677 0.8552 730	0.05385 0.1431 741	-0.02533 0.4941 731
to_date Total graduate-level training completed to date	0.11971 0.0032 603	0.12238 0.0028 596	0.15360 0.0002 604	-0.04722 0.2486 599
sec_504 Number of section 504 Plans developed	0.10713 0.0035 743	0.02794 0.4495 735	0.13090 0.0003 745	0.07516 0.0414 737

num_sp	0.00808	0.05849	0.07480	0.01944
Total number of staff supervised by your supervisor	0.8323	0.1265	0.0485	0.6113
	690	684	696	686
exp_psy	0.01490	-0.08993	0.08370	0.06286
Years of experience in school psychology	0.6839	0.0142	0.0215	0.0866
	749	743	754	744
consult	0.21914	0.08044	0.22045	-0.01546
Number of consultations	<.0001	0.0321	<.0001	0.6813
	717	710	716	708
stu_coun	1.00000	0.38752	0.07816	-0.23434
Number of students counseled individually		<.0001	0.0323	<.0001
	753	744	750	730
stugroup	0.38752	1.00000	0.07812	-0.21226
Number of student groups conducted	<.0001		0.0333	<.0001
	744	747	743	731
inservic	0.07816	0.07812	1.00000	-0.06454
Number of inservice programs conducted for teachers	0.0323	0.0333		0.0789
	750	743	758	742
initial	-0.23434	-0.21226	-0.06454	1.00000
Number of initial psychoeducational evaluations	<.0001	<.0001	0.0789	0.0888
	738	731	742	748
re_eval	-0.08977	-0.19954	-0.02064	0.13410
Number of re evaluations	0.0144	<.0001	0.5738	0.0002
	742	735	745	745

About the Author

Vicki Dumois Papaemanuel received a Bachelor's Degree in Psychology from University of South Florida in 1992. After working in the mental health field with adults and children, she returned to further her education through the school psychology program at University of South Florida and received her Education Specialist degree in 2003. She began working as a school psychologist in Pasco County, Florida while in the Ph.D. program at the University of South Florida.