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Factors associated with school-based mental health services delivered by school psychologists

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Factors Associated With School-Based Mental Health Services Delivered By School
Psychologists

by

Emily Luis Cimino, Ed.S.

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
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Dedication

This work is dedicated to those individuals who provided love and support during the writing of this work. I would like to say thank-you to my mother, father, and sister who have given me the will and determination to complete all my endeavors. With your guidance, I was able to persevere with determination and complete this work. I would also like to say thank-you to my best friend, Amanda, for all your time and help. Without your enthusiasm and motivation, this would have been a very long process. In addition, I would like to thank all my dissertation committee members, especially my chair, Dr. Michael Curtis, for providing leadership and direction during this process. Finally, I would like to say thank-you to my husband, B.J. for your endless love and support. You have always inspired me to strive to be the best and I love and thank-you.

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Factors Associated With School-Based Mental Health Services Delivered by School Psychologists

Emily Luis Cimino, Ed.S.

ABSTRACT

The purpose of this study was to examine factors that relate to the delivery of mental health services by school psychologists using a national database. The relationship between school psychologists' demographic, preparation, and professional context factors (e.g., gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio), and the types of mental health services delivered, amount of time invested in such services, and the desirability of school psychologists to provide or not to provide mental health services was addressed. In addition, the percentages of school psychologists who deliver mental health services and the amount of time they spend in broadly defined mental health service types was addressed.

Results of the analyses suggest that students to school psychologist ratio, gender, and percentage of minority students served significantly predict the types of mental health services delivered by school psychologists. In addition, students to school psychologist ratio was related to the amount of time school psychologists spend providing consultation, assessment, and intervention services related to mental health. There was a statistical significant difference in the desire to provide or not to provide more mental health services for male and female psychologists and psychologists with different educational levels. In

addition, school psychologists' years of experience were related to their desire to provide or not to provide more mental health services.

On average, school psychologists in this sample provided seven types of mental health services weekly and provided approximately 29 hours of service related to mental health per week. These results provide initial information as to what factors support school psychologists providing mental health services in schools. This information is important for training programs and legislation to ensure that students are receiving optimal mental health services in schools.

Chapter One

Introduction

Statement of the Problem

Poverty, violence, drug abuse, bullying, and poor health are among the many issues that children face in today's society. Presently, many of these problems are encountered in schools; however, most of the resources allocated to schools are directed to the instructional needs of children (Adelman & Taylor, 1998). Mental health is an essential ingredient for healthy development, success in life, and the welfare of society (Fantuzzo, McWayne, & Bulotsky, 2003; Power, 2005). However, mental health issues are not considered to be of top priority in many school settings even though many of these issues have their origins in childhood (Adelman & Taylor, 1998; Power, 2005). The irony of this orientation is the fact that educators expect children to succeed academically when they do not possess mental or physical well-being. Furthermore, the mental health needs of children are actually escalating, especially for minority children (Adelman & Taylor, 1998; Crespi & Hughes, 2003; Fantuzzo et al., 2003; Power, 2005). This calls for an increase in mental health services to be provided to children and families by school psychologists and other health professionals. However, how best to implement school-based mental health services and who is responsible for providing these services in schools has not been thoroughly researched (Kutash, Duchnowski, & Lynn, 2006).

From a demographic perspective, most of the children born this year will be more at-risk for social, emotional, and academic problems than ever before (Adelman & Taylor, 1998; Gilman & Gabriel, 2004; Power, 2005). According to the Children's Defense Fund (2005), everyday in America four children are killed because of abuse or neglect; 598,000 children are in foster care with a waiting list of 153,000. According to the Centers for Disease Control and Prevention (2006), children under the age of 15 who are exposed to weapons in the home or school are nine times more likely to die in firearm related accidents, 11 times more likely to commit suicide with a gun, 12 times more likely to die from gunfire, and 16 times more likely to be murdered with a gun than children who are not exposed to weapons.

According to the National Center for Children in Poverty (2004), close to 13 million children are poor, millions are hungry and/or at risk for hunger, living in the worst housing conditions, or are homeless. Almost 80% of poor children live in non-working households. In addition, 40% of children in the United States (29 million) are members of low income families; 42% of children under the age of six live in homes where the income is below \$27,000 for a family of four; and 18% of children (over 12.9 million) live in homes that are below the federal poverty level (\$12, 861 for a family of three). In 2003, more than 60% of African-American and Hispanic children under the age of 18 years were poor or near poor.

According to the Centers for Disease Control and Prevention (2005), homicide is the second leading cause of death for all 15-24 year olds, with most killed with guns. Homicide is the leading cause of death for African-American youth, and more than 4,000

youth ages 10-19 years were injured as a result of violence in 2004. In addition, one-fifth of young drivers 16-20 years of age that were involved in fatal, motor vehicle traffic-related accidents were intoxicated. Thirty percent of adolescent suicides are associated with drugs or alcohol and it has been demonstrated through research that the younger the age of initial alcohol abuse, the greater the possibility of substance abuse during adolescence and adulthood. According to Child Trends (2004), the number of newly diagnosed cases of AIDS among teens in the United States has risen to 458 in 2003, the highest number ever recorded. All sexually transmitted diseases are increasing in the 15 to 19 year age group. In addition, the percentage of children ages six through nineteen who are overweight has risen. By 12th grade, 29% of boys and 23% of girls are smokers with about one-half of them smoking on a frequent basis.

According to the National School Safety Center (2005), 14% of students report being bullied in school, and in an average classroom of 20 children, there are likely to be three children who are either victims of bullies or bullies themselves. Victims of bullying are more likely than non-bullied students to experience a criminal victimization in schools, to be afraid of being attacked at school and elsewhere, to report that they carried weapons to school, and engage in physical fights. In addition, bullying can affect academics. Research has demonstrated that students who were victims of bullying receive more Ds and Fs than non-bullied students (National School Safety Center, 2005).

Finally, according to the Centers for Disease Control and Prevention (2005), more than 3,000 children and young adults take their lives each year, making suicide the third-leading cause of death between the ages of 10 and 24; however, only 36% of youth at risk

for suicide during the past year received mental health services. Child Trends (2004) estimates that over one-quarter (29%) of all students in grades nine through twelve reported feeling sad or hopeless almost everyday for an extended period of two weeks or more in the last year. According to the Surgeon General's report, National Strategy for Suicide Prevention: Goals and Objectives for Action (2000), there are serious concerns about the appropriate diagnosis and treatment of emotional and behavioral difficulties in children.

As a result of these problems, school dropout and crime has increased for students. According to Child Trends (2004), among the estimated 823,300 young adults ages 18 to 29 who were incarcerated in 2004, 42.6% were African American males. Among youth ages 16 to 24, Hispanics accounted for 40% of all high school dropouts in 2004, even though Hispanics make up only 17% of the total youth population. Among children in grades one through three, African-American students are much more likely than other children to have repeated a grade in elementary school, thus making them more at-risk for drop-out. These staggering statistics provide clear evidence of the need for mental health related programs and services in schools particularly for minority students.

Mental health issues encompass those characteristics that relate to mental well-being. The most common mental health issues that adversely affect children's academic performance include: internalizing problems (i.e., depression and anxiety), externalizing problems (i.e., conduct disorder, oppositional defiant disorder, and attention deficit hyperactivity disorder), family issues (i.e., domestic violence, child abuse, divorce),

substance abuse, anger, poor social skills, and stress (Florida Department of Education, 2000; Kestenbaum, 2000). However, can school mental health programs help students to a significant degree, given the challenges so many children face? Schools provide mental health programs because legal mandates require certain mental health services for students diagnosed with special education needs and because school policy makers and practitioners recognize that social, emotional, and physical health problems and other barriers to learning must be addressed if schools are to function effectively and students are to learn and perform successfully (Adelman & Taylor, 1998).

Given these challenges, school mental health programs could become one of the most efficient means for preventing major health and social problems that confront American's children. By preventing health problems that afflict young people and threaten their adulthood with the use of early intervention methods, school mental health programs could help reduce the growing costs of health care, improve educational outcomes and, therefore, improve economic productivity and the quality of life (Kolbe, Collins, & Cortese, 1997). Based on this great need, the Surgeon General's Report (2000) and the President's New Freedom Commission on Mental Health (2002) have called for the nation to revamp, regenerate, and create school mental health programs. The mission of these committees is to review the effectiveness of mental health services, identify effective interventions that have the potential to be widely replicated, and formulate policy options for government agencies and providers of mental health services (Power, 2005). Proposals to reform health, education, and social services also have included ways to improve existing school mental health programs (Kolbe, et al., 1997).

One central issue relating to expanded and improved mental health services for children is the need for providers, specifically school psychologists, to move away from the traditional test and place model of service delivery and move to a more proactive, problem-solving model (Curtis, Hunley, Walker, & Baker, 1999). School psychologists would have a much more positive impact upon children if they increased emphasis on intervention-based services, including services that address the mental health needs of children in their everyday lives. As a result of this paradigm shift, a Response to Intervention (RtI) model has been referenced in the No Child Left Behind (NCLB) Act as well as the Individuals with Disabilities Education Act (IDEA) reauthorization 2004. According to a Technical Assistance Paper authored by the Bureau of Exceptional Student Education (2006), “RtI represents a systematic method for evaluating the needs of all students and for fostering positive student outcomes through carefully selected and implemented interventions,” (p.1). Mental health services could definitely be part of the array of interventions that are identified by recent legislation to ensure positive student outcomes. School psychologists need to focus on helping children in “making sound, responsible decisions, responding to stress and crisis in developmentally appropriate ways, resolving conflicts in a non-violent manner, demonstrating positive self-esteem, and participating in activities that promote physical/mental health and well-being,” (Florida Department of Education, 2000, p. 1).

Research has examined the services school psychologists provide in schools (Cheramine & Sutter, 1993; Curtis, et al., 1999; Curtis, Hunley, & Grier, 2004; Nastasi, Varjas, Bernstein, & Pluymert, 1998; Reschly, 2000). However, despite the extensive

knowledge base regarding what services school psychologists provide in general, only a limited number of studies have focused on the provision of mental health services. Only a few studies (Lazega, Batsche, & Curtis, 2003; Luis, Curtis, Powell-Smith, & Kromrey, 2005) have directly explored the mental health services that school psychologists provide in schools. These studies explored the current role that school psychologists play in providing mental health services in schools and factors that support those services. Some research suggests that school psychologists spend only approximately 11% of their time delivering services other than special education related activities (Curtis, et al., 1999) while other studies (Luis, et al., 2005) suggest mental health services specific to individual therapy/counseling, family therapy/counseling, group therapy/counseling, substance abuse counseling, and behavior management consultation comprised 19.21% of school psychologists' 40 hour work week.

Purpose of the Study

The purpose of the current study was to examine factors that relate to the delivery of mental health services by school psychologists using a national database. The relationship between school psychologists' demographic, preparation, and professional context factors (e.g., gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio), and the types of mental health services delivered, amount of time invested in such services, and the desirability of school psychologists to provide or not to provide mental health services was addressed. In addition, the percentages of school psychologists who deliver mental

health services and the amount of time they spend in broadly defined mental health service types was also addressed.

Many studies of the professional practices of school psychologists have employed a survey methodology (Curtis, et al., 2004; Hartshorne & Johnson, 1985; Huebner & Mills, 1994; McDaid & Reifman, 1997; Reschly & Wilson, 1995; Roberts & Rust, 1994). Although some studies resulted in return rates in the range of 70% to 80% (e.g., Curtis, Grier, Abshier, Sutton, & Hunley, 2002; Curtis, et al., 1999; Graden & Curtis, 1991; Reschly & Wilson, 1995) others have reported return rates of only 40% to 45% (e.g., Farling & Hoedt, 1971; Smith, 1984; Smith, Clifford, Hesley, & Leifgren, 1992). Some studies have included a national sample of school psychologists (e.g., Reschly & Wilson, 1995) to examine school psychologist demographic characteristics, roles, role preferences, and views on system reform. Other studies have used smaller samples (less than 100 participants) of school psychologists to survey their demographic characteristics, roles, and job satisfaction (Hartshorne & Johnson, 1985; Huebner & Mills, 1994; McDaid & Reifman, 1997; Roberts & Rust, 1994). The present study represents an analysis of an existing national database in which survey methodology was used. Specific techniques used by other researchers (Curtis et al., 1999) were incorporated into the survey methodology to achieve a high response rate. The purpose of using survey methodology in the development of the database was that this method has been demonstrated to yield higher participant response rates rather than having participants maintain weekly logs of their school-based mental health related activities (Lazega et al., 2003).

Research Questions

To generate information regarding factors that are associated with the delivery of school-based mental health services by school psychologists, the following research questions were addressed by analyzing the database created by the National Association of School Psychologists (NASP) Research Committee through a national survey of school psychologists.

1. What is the relationship between school psychologists' demographic, preparation, and professional context factors (e.g., gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio) and the types of mental health services provided by school psychologists?
2. What is the relationship between school psychologists' demographic, preparation, and professional context factors (e.g., gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio) and amount of time school psychologists spend providing mental health services?
3. What is the relationship between school psychologists' demographic, preparation, and professional context factors (e.g., gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio) and their desire to provide or not to provide more mental health services?

4. What proportion of school psychologists spend time in consultation, assessment, intervention, and professional development services related to mental health?
5. What proportion of school psychologists' time is spent in consultation, assessment, intervention, and professional development services related to mental health?

Significance of Study

In the future, the findings from this study will make a significant contribution to the field of school psychology and to the delivery of mental health services for students in several ways. First, this study offers school psychology training programs information about what mental health services school psychologists are actually providing and what factors relate to or support the delivery of mental health services in schools. Second, this study offers information to national and state professional associations about mental health issues that need to be addressed with regard to training, research, and professional practice. Finally, this study informs policy changes relative to the delivery of mental health services to students in school settings.

Definition of Terms

Mental Health. Mental health issues encompass those characteristics and factors that relate to mental well-being. The lack of mental well-being is characterized by an inability to adapt to one's environment and regulate behavior (Webster's, 2002). Mental health issues that adversely affect children's academic performance include: internalizing problems (i.e., depression and anxiety), externalizing problems (i.e., conduct disorder, oppositional defiant disorder, and attention deficit hyperactivity disorder), family issues

(i.e., domestic violence, child abuse, divorce), substance abuse, anger, poor social skills, and stress (Florida Department of Education, 2000; Kestsenbaum, 2000). According to a Position Statement published by NASP (2003), “Mental health is evidenced by students forming secure attachments, developing satisfying social relationships, and demonstrating effective coping skills. Mentally healthy children and adolescents enjoy a positive quality of life; function well at home, in school, and in their communities; and are free of disabling symptoms of psychopathology,” (p.1).

Services that are considered to be Mental Health Related.

Individual therapy/counseling	Crisis intervention
Family therapy/counseling	Designing/administering individual service plans
Group therapy/counseling	Program development and administration
Substance abuse counseling	Personnel training
Early intervention services	Vocational counseling
Family/child advocacy	Educational support
Behavior management consultation	Social skills training
Assessment and diagnosis	Academic consultation
Research and evaluation	

Chapter Two

Review of the Related Literature

Much research has been published regarding mental health services that are delivered through schools. The literature has included studies on the need for mental health services (Adelman & Taylor, 1998; Kolbe, et al., 1997; IDEA: Mental Health, 2005; Power, 2005; Pumariega & Vance, 1999), the lack of services to children in need (Carlson, Paavola, & Talley, 1995; Flaherty, Weist, & Warner, 1996; Knoff, Curtis, & Batsche, 1997; Nastasi, 1998; Power, 2005), history and definition of effective mental health services (Dryfoos, 1995; Weist & Christodulu, 2000), models of effective mental health services (Carlson et al., 1995; Dryfoos, 1995; Dryfoos, 1998; Nabors, Weist, Tashman, & Myers, 1999; Nastasi, 1998; Nastasi, 2000; Porter, Epp, & Bryant, 2000; Pumariega & Vance, 1999), and school psychologists' roles in the delivery of mental health services (Cheramine & Sutter, 1993; Luis, et al., 2005; Nastasi, et al., 1998; Nastasi, 2000; Roberts & Rust, 1994; Short & Rosenthal, 1995; Tharinger, 1995).

This literature review will communicate the broadly defined area of mental health services for students of all ages. Discussion of the literature is organized into the following sections based on topics examined (a) the lack of mental health services for children in need, (b) definition of effective mental health services, (c) models for effective mental health service delivery, and (d) school psychologists' roles in the delivery of mental health services.

The Lack of Mental Health Services

Child and adolescent mental illness and emotional disturbance were once thought to be relatively rare. Recent studies, however, suggest overall prevalence rates of 15% to 19%, with three percent to eight percent for serious illness and emotional disturbance (Pumarieg & Vance, 1999). Morbidities associated with disturbances such as suicide, homicide, substance abuse, child abuse, teenage pregnancy, school drop out, and youth crime are increasing at an alarming rate (Children's Defense Fund, 2005; Surgeon General's Report, 2005). Although the foundation of psychopathology often develops early in childhood, mental health services typically are provided when individuals are older and mental health problems have become more severe. As a result, mental health problems are being treated utilizing a reactive approach, rather than a proactive, preventative approach when problems are still treatable. Therefore, providing services when individuals are younger and in school is essential (Power, 2005).

Though reports have suggested the need for greatly expanded mental health services in America, a lack of programs to efficiently meet the needs of students still exists. The Office of Technology Assessment (OTA), stated that the most conservative estimate is that 7.5 million out of 63 million children are in need of mental health services; half of these, about three million, are thought to present serious disturbances. However, in estimating that only two million children a year receive mental health treatment, OTA reported; "The majority of children with mental problems fail to receive appropriate treatment. Many of the six to eight million children in our nation who are in need of mental health interventions receive no care; other children, perhaps 50 percent of

those in need of treatment, receive care that is inappropriate for their situation,” (Flaherty et al., 1996, p.342). Additionally, OTA reported that same year that 12% to 15% of adolescents present emotional or behavioral problems that warrant intervention; however, less than one-third of these adolescents received mental health services (Flaherty, et al., 1996).

The lack of services negatively impacts students’ school readiness through factors such as physical well-being, motor development, social and emotional development, openness to learning, language use, cognitive functioning, and general knowledge. Serious emotional disturbance (SEDs) affects five to nine percent of teenagers in America. This means that SEDs- diagnosable disorders in children and adolescents that severely disrupt daily functioning- affect about one in 15 teens, or on average, two students in every high school classroom (IDEA: Mental Health, 2005). Consequently, substantial work is needed if students are to succeed in school and community settings. Growing evidence from IDEA legislation shows that when schools address mental health issues they can boost academic achievement, reduce absenteeism, and increase graduation rates (IDEA: Mental Health, 2005). School readiness issues have also been identified by the National Education Goals Panel (1994) as necessary targets in the schools to make for healthy students. However, these needs are not being met and students are not succeeding. In 1996, a national report evaluating the impact of the Title I program (government program funded through the Elementary and Secondary Education Act for low socioeconomic schools), conducted by the U.S. Department of Education indicated that students in high poverty schools actually lost ground academically relative

to students in other schools between 1984 and 1992. According to the report, state data indicated that, by grade four, there was already a large gap between students in high poverty schools and those in low-poverty schools (U.S. Department of Education, 1996). These students are at risk for academic difficulties and potentially for dropping out of school (Knoff & Curtis, 1996). By identifying high risk students who would benefit from intervention, mental health services could have a strong impact on this problem. Mental health services would be part of an intervention plan to help students achieve academic gains, therefore, decreasing the potential for dropping out of school.

The ability of schools, as currently structured and financed, to meet the physical and mental health needs of children has been severely challenged. The ratio of students to school psychologists has been a matter of concern to the field of school psychology with regard to its effect upon the quality of services delivered by school psychologists. For example, Smith (1984) reported that ratios of 1,500 to one or less were associated with more intervention-based services and less assessment services. The student ratios for other school personnel such as social workers are reported to be 2,500 to one, school counselors 1,000 to one, and school nurses 1,000 to one. Student ratios such as these would make it very difficult to provide adequate services for children (Carlson et al., 1995). The inadequacy of mental health services to children is not only reflected in these student ratios, but also in funding, support, and identification of students in need of such services (Carlson, et al., 1995).

In response to the need for funding of mental health services, the U.S. Department of Education and the Office of Safe and Drug-Free Schools in 2005 commissioned a

grant for the Integration of Schools and Mental Health Systems. This program provides grants to state or local educational agencies or Indian tribes to increase student access to high-quality mental health care by developing innovative approaches that link school systems with the local mental health system. Goals for states receiving these grants under this program include:

(1) enhancing, improving, or developing collaborative efforts between school-based service systems and mental health service systems to provide, enhance, or improve prevention, diagnosis, and treatment services to students; (2) enhance the availability of crisis intervention services; provide training for school and mental health professionals; (3) provide consultation to school systems, mental health agencies, and families participating in the program; (4) and provide linguistically appropriate and culturally competent services, (p.1).

Students suffering from emotional and behavioral disorders should receive services in schools under the requirements of the Individuals with Disabilities Education Act (Carlson, et al., 1995). However, close examination of the programs and policies related to IDEA (reauthorization of this act was signed into law as the Individuals with Disabilities Education Improvement Act in December, 2004) reveals that less than one percent of children are identified as behaviorally or emotionally disturbed, despite estimates that 15% are really in need of services (Carlson, et al., 1995). Over half of all schools do not provide necessary services to these children, but rather rely on the community (Carlson, et al., 1995). However, because only three percent of school-aged children receive mental health services from community providers, there could be a

discrepancy of 12% of children needing and receiving services (Carlson et al., 1995). Less than one percent of children in the United States receive mental health treatment in residential settings and another five percent in outpatient or community based settings, with the majority of children in need receiving insufficient or no mental health services whatsoever (Pumariega & Vance, 1999). Regrettably, well below 50% of children with mental health disorders actually receive any kind of treatment to address their needs (Power, 2005).

The Department of Education (DOE) has much investment in the academic achievement of students. The DOE feels that mental health has an impact on the academic achievement of students, therefore, mental health services should be investigated (Kutash, et al., 2006). Divisions such as SAMHSA have been developed that focus on the positive mental health of children and adults. SAMHSA has promoted the concepts of involving families in all areas of treatment and making sure that provision of services are culturally competent (Kutash, et al., 2006). NCLB, IDEA, and DOE all identify that schools are critical in the provision of mental health services, “because the location of services in schools can significantly increase access to services, schools can foster the implementation of universal prevention programs and early identification programs, and interventions in school may reduced stigma associated with mental health problems,” (Kutash, et al., 2006, p. 63).

Many factors contribute to the small number of students and families receiving mental health services in schools and the community. One factor is that the students who are in need of mental health services are more likely to be uninsured and cannot receive

care from community agencies. Therefore, providing mental health services in school would allow students who are not insured to receive care. Another barrier to the utilization of services is the stigma that is associated with having mental health problems. Many families deny that the problem exists or that help is needed. Finally, a lack of trust between school/community services and families may reduce a families' motivation to seek out services, especially among families of minority status (Power, 2005).

When mental health services are provided to students and families, the quality of that care may not be sufficient to address all factors related to the problem or produce positive outcomes. Many of the practices and procedures that are utilized by community and school-based mental health providers may not be evidenced-based, implemented correctly, or take into account social or cultural variables. Many services are delivered in fragmented pieces and, as a result, there is not continuity of service delivery (Power, 2005).

In summary, the need for mental health services for children and youth is well documented (Carlson, et al., 1995; Power, 2005; Pumariega & Vance, 1999; Nastasi, 1998). Mental health concerns range from risks in the general population, such as substance abuse, to severe mental disorders, such as schizophrenia, that are found in a very small fraction of the population (Nastasi, 1998). The estimates of mental health needs demand a comprehensive approach to the delivery of mental health services (Nastasi, 1998). Therefore, approaches to intervention and assessment must be broad in focus and address the multiple contexts in which children live, including the family, school, and community (Nastasi, 1998). In addition, physical and mental health services

should be closely linked to both psychiatric disorders, such as depression, and social morbidities, like substance abuse (Nastasi, 1998). “For this goal to be attained effectively, collaboration among professionals in both the social and medical sciences is required. The final step is to develop and implement an effective mental health program that has interventions that are valid and are subject to systematic evaluation and research,” (Nastasi, 1998, p. 167). However, for these goals to be accomplished, a fundamental understanding is needed of what exactly mental health services entail.

History of Child Mental Health Services

The United States followed the lead of Western European nations in the development of children’s services during the latter half of the 19th Century and the beginning of the 20th Century (Pumariega & Vance, 1999). Throughout America’s history, rapid cultural changes have occurred due to immigration, industrialization, and urbanization. Policy makers recognize that ineffective structures, which served previous societies, are no longer adequate to prepare the population for the more complex needs of new generations (Pumariega & Vance, 1999). Requirements for compulsory education led the way starting in the 1860s and were followed by the establishment of child abuse laws in the 1880s. In the 1890s came the establishment of the juvenile courts (Pumariega & Vance, 1999). Child mental health services were initiated in the United States in response to the perceived need for counseling school children and juvenile offenders, rather than incarcerating them with adult offenders (Pumariega & Vance, 1999). The first mental health clinic for children was founded at the University of Pennsylvania in 1896, with a focus on school problems (Pumariega & Vance, 1999). Juvenile court clinics in

Chicago and Boston were founded in the early 1900s, giving rise to the first interdisciplinary child mental health services in the nation. Physicians, social workers, and psychologists staffed these clinics (Pumariega & Vance, 1999).

Movement toward the medicalization of psychiatry in the 1970s and 1980s served to direct the delivery of child and adolescent psychiatric services through a more hospital-based model (Pumariega & Vance, 1999). As a result of this development, child guidance clinics and community mental health centers had little significant psychiatric input. As a result, community-based children's services were neglected (Pumariega & Vance, 1999). Today, the IDEA (Individuals with Disabilities Education Act) places a large responsibility upon school districts to finance and deliver services needed to address health and mental health needs that can impair the education of children (Pumariega & Vance, 1999). However, in the 1990s, the focus returned to bringing outside health and social service programs into schools in response to contemporary crises resulting from poverty, immigration, and community decay (Dryfoos, 1995). In the mid-1990s, every major national social and health organization supported the concept that community agencies should bring services into schools (Dryfoos, 1995).

Definition of Mental Health

In bringing outside health and social service programs into schools, it is important that legislators, school personnel, and parents have a firm understanding as to what these services entail. Therefore, a clear definition of mental health is needed. The Surgeon General (2002) defined mental health as:

The successful performance of mental function, resulting in productive activities, fulfilling relationships with other people, and the ability to adapt to change and cope with adversity; from early childhood until late life. Mental health is the springboard of thinking and communication skills, learning, emotional growth, resilience, and self-esteem, (p.1)

Based on this definition, effective mental health services should be provided through school systems, medical systems, and human service systems in an integrated fashion. By pulling and integrating the resources from each system, mental health facilities in schools could serve as a very effective source of intervention (Surgeon General, 2002). The focus of mental health services should be on the prevention, treatment, and support services needed to make sure children and families enjoy quality mental health as defined above. The delivery of a mental health service system should reflect a collaborative effort between state, local, and private entities (Surgeon General, 2002). It should not be the sole responsibility of the school to provide mental health services; instead, all professionals who can bring resources to the school should be utilized (Surgeon General, 2002).

Besides the Surgeon General (2002), other policy leaders view mental health services in schools in alternative ways. For example, The Policy Leaders Cadre for Mental Health in Schools (2001) points out that discussions of mental health usually focus on “mental illness, disorders, or problems,” (p.27). Moreover, there is a strong tendency to define emotional and behavioral problems as “disorders” reflecting a deficit-based paradigm. However, arguing that mental illness should not be viewed solely

as a disorder, the Surgeon General's Conference on Children's Mental Health (2000) stated,

Both the promotion of mental health in children and the treatment of mental disorders should be major public health goals. The term mental health in schools should encompass considerations of the school's role related to both positive mental health, including social and emotional development, and mental health problems including, psychosocial concerns and mental disorders of students, their families, and school staff, (Policy Leadership Cadre for Mental Health in Schools, 2001, p.5-6)

This definition argues that mental health services provided in the schools need to be offered in broader terms. Mental health services should address both the psychological side of problems, such as social and emotional development, and as well as the physical health concerns of students.

There is now a national movement to bring comprehensive mental health services to youth through the schools. This movement began in the mid-1980s and developed even more rapidly in the 1990s (Weist & Christodulu, 2000). From this movement, some legislators have gone even farther in their efforts to provide mental health services (Weist & Christodulu, 2000). Expanded School Mental Health (ESMH) programs augment traditional school mental health services offered by school counselors, school psychologists, and social workers by linking schools to community mental health centers, health centers, health departments, and other social services (Weist & Christodulu, 2000). In this way, ESMH programs provide an array of mental health services to youth in both

special and regular education including assessment, case management, treatment, and prevention programs (Weist & Christodulu, 2000).

Models of Effective Mental Health Services

In the past decade, professionals from various backgrounds such as education, psychology, medicine, and public health have recognized the need for integrated service delivery to address the health, mental health, educational, and social service needs of youth (Nastasi, 2000). Over the past 30 years, many models for school or community-based comprehensive health and mental health care for children, adolescents, and their families have been proposed. Nastasi (2000) has identified several key components common among these models.

1. Integration of educational, health or mental health, and social services within and across agencies and professional disciplines;
2. Attention to the various ecological contexts that influence children and adolescents, including school, family, peer group, and community;
3. Services that are individually, developmentally, and culturally appropriate;
4. A continuum of services ranging from prevention to treatment;
5. Systematic evaluation of program process and outcome; and
6. Provision of care based upon empirical evidence of the complexity of factors that influence the well being of children and adolescents and their families, (p. 541).

Nastasi (2000) argues that each of these six elements is essential for the establishment of an effective mental health service delivery system within the context of a school setting.

Nastasi (2000) reviewed the characteristics of the numerous types of school-based service delivery models that exist. Many encompass the characteristics and goals that make for an effective school-based mental health service delivery system as identified above. Some of the more widely used models are based upon the premises of prevention and consultation. Prevention models incorporate the rationale of addressing problems before students require in-depth treatment. Teachers refer students who they believe are at risk for some type of mental or physical problem. Teachers also make parents aware that there are mental health service providers who are accessible to them. The team of mental health service providers then evaluates the student or family and provides interventions to stop the problem before it develops further.

Other prevention methods can be utilized on a three-tier model of prevention programs (Kutash, et al., 2006). On tier one, universal prevention programs provide school-wide services that prevent the onset of emotional or behavioral challenges. Tier two, selective or secondary prevention programs, combine students with risk factors that are similar and conduct group interventions that help prevent the onset of emotional or behavioral problems. Finally, there is tier three, the tertiary or indicated prevention program that assists students when a disorder or condition has been established (Kutash, et al., 2006).

One of the most widely used school-based interventions in the mental health care service model is consultation. Therapists, usually from outpatient mental health clinics or

universities, meet with teachers to discuss children's behavioral and academic performance and to plan appropriate interventions (Porter et al., 2000).

Teachers are often given information about various learning and emotional disorders during those discussions (Porter, et al., 2000).

Three other models for providing mental health services in schools have also been identified (Dryfoos, 1995; Porter, et al., 2000; Flattery et al., 1996; Carlson, et al., 1995).

They are referred to as school-based, school-linked, and community-based models.

School-based services are those located and delivered directly in school buildings, such as those offered through a school-based health clinic. School-linked services are those provided from outside, but near the schools, with an administrative structure linking the school system to provider agencies such as local businesses. Finally, community-based services are those administered by community agencies and serve as resources for school personnel such as the school psychologist, counselor, or social worker (Dryfoos, 1995).

School-Based Service Model. The school-based service model, as proposed by Dryfoos (1995), is delivered in a form called the school-based health clinic. For more than 25 years, school-based health clinics have provided physical health services; however, most clinics include some level of mental health services as well (Porter, et al., 2000). The purpose of school-based health clinics is to provide integrated health care through treatment plans developed by a multidisciplinary team. The addition of the mental health service component has proven to be very successful in these clinics (Porter, et al., 2000).

School-based mental health clinics are located in numerous cities, often in poor and minority communities. Programs ranging from violence prevention to bereavement counseling are examples of the services provided. Many of the directors of these centers believe that “collaboration with other school staff is critical in the development of effective, well-coordinated programs,” (Porter, et al., 2000, p. 318). Mental health services offered through school-based clinics occur in the context of a range of other on-site health services including medical screening and physical examinations, treatment for accidents and minor illnesses, and counseling for family planning and personal problems (Flattery, et al., 1996). The staff in these school-based clinics typically includes a medical assistant or receptionist, nurse practitioner or physician, and a master’s level mental health clinician, usually a social worker who addresses the mental health needs of students (Flattery, et al., 1996).

The Baltimore City School District offers one example of the use of the school-based clinic model. There are currently eight school-based clinics located in four middle schools, three high schools, and a middle/high school for expectant mothers (Flattery, et al., 1996). These clinics serve as the primary source of mental health care for many of the students, and even provide supportive medical services for problems such as diabetes and seizure disorders (Flattery et al., 1996).

Another example of this type of service is the Johns Hopkins School-Based Program, which is part of the Johns Hopkins Community Psychiatry Department (Porter, et al., 2000). This program includes school-based mental health clinicians-professional counselors, psychologists, art therapists, and social workers working in 19 schools in east

Baltimore on a full-time basis (Porter, et al., 2000). In addition to these personnel, each school is provided with two hours of consultation each week by a psychiatrist from the Community Psychiatry Department (Porter, et al., 2000). In this two-hour period, psychiatric evaluations are completed and, if needed, medication is prescribed and monitored. The mental health clinicians provide individual, group, and family counseling and make referrals to other departmental units for services such as in-home visits as well as to other community agencies (Porter, et al., 2000). A great advantage of this model is that the services are provided during the school day, after school, and even during the summer (Porter, et al., 2000).

Another example of the school-based mental health clinic model is the Memphis City Schools (Carlson, et al., 1995). The mental health clinic involves psychologists in providing services such as coordination, consultation, and the formulation of treatment programs (Carlson, et al., 1995). It includes an outpatient treatment program for children and families, provides prevention programs, consultation for principals and teachers, formal interagency coordination/collaboration, and psychology internships (Carlson, et al., 1995). Annually, services typically include over 8,000 hours of therapy, 7,000 hours of consultation, and over 5,000 psychoeducational evaluations (Carlson, et al., 1995).

School-Linked Service Mode. The second type of model identified by Dryfoos (1995) is the school-linked model. An example of this model is the Healthy Start Program in California. In 1991, the California legislature passed the Healthy Start Support Services for Children Act to establish innovative, comprehensive, school-based or school-linked health, social, and academic support services throughout the state

(Carlson, et al., 1995). Support services include health care, mental health services, substance abuse prevention and treatment, family support and parenting education, academic support services, counseling, nutritional information, and youth development (Carlson, et al., 1995). By utilizing this program, more students and families receive mental health services through the schools (Carlson, et al., 1995).

Another example of the school-linked support service model is the School of the Future that was undertaken and funded by the Hogg Foundation for Mental Health in 1992 (Carlson, et al., 1995). This program demonstrates school-based and school-linked models of health and mental health services delivery that are designed to positively impact the quality of education and community life for children and families (Carlson, et al., 1995). Key features of the School of the Future include “the integration of health and human services in the public school, the involvement of both parents and teachers in program activities, involvement of many organizations, both public and private, a strong commitment to the project by superintendents, principals and other school staff, and a willingness to participate in the evaluation of the project,” (Carlson, et al., 1995, p. 194). With the integration of community and school system resources, the School of the Future is intended to have a positive impact on students in the realm of academic performance, physical health, and mental health (Carlson, et al., 1995).

Community-Based Service Model. The final model identified by Dryfoos (1995), is the community-based model. This model emphasizes a partnership between school and business leaders intended to deliver an effective mental health program that is supplied through the schools. Several of these programs exist throughout the United States

(Dryfoos, 1998). One example of this model is the Roots and Wings Program, a comprehensive elementary school intervention project that starts at age four in preschool and heavily emphasizes one-on-one service through individual plans (Dryfoos, 1998). This program utilizes family support teams and works closely with classroom teachers through direct consultation (Dryfoos, 1998). This program was developed by The Center for Research on Effective Schooling for Disadvantaged Students at Johns Hopkins University (Dryfoos, 1998). The Roots and Wings Program represents a collaborative effort between the school and the community and is designed make students more academically, mentally, and physically healthy (Dryfoos, 1998).

In summary, these models and programs are becoming increasingly popular and could represent an effective approach for providing mental health services for students and families. They provide for a broad range of services to youth in both special and general education. The range of services provided is comprehensive, ranging from therapies to case management and from prevention to evaluation; however, outcome data are needed. To ensure quality, positive outcomes, all programs need to develop “standards of care, emphasize wrap-around services, enhance collaboration and coordination among providers and agencies, and develop training programs for staff to qualify as a quality program,” (Nabors, et al., 1999, p. 485).

However, the most fundamental question is how effective are these programs in terms of client outcomes? Evaluating the quality of care provided through these programs would offer useful data for documenting treatment effectiveness that is very important in establishing accountability of health care. Initial outcome data from The Center for

Mental Health Services evaluated the overall quality of services with regard to school-based mental health services systems in Vermont, New York, and California (Pumariega & Vance, 1999). Their evaluation showed that programs facilitated a reduction in hospitalization rates, a decrease in out-of-home placement, a significantly lower incidence of negative behaviors severe enough to put children at risk of out-of-home placement, and significantly lower rates of overall problem behaviors. Pumariega and Vance (1999) believe the Center for Mental Health Services holds promise for yielding much data about the effectiveness of school-based mental health services in improving access to care for students.

The School Psychologist's Role in Providing Mental Health Services

This next part of the literature review describes issues surrounding mental health services being provided by school psychologists. Discussion is organized into the following sections: (a) Training, (b) Time, (c) Desirability, (d) Functions within the school, and (e) Factors influencing mental health service delivery.

Many different personnel, including guidance counselors, social workers, teachers, principals, schools nurses, and community resource personnel play key roles in the design, implementation, management, and evaluation of mental health services in schools (Nastasi, et al., 1998). School psychologists have been of the utmost importance in the delivery of school-based mental health services. School psychologists are considered the ideal persons to take on key roles in mental health services because of their training, desirability for the job, and functions within the school (Nastasi, et al., 1998).

Training. Since 1970, most school psychologists have been trained through organized graduate level preparation programs that provide core components for practice in school-based mental health services. Although training would seem to conform most closely to school-based practices, writers in the field of school psychology have described and advocated for roles and functions of school psychologists in non-school based, or nontraditional practice, as well. The training promoted by Short and Rosenthal (1995) includes skills in consultation, prevention, intervention, administration, health care, and finance. This training is a departure from the traditional training of school psychologists, which is most highly focused on assessment (Short & Rosenthal, 1995). If school psychologists are being trained in all of these different skills, it would be a reasonable assumption that they could contribute significantly to the delivery of mental health services in the schools.

According to the National Association of School Psychologists' *Standards for Training and Field Placement Programs in School Psychology* (NASP, 2002), preparation in the areas of assessment, intervention, counseling, and consultation is a primary training goal. NASP training standards require that school psychologists acquire the "knowledge of behavioral, mental health, collaboration, and other consultation models and their application to particular situations. School psychologists should provide or contribute to prevention and intervention programs that promote the mental health and physical well being of students," (NASP, 2002, p. 15).

Training has been identified by school psychologists as one of the most important factors contributing to the successful delivery of mental health services (Luis et al.,

2005). School psychologists have identified that training in prevention of emotional and behavioral problems, behavior management in the classroom, and social skills as areas that are needed in order to provide optimal mental health service to students in schools. The results of past studies (Luis et al., 2005) suggest that school psychologists want more training in prevention and intervention methods which are aligned with the NASP standards for training rather than in assessment and diagnosis which are aligned with traditional training models.

In a study conducted by Luis, et al., (2005), school psychologists identified prevention skills as an area that needs additional training. The thrust of this type of training is unlike traditional training in testing that is based on a reactive approach to diagnosing problems once they already exist. The desire of school psychologists for more prevention training, may suggest a need for a shift in the paradigm of school psychology training programs away from a reactive approach toward students' educational/emotional concerns toward a prevention-oriented, problem-solving approach. Current research (Luis et al., 2005) is consistent with a central theme and several major recommendations that emerged from the 2002 Invitational Conference on the Future of School Psychology. Movement of the field to a much greater emphasis on prevention and health promotion was identified a primary goal for the future of the field. In fact, it was suggested that school psychology engage in a major paradigm shift in which public health model would guide the field (Sheridan & D'Amato, 2004).

Time .To what extent is the preparation of school psychologists consistent with their professional responsibilities? A study conducted by Short and Rosenthal in 1995

addressed this question. They found that 63.2% of a school psychologist's time was spent in assessment, 23.6% in counseling, and 13.2% in consultation. They also concluded that 83.3% of school psychologists in this sample (N = 273) viewed their training as valuable to their professional functioning and relatively few, 29.5%, perceived their training to have limited them in their professional practices (Short & Rosenthal, 1995). These results suggest that school psychologists spend approximately 36% of their time delivering mental health services such as counseling and consultation and that their training supported this work.

A study conducted by Curtis, et al., (2002) revealed how school psychologists are spending their time. In this study, 2, 052 "Regular members" of NASP responded to a mailed survey, yielding a 67.9% response rate. Over 77% of the school psychologists responding indicated that they participate in the development of Section 504 plans. One-third of these school psychologists completed 25 or fewer initial special education evaluations during 1999-2000, demonstrating a decreasing trend in the number of special education evaluations done when compared with previous years. Additionally, a larger proportion (12.3%) of school psychologists reported completing 50 or more consultations during 1999-2000 than did during 1989-90. However, time invested in special education evaluations was 79.1%, with 41% of that time being spent in assessment activities, 25% in report writing, 25% in meetings, and 8% in other activities. More time was spent in conducting initial special education evaluations and reevaluations, and an even greater percentage of time spent in special education related activities overall than in all other professional functions combined. This study supports Short and Rosenthal's (1994)

finding in regard to time engaged in assessment. According to Curtis et al., 2002, the decrease in the number of special education cases between 1989-90 and 1999-2000 would lead to expectations that school psychologists would be spending more time in the delivery of professional practices not related to special education. However, the data did not support this expectation; in fact, the percentage of school psychologists who reported in engaging in no consultations, individual counseling, students groups or in-service programs actually increased over the ten-year period between studies.

A study conducted by Luis et al., (2005) revealed how school psychologists are spending their time in regard to the delivery of mental health services. This study involved the analysis of an existing database conducted for the purposes of identifying and understanding factors that were associated with the delivery of school-based mental health services by school psychologists. The study examined the average number of hours per week in which school psychologists engage in mental health services and the types of mental health services in which they engage. The database that served as the basis for those analyses had been created by mailing a survey to 1,000 randomly selected practicing school psychologists who were “Regular Members” of the National Association of School Psychologists. The survey asked for responses to questions relating to a range of issues about the delivery of school-based mental health services.

The results indicated that school psychologists devote most of their time to assessment and diagnosis and academic consultation. Collectively, in that sample, school psychologists reported spending 40.8% of the 40-hour work week delivering services in these areas of assessment and consultation. In contrast, past studies conducted by Short

and Rosenthal (1995) demonstrated that considerably more time was spent in assessment (63.2%).

In the Luis et al., (2005) study, mental health services such as individual therapy/counseling, family therapy/counseling, group therapy/counseling, substance abuse counseling, and behavioral management consultation comprised 19.21% of school psychologists' 40 hour work week. These findings are not consistent with the findings of Lazega et al., 2002 in which school psychologists spent over 80% of their time in assessment-related activities, but 13.10 hours of their work week (32.75%) providing mental health services. Survey methodology may have accounted for these differences. As the data collection method for the Luis et al., (2005) study, participants were asked to recall the hours that they provided mental health services during the prior week. In the Lazega et al., (2002) study, participants were asked to maintain a weekly log of mental health services they provided over a period of four weeks. Additionally, services identified in the Luis et al., (2005) study as mental health services were not identical to those of the Lazega et al., (2002) study. In the end, there are notable differences between the findings of the Luis et al., (2005) study and those of the Short and Rosenthal (1995) and Lazega et al., (2002). The methodology in the Lazega et al., study may have been more valid and reliable since psychologists had to keep a weekly log and indicate what services they had provided that day along with how long they were involved in these services. This may have produced more accurate results, however, a much smaller sample size (88 participants) was produced with this type of methodology. The Luis et al., (2005) methodology may have had a limitation in that participants were asked to recall the

services they had provided in the past week, however, a much larger sample size was attained (n=464). It is apparent that more information is needed with regard to the amount of time that school psychologists spend in delivery of mental health services.

Desirability. Even though school psychologists have the training and are needed by teachers, students, and parents in schools to provide mental health services, does this mean they want to be involved in this professional function? In study conducted by Roberts and Rust (1994), 52 school psychologists were surveyed to investigate the difference between actual time spent and desired time spent in the areas of assessment, intervention, pre-referral interventions, and curriculum-based assessment. In the area of assessment, the mean time spent was actually 66.8%, while the mean time desired was 50.31%. In the area of intervention, 17.59% actual time was spent while 27.77% was desired. There was no difference between actual time and desired time spent in the areas of pre-referral interventions (10.15% actual time; 13.64% desired time) and curriculum-based assessment (.76% actual time; 1.27 desired time). These results indicate that school psychologists desire to be less involved in assessment and more involved in intervention activities. Mental health related services would encompass the more desired role of providing more intervention and less assessment (Roberts & Rust, 1994).

In the Luis et al., (2005) study, results indicated that approximately three out of four school psychologists specified a desire to deliver more mental health services. Participants also were asked to provide reasons for their answers. The themes generated from the participants' responses revolved around some common ideas for wanting or not wanting to be involved in providing mental health services. Frequently, a response of

wanting to be more involved in the delivery of mental health services was followed by reasoning that there is a great need for mental health services and that prevention and early intervention are the best strategies for helping students. School psychologists also felt that there is too much time spent in assessment-related activities. If the participants answered that they did not want to be involved in the delivery of mental health services, common reasons for this response were that the community was more appropriate for addressing mental health needs and that there is not enough time available for school psychologists to provide these services.

The findings of the Luis et al., (2005) study were consistent with findings by Roberts and colleagues (1994) that indicated that school psychologists desire to be less involved in assessment and more involved in intervention. The Roberts, et al., (1994) study indicated that school psychologists wished to abandon restricted roles and to engage in alternative roles described by Reschly (2000) and other authors, including interventions. As noted above, the majority of school psychologists participating in the past studies wanted to be more involved in providing mental health interventions, thereby providing more support for the changing role of school psychologists.

Functions within the school. Previous research indicates that school psychologists have both the training and the desire to be involved in the delivery of mental health services in the schools. However, as noted above, mental health services currently do not represent a priority in the schools. Several authors have, therefore, envisioned different roles for psychologists. One mental health service role would involve school psychologists at the level of pre-mental health service implementation through school

reform processes in order to promote mental health services as part of the school environment (Knoff & Curtis, 1996). To do this, school psychologists must “master the knowledge and skills to plan for and actually effect organizational change--at building or system level--such that school improvement and reform goals can be attained,” (Knoff & Curtis, 1996, p. 406).

Because school reform is a long-term process, school psychologists should begin to seek active roles in the delivery of mental health services while simultaneously engaging in school reform efforts. Some of these roles according to Reeder, Maccow, Shaw, Swerdlik, Horton, and Foster (1997), include serving as a member of an interdisciplinary team, serving as the coordinator of the team, or serving as a university-based consultant. Serving as a member of an interdisciplinary team would include relaying information about assessment, consultation or intervention to other members of the team such as teachers, administrators, parents, or students (Reeder et al., 1997).

One reason for considering the school psychologist as the coordinator of such a group is that they are likely to be the only member to have training in consultation, group dynamics, team development, supervision, and case management (Reeder et al., 1997). Finally, school psychologists who have a relationship with a university can aid in bringing additional funding into the schools and in conducting research (Reeder et al., 1997). These roles represent new directions for both the current practices of school psychologists and the future of school psychology (Reeder et al., 1997).

Additional roles that have been proposed for school psychologists by Power, McGoey, Heathfield, and Blum (1999) encompass the domains of intervention, program

development, training, and applied research. The school psychologist is in an excellent position to assist with interventions for children with mental health problems by conducting functional assessments, collaborating with other team members to develop intervention plans, and providing technical assistance in the implementation of interventions (Power, et al., 1999). Gilman and Gabriel (2004) advocated that school psychologists' roles should include designing and implementing academic and behavioral interventions, consultation, and group and individual counseling. School psychologists can serve key roles in developing creative programs for service delivery with the help of community leaders. School psychologists also can contribute to the continuing education of other professionals in school and health care settings (Power, et al., 1999). Finally, school psychologists can research and evaluate program quality and effectiveness relating to mental health services to ensure that the services are yielding the best possible outcomes for students (Power, et al., 1999)

Nastasi, et al., (1998) have identified seven roles that school psychologists can fulfill in the delivery of mental health services in schools. These include:

“prevention specialists who help teachers and school administrators foster the development of competent individuals; child advocates who assist schools in establishing mechanisms for identifying and treating students with psychiatric disorders; direct service providers to help children with emotional disorders such as depression; and help to families who are at-risk or have disabilities; trainers of teacher consultants to extend the scope of consultation services in schools; health

care service providers; system-level interventionists, and organizational facilitators in school reform and interagency collaboration,” (pp. 217-218).

Tharinger (1995) also proposed five fundamental roles for school psychologists in the delivery of mental health services. The first is a role in the development, implementation, and administration of new school-based and school-linked health service delivery models. The school psychologist’s role would include, responding to legislative, regulatory, and funding initiatives that are presented by federal, state, and local governments, and developing and implementing mental health services in schools. The second role involves direct service provision. Here, the school psychologist would provide care relating to mental health disorders, psychological aspects of physical illness, and at-risk behaviors. The third role would emphasize indirect service provision focusing on prevention of mental health disorders, physical illness, and at-risk behaviors, as well as providing consultation to improve health. The fourth role would be to interface health and educational outcomes to enhance positive outcomes for students. The final role would be for psychologists to take part in research and evaluation efforts that seek to determine each model’s effectiveness and to evaluate the outcomes for students who took part in the services. All of these roles provide for school psychologists to take an active approach in providing mental health services from the school level through the system level (Tharinger, 1995).

Additional studies have investigated what school personnel consider to be the school psychologists’ role in providing mental health services. In a study undertaken by Cheramine and Sutter (1993), a survey was given to 80 special education directors to

evaluate the functions of school psychologists, the degree of effectiveness in delivering mental health services, and activities in which school psychologists should become more or less involved. In this study, consultation appeared to be the most common function of school psychologists. The data suggested that role expansion is occurring within the field as more diverse training is provided and more diverse functions are performed. The special education directors were generally satisfied, as reported in the survey, with the mental health services provided by school psychologists, including assessment, consultation, and handling crises. However, the directors believed that school psychologists should be more involved in counseling and consultation services. This study indicates that there is a need and desire for school psychologists to be involved or to deliver mental health services to children who need them.

Factors Influencing Mental Health Service Delivery. In the study conducted by Luis et al., (2005) the researchers explored factors that influence school psychologists' delivery of mental health services. This research addressed the questions of to what extent school psychologists who provide mental health services report that they are supported by administration, department, and staff. The results of the question suggested that school psychologists felt that they had average support from teachers and school administration. However, the school psychologists, on average, felt that they had slightly less support from their own school psychological services department. When the results were analyzed investigating what areas (administration, staff, or department) had the highest percentage of school psychologist indicating no support or slight support, departmental support was identified by 26.4% of school psychologists as providing the

least amount of support. Administrative support was identified by 25.43% of school psychologists as providing no or slight support. Staff support was only identified by 14.9% of school psychologists providing no or slight support.

Contextual support is critical to the provision of mental health services and to role expansion, in general. The social environment of organizations such as schools and school districts, and professional relationships between school psychologists and other professional personnel like teachers and administrators are critical to efforts to increase emphasis intervention-focused services, including mental health services (Lochman, 2003). School personnel who perceive that school support is negative have been found to think that the introduction of new innovations in their schools is a burden (Lochman, 2003).

In the Luis et al., (2005) it was hypothesized that school psychologists may feel slightly less support from a district psychological service office because, generally, school psychologists are often held accountable for the number of testing cases they complete. Mental health services such as counseling and consultation may not be seen by the psychological services department as being part a priority aspect of the school psychologist's role when the departments themselves are under pressure to complete eligibility evaluations and NCLB and IDEA legislation. Consequently, these departments may have been perceived as less supportive of school psychologists delivering mental health services. It is important to note this was perceived support by the school psychologists participating and did not necessarily represent the actual values or priorities of psychological services departments. On the other hand, there was notable irony in the

fact that, at a time when there was a perceived need for more mental health services and the clear majority of school psychologists wished to provide more mental health services, school psychologists did not perceive support for that change from the leadership of their own organizational unit. In regard to low administrative support, the same accountability issues could be applied. With the new IDEA and NCLB legislation, principals are being pressured to ensure that eligibility needs are met and Medicaid dollars are being brought into schools by school psychologists. Therefore, support of school psychologists providing mental health may have been low since these services may not have been in direct conjunction with new legislation. Staff was reported to be most supportive of school psychologists providing mental health services. This may have been because teachers want help and mental health services were perceived as intervention services aiding in behavior or academic problems that children demonstrate.

The Luis et al., (2005) study also investigated the most important factors that school psychologists believe contribute to their success in the delivery of mental health services. Participants responded that the number one factor they believed contributed to their success was training, (i.e., their professional practices, followed by administrative support). Key factors that may affect how individuals within the school successfully use a new program involves the type of professional training and support available (Ringeisen, Henderson, Hoagwood, 2003). School psychologists cannot be expected to provide mental health services without adequate, appropriate training. The degree of the intensity of the training can be anticipated to affect intervention outcomes (Lochman, 2003). Therefore, training in the delivery of mental health services needs to be specific to these

services and directly tied to how these services improve student outcomes. Given the somewhat limited opportunities for knowledge and skill development in the area of mental health that are available in the specialist-level training programs, systematic and intensive attention to this area should be provided through continuing professional development programs. The third most important factor reported was teacher willingness to be involved in mental health service delivery which speaks to the relevance of support by staff. Therefore, it can be argued that the interaction of appropriate, professional training and a supportive school climate are essential to the establishment of effective, school-based mental health programs (Elias, 1997).

Summary

Many authors have similar ideas for the role of the school psychologist as it relates to the delivery of school-based mental health services. School psychologists should take part in school reform efforts, should be involved in prevention and intervention services, and should take part in training, research, and evaluation of services. All of these roles should be integrated so that school psychologists can provide the optimal contribution to mental health services in schools.

In conclusion, the school psychologist's role with regard to mental health services has been discussed and defined in the professional literature. Over the next decade, initiatives to restructure education, community health, and human services will reshape the experience of all students and all professionals who work with them. By coordinating and integrating the services provided by the community and the educational system, great opportunities for children could be realized. By addressing the barriers in

mental health care services now, students of this generation and the next will be the beneficiaries of an improved system of health and educational care (Adelman, 1996).

The present study expands on the understanding of school psychologists providing school-based mental health services. The current study provides a more in depth examination of factors (e.g. gender, ethnicity, educational level, experience, etc.) that are related to the types of mental health services provided and amount of time mental health services are being provided by school psychologists. In addition, the current study expands on variables that are related to school psychologist's desire to provide or not to provide more mental health services. This information may help lead to the expansion of the school psychologist's role in the delivery of mental health services in schools.

Chapter Three

Method

This study explored the current role that school psychologists play in providing mental health services in schools. Specifically, this study examined the relationship between school psychologists' demographic characteristics, graduate-level preparation, and professional context factors and the extent and nature of mental health services provided, as well as the desirability to provide mental health services. The study also elaborated on the proportion of school psychologists who engage in the delivery of consultation, assessment, intervention, and professional development services related to mental health, as well as the amount of time they invest in the delivery of those services. This study involved analyses of an existing database in order to answer specific research questions. The archival data used was obtained from a larger database maintained by the Research Committee of the National Association of School Psychologists (NASP). The database was generated through a study entitled, *School-Based Mental Health Services Delivered by School Psychologists* (Luis, et al., 2005).

This chapter includes two sections. In order to provide an understanding of the nature of the data analyzed, the first section will describe procedures employed in the creation of the database, including participants, instrumentation, and procedures. The second section will include a restatement of the research questions, as well as an explanation of the analytic procedures that were employed to answer each question.

Creation of Database

Participants. Participants in the generation of the database included 1,000 randomly selected “Regular members” of the National Association of School Psychologists (NASP). The sample of participants was created using a simple random selection process. Only NASP “Regular members” were included in order to gather information only from persons who were identified as school psychologists and who practiced school psychology in a variety of settings. Student members of NASP (who had not yet entered the field), affiliated members (who are interested in the field, but who are not school psychologists), and members of the association through other membership categories were not included in the formation of the database. Females and males, persons representing all ethnicities, and participants of a wide range of ages were included in this sample to adequately represent the population of school psychologists across the United States.

A letter requesting the participation of full-time school psychologists working in a school setting was mailed to the 1,000 randomly selected members of NASP by the Chair of the Research Committee. In the letter, school psychologists were asked to participate in an upcoming study on mental health issues in schools. As an incentive, prospective participants were informed that 10 persons who completed and returned the survey would be randomly selected to receive \$50.00 in “NASP Bucks,” coupons that could be applied toward the cost of registration for NASP conferences and workshop, as well as toward the cost of NASP publications and other products. All responses were treated confidentially. In order to conduct follow-up mailings to non-respondents and to award

the incentives, code numbers were recorded on each survey. No identifying information was entered into the database and once data were entered, the completed survey instrument was destroyed. The Research Committee was neutral in the study having no affiliation or contact with prospective participants, or influence on the participants' responses.

In response to the initial mailing of 1,000 surveys and to a follow-up postcard that was mailed as a reminder, 362 completed surveys were returned. In responses to the final complete mailing, 102 additional completed surveys were returned. Twenty-three participants returned uncompleted surveys and for various reasons, (e.g., retirement, change of career) they were subsequently removed from the mailing list. In total, surveys were completed and returned by 464 out of a possible 977 respondents, representing a 47.4% response rate. A 50% response rate is generally considered adequate for analysis of research results (Babbie, 1990). Therefore, the database should be considered preliminary and interpreted cautiously. However, where applicable, information included on the returned surveys was compared to the demographic database for the total NASP membership (2002), to ensure that the database sample was representative of the field of school psychology.

Data regarding gender, ethnicity, educational level, salary, and school district setting are reported in Table 1. It is clear that the field of school psychology and participants in this sample are primarily female. In 2004-2005, more than 73% of all school psychologists and approximately three of four practitioners were women (Curtis, Lopez, Batsche, & Smith, 2006). Most school psychologists in this sample are Caucasian

and members of all ethnic minorities represented only five percent of the participants. Educational preparation of school psychologists was also an area of interest addressed in the database. NASP training standards require specialist level training (60 graduate semester hours/90 graduate quarter hours or beyond) for entry into professional practice (NASP, 2002). Almost 96% of those responding reported that their preparation was at the 60-hour/specialist level or higher. Of the school psychologists responding, 23.7% made \$45,000 or less annually. On the other hand, almost half of the sample reported making \$55,000 a year or more. School psychologists included in this sample had between 11.90 and 13.56 years of experience in the field. Approximately 49.7% of the total sample indicated that they worked in an urban setting. The combined percentage of school psychologists working in suburban and rural locations was approximately 66%. It should be noted that the percentages reported totaled more than 100% because school psychologists often work in more than one school, and the schools could be located in different settings. Therefore, participants in this study could identify more than one setting in their responses. The percentages working in large city, small city, and rural employment settings are fairly evenly represented, while representation for suburban settings was somewhat higher.

Some differences in the representation of participants between the current database and the NASP membership database were observed. Hispanic participants had a higher level of representation in the current database than they did in the NASP membership database. This difference may be attributed to a higher distribution of surveys in areas with higher Hispanic populations. Another difference in the two

databases occurred in the category of Highest Degree Earned. These differences may be attributed to how categories in the databases were defined. In the NASP database, degrees earned was defined by Doctorate, Educational Specialist, Master +30, or Other in comparison to the current database defining degree earned in five different categories (e.g., Doctorate, Educational Specialist, Masters+30, Masters, and Bachelors). Doctorate level psychologists are more represented in the NASP membership database than the current database which may be attributed to sampling. It may also be attributed to more members of the NASP are at a doctorate level than were represented in the current database. Overall, it was concluded by the NASP research committee that the database was an accurate representation of the field of school psychology.

Table 1

Demographics Characteristics in Database (N = 464) & NASP Membership 2002

Demographics	Present Study		NASP Membership
	<i>n</i>	%	%
<i>Gender</i>			
Female	362	78.0	70.8
Male	102	22.9	29.2
<i>Ethnicity</i>			
Caucasian	425	91.6	92.8
Hispanic	21	4.53	3.1
African-American	7	1.51	1.9
Asian/Pacific Islander	5	1.08	0.6
Other	1	0.216	0.9
<i>Highest Degree Earned</i>			
Educational Specialist	166	35.64	26.0
Masters +30	158	34.13	40.6
Doctorate	120	25.92	30.6
Masters	18	3.89	-
Bachelors	2	0.43	-
Other	-	-	2.8
<i>Salary</i>			
55,000+	215	46.22	
50,001-55,000	81	17.49	
45,001-50,000	53	11.46	
40,001-45,000	41	8.86	
35,001-40,000	30	6.48	
30,001-35,000	16	3.46	
20,001-25,000	12	2.5	
25,001-30,000	6	1.30	
0-20,000	5	1.08	
<i>Setting</i>			
Suburban	185	39.74	
Small City	127	27.43	
Rural	124	26.78	
Large City	103	22.25	

Instrumentation. A survey was used to generate data for creation of the database. The survey was constructed to study the delivery of school-based mental health services by school psychologists across the United States. Data collection using the survey served several purposes. First, the survey (Appendix A) contained questions designed to gather general information relating to demographic characteristics such as gender, ethnicity, languages spoken, salary, and highest degree earned. Second, the survey contained questions about employment conditions such as employment status, employment setting, geographic location, students to school psychologist ratio, and characteristics of students served. Third, information about mental health services delivered was obtained, such as the time invested in and the types of mental health services school psychologists provided, the perceived level of support by administration, the psychological services department, and staff for the delivery of mental health services, training related to mental health services, and factors associated with student success. Finally, the survey contained an open-ended question seeking to determine whether school psychologists wished to provide more mental health services, as well as reasons for their responses to this question. The survey included 28 questions and should have taken about 15 minutes to complete.

The survey was developed by the NASP Research Committee. The process by which the survey was developed included a review of relevant professional literature, as well as relevant research instruments, such as those used by Curtis et al., 2002. Based on these reviews, questions were formulated for the survey. No published instruments could be identified that directly assessed the delivery of school-based mental health services

delivered by school psychologists. Therefore, information pertaining to validity and reliability for the instrument were not available. However, the Research Committee conducted a pilot study using 25 practicing school psychologists to solicit their reactions to the survey, as well as their suggestions for revision. Specifically, they were asked about its usefulness, how easy it was to understand, and how long it took to complete. Next, members of the Research Committee reviewed the survey and provided feedback. Modifications were made as necessary to maximize the content-related validity, criterion-related validity, and construct-related-validity.

Procedure. The survey was initially mailed to 1,000 randomly selected NASP “Regular members.” Mailing labels were computer-generated. As an incentive to respond, recipients were informed that 10 people completing and returning the survey would be randomly selected to receive \$50.00 in “NASP Bucks” coupons. All prospective participants were mailed the survey with an assigned a code number, a cover letter (Appendix B), and a postage paid, pre-addressed return envelope. A code number was assigned to each prospective participant and was recorded on the survey. The coding was used to identify participants who had not responded for the purposes of follow-up mailings and to select the incentive award recipients. Response to the survey was considered consent to participate. The participants were asked to return the survey within three weeks of its receipt. A follow-up postcard was mailed as a reminder if a participant did not respond within three weeks. Four weeks following mailing of the postcard, another mailing was completed to all non-respondents that included another cover letter and survey, and a postage paid, pre-addressed return envelope. When a survey was

returned, it was immediately removed and separated from the return envelope. After the entry of data from a returned survey, the completed survey was destroyed. At the conclusion of the project, the list of prospective participations and assigned code members was destroyed.

An informal comparison was completed between the obtained demographic information in the database and the NASP membership database to ensure that the present sample was representative. This comparison allowed the Research Committee to determine if a disproportionate numbers of school psychologist “type characteristics” (e.g., gender, ethnicity, educational level, salary, years of experience, location, etc.) were overly represented in the sample. The comparison demonstrated that the database was an accurate representation of the field of school psychology.

Ethical Considerations. Prior to initiating efforts to generate the database, approval was obtained by the Chair of the Research Committee from the University of South Florida’s Institutional Review Board for Social and Behavioral Sciences (IRB-02). Because most of the information submitted on the surveys was retrieved from recall of memory, therefore, there was minimal, if any, risk to participants. Information gathered about participant demographic characteristics, employment setting, and professional practices was entered into and maintained in a confidential database; no identifying information was included in the database. Ethical issues such as deception and emotional or physical impact on participants were not relevant in this study.

Current Study

Research Questions and Design. Research Questions One: What is the relationship between school psychologists' demographic, preparation, and professional context factors (e.g., gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio) and the types of mental health services provided by school psychologists?

The first research question was analyzed through a multiple regression procedure. The regression assessed the relationship of each predictor variable to the dependent variable defined as the types of mental health services provided by school psychologists. The types of mental health services are operationally defined as the sum of the number of items checked by each respondent from the list of 17 services provided.

Research Question Two: What is the relationship between school psychologists' demographic, preparation, and professional context factors (e.g., gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio) and amount of time school psychologists spend providing mental health services?

The second research question was analyzed through a multiple regression procedure. The regression assessed the relationship of each predictor variable to the dependent variable defined as the amount of time school psychologists spend providing mental health services. The amount of time engaged in mental health service delivery is operationally defined as the sum of the hours indicated (based on a 40 hour work week) by each respondent from the list of 17 services provided.

Research Question Three: What is the relationship between school psychologists' demographic, preparation, and professional context factors (e.g., gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio) and their desire to provide or not to provide more mental health services?

The third research was analyzed in several ways. Contingency tables were constructed to demonstrate correlation coefficients between the different variables and the percentage of school psychologists who desire to provide or not to provide more mental health services. The desire to provide or not to provide mental health services is operationally defined as the sum of 'yes' responses indicating that respondents would like to be providing more mental health services or 'no' responses indicating that respondents would not like to provide more mental health services. This was question number 26 on the survey. Chi-squared tests of independence were computed to test the associations between the percentages of school psychologists indicating their desire to provide or not to provide more mental health services. The Chi-squared tests were used to test the equivalence of population proportions. Correlation analyses were conducted to test the relationship between the continuous variables of years of experience, percentage of minority students served, and students to school psychologist ratio and the dichotomous variable of desire to provide or not to provide more mental health services.

Research Question Four: What proportion of school psychologists spend time in consultation, assessment, intervention, and professional development services related to mental health?

The fourth research question was addressed by calculating proportions and confidence intervals. First, frequencies of participants indicating that they provide each of these service types were tallied and the percentage of the sample was calculated. Then, confidence intervals (Schweigert, 1994) were developed around the percentage of school psychologists providing each service type. In addition, confidence intervals were developed around the average number of all consultation, assessment, intervention, and professional development services related to mental health. Consultation services related to mental health were identified as behavior management consultation, academic consultation, and educational support. Assessment services related to mental health were identified as assessment and diagnosis. Intervention services related to mental health were identified as individual therapy/counseling, family therapy/counseling, group therapy/counseling, substance abuse counseling, early intervention services, family/child advocacy, crisis intervention, designing and administering individual service plans, vocational counseling, and social skills training. Professional development services related to mental health were identified as program development and administration, personnel training (staff development), and research and evaluation.

Research Question Five: What proportion of school psychologists' time is spent in consultation, assessment, intervention, and professional development services related to mental health?

The fifth and final research question was addressed by calculating proportions and confidence intervals. The average number of hours was analyzed for each service type and the percentage of each week devoted to this service type was calculated by dividing

the average number of hours by the total hours in an average work week (40 hours). A confidence interval (Schweigert, 1994) was developed around the average number of hours per week for each service type.

Chapter Four

Results

The present study was developed to examine the relationship of school psychologists' demographic characteristics, graduate-level preparation, and professional context factors with the extent and nature of mental health services provided, as well as the desirability of school psychologists to provide mental health services. This study also elaborated on the proportion of school psychologists who engaged in the delivery of consultation, assessment, intervention, and professional development services related to mental health, as well as the amount of time they invested in the delivery of those services. Five specific research questions were investigated in this study:

1. What is the relationship between school psychologists' demographic, preparation, and professional context factors (e.g., gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio) and the types of mental health services provided by school psychologists?
2. What is the relationship between school psychologists' demographic, preparation, and professional context factors (e.g., gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to

school psychologist ratio) and amount of time school psychologists spend providing mental health services?

3. What is the relationship between school psychologists' demographic, preparation, and professional context factors (e.g., gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio) and their desire to provide or not to provide more mental health services?
4. What proportion of school psychologists spend time in consultation, assessment, intervention, and professional development services related to mental health?
5. What proportion of school psychologists' time is spent in consultation, assessment, intervention, and professional development services related to mental health?

Descriptive Information

These research questions were addressed through analyses of a national database that was constituted of the survey responses of 464 school psychologists, representing a 47% response rate. The fact that there was less than a 50% response rate suggests that the results of this study should be interpreted cautiously.

Table 2 provides descriptive statistics, including the mean, standard deviation, range, skewness, kurtosis, and 95% confidence interval for the variable, types of mental health services provided by school psychologists. Table 3 reflects the number of the types of mental health services school psychologists reported providing and the percentage of participants who reported delivering that many types of services. Information on the number of participants providing each specific mental health service type is included in

Appendix C. Examination of the descriptive data reveals that school psychologists provide approximately seven types of mental health services per week. The 95% confidence interval suggests that the population mean for this variable is between six and seven types of mental health related services being provided weekly. For this variable, the positive skew indicates that the number of mental health service types provided is clustered at lower values, suggesting lower service provision. The positive kurtosis value suggests that the distribution for this variable is rather peaked and clustered in the center with few outliers.

Table 2

Number of Types of Mental Health Services Provided (N=464)

<i>M</i>	<i>SD</i>	<i>Range</i>	<i>Skewness</i>	<i>Kurtosis</i>	<i>95% CI</i>
7.039	3.064	17	.472	.146	6.76-7.86

Note. The outcome for the types of mental health services variable ranged from 0 to 17.

Low outcomes represented few types of mental health services being provided while high outcomes represented many types of mental health services being provided.

Table 3

Number of Types of Mental Health Services Provided and Percentage of Sample Providing Each Number (N=464)

<i>N</i>	<i>f</i>	<i>% of Sample</i>
0	1	0.2
1	6	1.3
2	16	3.4
3	29	6.3
4	49	10.6
5	57	12.3
6	54	11.6
7	58	12.5
8	55	11.9
9	48	10.3
10	27	5.8
11	23	5.0
12	17	3.7
13	10	2.2
14	8	1.7
15	2	0.4
16	1	0.2
17	3	0.6

Table 4 includes the same descriptive statistics for the variable, amount of time spent delivering mental health services. Table 5 includes grouped frequencies for the

number of hours school psychologists spend providing services related to mental health. Descriptive statistics for this variable suggest that, on average, school psychologists spend 29 hours per week providing services that are related to mental health. The 95% confidence interval suggests that the population mean for this variable is between 28.7 and 30.53 hours per week. The negative skew for this variable suggests that the number of hours spent in mental health service provision fell at the high end, while the positive kurtosis value suggests similar distribution to the variable, types of mental health services provided.

Table 4

Amount of Time (Hours per Week) Spent Delivering Mental Health Services (N=464)

<i>M</i>	<i>SD</i>	<i>Range</i>	<i>Skewness</i>	<i>Kurtosis</i>	<i>95% CI</i>
29.59	10.30	52.50	-.983	.493	28.7-30.53

Note. The outcome for the amount of time spent delivering mental health services variable ranged from 0 to 52.50 hours. Low outcomes represented little time spent providing mental health services while high outcomes represented much time being spent providing mental health services.

Table 5

Grouped Frequency Distribution for Amount of Time (Hours per Week) Spent Delivering Mental Health Services (N=464)

Hours per Week	<i>f</i>	<i>% of Sample</i>
0-4	16	3.4
5-9	17	3.6
10-14	11	2.4
15-19	29	6.3
20-24	47	10.1
25-29	60	12.9
30-34	92	19.8
35-39	116	25.0
40-44	68	14.7
45-49	5	1.1
50+	3	.65

Table 6 includes the frequency and percentages of participants indicating their desire to provide or not to provide more mental health services.

Table 6

Number and Percentage of School Psychologists Reporting Desire To Provide or Not To Provide More Mental Health Services

	<i>N</i>	<i>%</i>
Yes	350	75.4
No	114	24.6

To ensure that responses did not differ significantly based on the mailing to which participants responded, respondent bias analyses were conducted. These analyses were conducted to state, with confidence, that participants who responded to one mailing versus another were not dissimilar. Responses according to the predictor variables of gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio were compared based on when a participant responded to the survey. If a participant responded to the first mailing or to the follow-up postcard, they were included in Database One (N=362), while participants who responded to the final mailing were included in Database Two (N=102). T-tests of independence were utilized to test for differences in the means for the continuous variables of percentage of minority students served, years of experience, and students to school psychologist ratio based on Databases One or Two. Table 7 displays the results.

Students to school psychologist ratio was the only predictor variable found to be statistically significantly different based on Databases One and Two. Therefore, it is with less confidence that results relating to ratio can be interpreted for participants who responded to different mailings of the survey. There were no statistically significant differences in the means for the variables of percentage of minority students served or

years of experience between Databases One and Two. Chi-squares tests of independence were utilized to test the differences between the portions of school psychologists for the variables of gender, ethnicity, and educational level. No differences were found between these variables based on Databases One and Two (Table 8). In summary, based on the screening of the data, it appeared that this sample is representative of all participants, regardless of the mailing to which they responded.

Table 7

T-Tests of Independence for Predictor Variable Differences

Variable	<i>t</i>	<i>df</i>
Years of Experience	1.488	464
% of Minority Students Served	0.766	464
Ratio	1.930*	464

**p*<.05

Table 8

Chi-Square Analyses for Predictor Variable Differences

Variable	<i>X</i> ²	<i>df</i>	<i>p</i>
Gender	0.332	1	.564
Ethnicity	1.520	1	.218
Educational Level	1.548	2	.461

**p*<.05

Multiple Regression Analyses

Multiple regression analyses are based on several assumptions. The data were screened and an assessment regarding each assumption was made for both dependent variables, total types of mental health services delivered and total amount of time spent delivering mental health services. The first assumption is that there is a large enough

sample size. Stevens (1999) recommends that for social science research, about 15 subjects per predictor variable are needed. In this study, because there were six predictor variables for each dependent variable, a total of 165 participants was needed for the analysis to be reliable. This study had a sample size of 464 participants; therefore, this assumption was not violated. Next, multicollinearity and singularity were examined. Multicollinearity is present when the independent variables are highly correlated at .9 and above (Pallant, 2001). To test for multicollinearity, intercorrelations were examined between the predictor variables (see Tables 9 and 11). Since no intercorrelations of .90 or higher were found for either dependent variable, this assumption did not appear to be violated. To further explore multicollinearity, the tolerances in the regressions for both dependent variables were also examined. Tolerance is an indicator of how much of the variability of the specified independent variable is not explained by the other independent variables. All of the tolerance values were larger than .10, further suggesting that this assumption was not violated (Pallant, 2001). Singularity occurs when one independent variable is actually a combination of other independent variables (Pallant, 2001). None of the independent variables in this study represented a combination of any other independent variables and, therefore, this assumption did not appear to be violated for either dependent variable.

An examination of scatterplots for each dependent variable revealed linear relationships among the variables and nothing in the design of the study would lead the researcher to question the independence of the residuals. To examine the homoscedasticity assumption, the residuals were plotted with the predictor values. This

assumption did not appear to be violated for either dependent variable. The residuals were also found to be approximately normally distributed for both dependent variables.

Outliers were screened by using standardized residuals. For the dependent variable, total types of mental health services delivered, the minimum and maximum values were -2.145 and 3.392, respectively. For the dependent variable, total amount of time spent delivering mental health services, the minimum and maximum values were -2.986 and 2.168, respectively. Tabachnick and Fidell (1996) define outliers as cases that have a standardized residual of more than 3.3 or less than -3.3. In a normally distributed sample, it is expected that only one percent all of cases fall outside this range. For the dependent variable, total types of mental health services delivered, one case fell outside this range. To determine whether this case had any undue influence on the results of the regression model as a whole, a Cook's Distance was computed. According to Tabachnick and Fidell (1996), cases with values larger than one are potential problems. The maximum value for Cook's Distance was computed to be .06, suggesting no major problems. There were no cases that fell outside the standardized residual range for the dependent variable defined as total amount of time spent delivering mental health services. With large samples, such as the database being used in this study, which is constituted of the responses of 464 participants, it is not uncommon to find a number of outlying residuals (Pallant, 2001). This leads to the belief that none of the cases are having an undue influence on the regression analysis. In summary, based on the screening of the data, it appeared appropriate to proceed with the regression analyses and to consider the results as valid.

The demographic or predictor variables of gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio were entered into the multiple regression equation. The categorical variables of gender, ethnicity, and educational level were dummy coded due to the small number of participants for some of the variables. Gender was dummy coded with males as zero and females as one. Ethnicity was dummy coded with minority status as one and Caucasian status as zero. Therefore, in the analysis, those with higher scores on the ethnicity variable were those participants from a minority culture. Educational level was also dummy coded. Participants indicating that their educational level was a Bachelor's or Master's degree were coded as a 0, a Master's +30 or Educational Specialist degree as a one, and Doctorate as a two. All other predictor variables were continuous variables; therefore, dummy coding was not needed. Additionally, missing data were accounted for in the regression by excluding cases pairwise. This means that participants' data were only used in the analysis if there were no missing values for the variables being compared. The participants may have had missing values for variable use in other analyses (Pallant, 2001). Correlational procedures were used prior to conducting the multiple regression analysis to determine how and to what degree the predictor variables were related. Correlational data indicated that the relationships between variables ranged from $-.173$ to $.113$ for the total types of mental health services delivered and from $-.048$ to $.086$ for total amount of time spent delivering mental health services. These results are presented in Tables 9 and 11.

Research Question One

What is the relationship between school psychologists' demographic, preparation, and professional context factors (e.g., gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio) and the types of mental health services provided by school psychologists?

The first research question was developed to address the relationship between the independent variables of gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio and the dependent variable, types of mental health services provided by school psychologists. The types of mental health services are operationally defined as the sum of the number of items checked by each respondent from the list of 17 types of services. To analyze this relationship, intercorrelations were examined (Table 9) and a multiple regression analysis was conducted, using the Statistical Package for the Social Sciences (SPSS, 2003). A multiple regression analysis predicts the amount of variance accounted for in one variable by a set of predictor variables (Stevens, 1999).

Table 9

Intercorrelations for Types of Mental Health Services Provided and Predictor Variables (N=464)

Variable	1	2	3	4	5	6
Total Types of Services	.113*	-.030	.008	-.104*	-.031	-.173*
Predictor Variables						
1. Gender	--	-.045	-.027	.016	-.264	-.073
2. Ethnicity	--	--	.067	.138	-.025	-.039
3. Educational Level	--	--	--	-.014	.078	.056
4. % of Minority Students Served	--	--	--	--	-.075	.022
5. Years of Experience	--	--	--	--	--	.141
6. Ratio	--	--	--	--	--	--

* $p < .05$ ** $p < .01$

When the multiple regression analysis was conducted, the obtained R^2 value was .051, suggesting that about 5.1% of the variance in total types of services delivered was accounted for by the set of predictors. The adjusted R^2 value was .039. This variance was statistically significant ($F(464) = 4.090, p = .001$). Cohen's (1992) effect size $f^2 = R^2 / (1 - R^2)$ was computed to be 0.053 which can be interpreted as a small effect size using Cohen's general guidelines (.02 small, .15 medium, .35 large).

Table 10

Multiple Regression Summary for Variables Predicting Total Types of Mental Health Services Delivered (N=464)

Variable	<i>B</i>	<i>SEB</i>	β
Gender	.768	.347	.105*
Ethnicity	-.217	.517	-.019
Educational Level	0.07547	.178	.020
% of Minority Students Served	-0.01010	.005	-.098*
Years of Experience	0.003676	.016	.011
Ratio	-0.0004595	.000	-.166**

* $p < .05$ ** $p < .01$

The results of the multiple regression analyses are presented in Table 10. In this table, the first column lists the independent predictor variables. The next three columns report the unstandardized coefficients (*B*), the standard error of *B* (*SEB*), the betas (β), and the significance levels. The regression coefficients for gender, percentage of minority students served, and students to school psychologist ratio were all found to be statistically significant ($t(464) = 2.213, p = .027$; $t(464) = -2.116, p = .035$; $t(464) = -3.595, p < .001$, respectively). However, the regression coefficients for ethnicity, educational level, and years of experience were not significant ($t(464) = -.419, p = .675$; $t(464) = .424, p = .671$; $t(464) = -.228, p = .820$, respectively). Betas with a positive sign in front of them describe a positive prediction, meaning that if one variable goes up the other variable will go up or as one variable goes down the other will go down. In contrast, those with a negative sign describe a negative prediction, meaning that as one variable goes up the other variable will go down or vice versa. For this analysis, as students to school psychologist ratio and

percentage of minority students served increases, the types of mental health services delivered decreases, or as the students to school psychologist ratio and percentage of minority students served decreases the types of mental health services delivered increases. Students to school psychologist ratio has the highest beta ($\beta = -.166$, $p < .001$) which means that it was the strongest predictor of the total types of mental health services delivered, while gender and percentage of minority students served were the second and third strongest predictors of the dependent variable ($\beta = .105$, $p = .027$; $\beta = -.098$, $p = .035$, respectively). Ethnicity, educational level, and years of experience did not significantly predict the total types of mental health services delivered and were equally weak predictors.

Research Question Two

What is the relationship between school psychologists' demographic, preparation, and professional context factors (e.g., gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio) and amount of time school psychologists spend providing mental health services?

The second research question was developed to address the relationship between the independent variables of gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio and the dependent variable, amount of time school psychologists spend providing mental health services. The amount of time engaged in mental health service delivery is operationally defined as the sum of the hours indicated (based on a 40 hour work week) by each respondent for each of the 17 services provided on the list of options. To analyze this

relationship, intercorrelations were examined (Table 11) and a multiple regression analysis was conducted, using the Statistical Package for the Social Sciences (SPSS, 2003).

Table 11

Intercorrelations for Amount of Time Spent Delivering Mental Health Services and Predictor Variables (N=464)

Variable	1	2	3	4	5	6
Total Amount of Time	-.048	.040	.086*	-.022	.018	.049
Predictor Variables						
1. Gender	--	-.045	-.027	.016	-.264	-.073
2. Ethnicity	--	--	.067	.138	-.025	-.039
3. Educational Level	--	--	--	-.014	.078	.056
4. % of Minority Students Served	--	--	--	--	-.075	.022
5. Years of Experience	--	--	--	--	--	.141
6. Ratio	--	--	--	--	--	--

* $p < .05$ ** $p < .01$

When the multiple regression analysis was conducted, the obtained R^2 value was .013, suggesting that about 1.3% of the variance in the total amount of time spent delivering mental health services was accounted for by the set of predictors. The adjusted R^2 value was .000. This variance was not statistically significant ($F(4,64) = 1.018$, $p = .413$). Cohen's (1992) effect size $f^2 = R^2 / (1 - R^2)$ was computed to be .013 which can be interpreted as a small effect size using Cohen's general guidelines (.02 small, .15 medium, .35 large).

Table 12

Multiple Regression Summary for Variables Predicting Total Amount of Time Mental Health Services are Delivered (N=464)

Variable	<i>B</i>	<i>SEB</i>	β
Gender	-1.045	1.190	-.042
Ethnicity	1.442	1.772	.038
Educational Level	1.045	.610	.080
% of Minority Students Served	-0.009480	.016	-.027
Years of Experience	-0.007856	.055	-.007
Ratio	0.0004172	.000	.045

* $p < .05$ ** $p < .01$

The results of the multiple regression analyses are reported in Table 12. In this table, the first column lists the independent predictor variables. The next three columns report the unstandardized coefficients (*B*), the standard error of *B* (*SEB*), the betas (β), and the significance levels. None of the regression coefficients for gender, ethnicity, educational level, years of experience, percentage of minority students served, or students to school psychologist ratio was statistically significant ($t(464) = -.878, p = .380$; $t(464) = .813, p = .416$; $t(464) = 1.713, p = .087$; $t(464) = -.579, p = .563$; $t(464) = -.142, p = .887$; $t(464) = .951, p = .342$, respectively). None of the predictor variables significantly predicted the total amount of time spent delivering mental health services and all were equally weak predictors.

Research question two was further explored by analyzing the predictor variables in relationship to the amount of time spent delivering mental health services in four distinct categories: consultation, assessment, intervention, and professional development.

This was done because the results of the regression analysis conducted to answer research question two, (i.e., analyzing the predictor variables in relation to the amount of time spend delivering mental health services as a whole) were not statistically significant.

Research Question Two (A). What is the relationship between school psychologists' demographic, preparation, and professional context factors (e.g., gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio) and the amount of time school psychologists spend in consultation services related to mental health?

In this study, consultation services related to mental health were identified as behavior management consultation, academic consultation, and educational support. The multiple regression analysis yielded an R^2 value of .030, suggesting that about 3.0% of the variance in the total amount of time spent delivering consultation services related to mental health was accounted for by the set of predictors. The adjusted R^2 value was .017. This variance was statistically significant ($F(464) = 2.323, p = .032$). Cohen's (1992) effect size $f^2 = R^2/(1-R^2)$ was computed to be .031 which can be interpreted as a small effect size using Cohen's general guidelines (.02 small, .15 medium, .35 large).

The results of the multiple regression analyses are found in Table 13. In this table, the first column lists the independent predictor variables. The following columns report the unstandardized coefficients (B), the standard error of B (SEB), the betas (β), and the significance levels. The regression coefficient for students to school psychologist ratio was found to be statistically significant ($t(464) = -2.832, p = .005$). This means that the students to school psychologist ratio made a significant unique contribution to the prediction of the amount of time school psychologist reported delivering consultation

services related to mental health. However, the regression coefficients for gender, ethnicity, educational level, percentage of minority students served, and years of experience were not significant ($t(464) = .515, p = .607$; $t(464) = -.140, p = .889$; $t(464) = 1.772, p = .077$; $t(464) = -1.481, p = .139$; $t(464) = -.538, p = .591$, respectively).

Table 13

Multiple Regression Summary for Variables Predicting Amount of Time Spent in Consultation Services Related to Mental Health (N=464)

Variable	<i>B</i>	<i>SEB</i>	<i>β</i>
Gender	.333	.647	.025
Ethnicity	-.135	.963	-.007
Educational Level	.587	.331	.082
% of Minority Students Served	-0.01316	.009	-.069
Years of Experience	-0.01620	.030	-.026
Ratio	-0.0006746	.000	-.133**

* $p < .05$ ** $p < .01$

Research Question Two (B). What is the relationship between school psychologists' demographic, preparation, and professional context factors (e.g., gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio) and the amount of time school psychologists spend in assessment services related to mental health?

In this study, assessment services related to mental health were identified as assessment and diagnosis. When the multiple regression analysis was conducted, the obtained R^2 value was .032, suggesting that about 3.2% of the variance in the total

amount of time spent in assessment services related to mental health delivered was accounted for by the set of predictors. The adjusted R^2 value was .019. This variance was statistically significant ($F(464) = 2.478, p = .023$). Cohen's (1992) effect size $f^2 = R^2/(1-R^2)$ was computed to be 0.033 which can be interpreted as a small effect size using Cohen's general guidelines (.02 small, .15 medium, .35 large).

The results of the multiple regression analysis are reported in Table 14. In this table, the first column lists the independent predictor variables. The next columns report the unstandardized coefficients (B), the standard error of B (SEB), the betas (β), and the significance levels. Again, the regression coefficient for students to school psychologist ratio was found to be statistically significant ($t(464) = 3.107, p = .002$). However, the regression coefficients for gender, ethnicity, educational level, percentage of minority students served, and years of experience were not significant ($t(464) = -1.371, p = .171$; $t(464) = -.080, p = .936$; $t(464) = .078, p = .938$; $t(464) = 1.593, p = .112$; $t(464) = -.700, p = .484$, respectively).

Table 14

Multiple Regression Summary for Variables Predicting Amount of Time Spent in Assessment Services Related Mental Health (N=464)

Variable	<i>B</i>	<i>SEB</i>	β
Gender	-1.266	0.924	-.066
Ethnicity	-.110	1.376	-.004
Educational Level	0.03695	0.473	0.004
% of Minority Students Served	0.02022	0.013	0.074
Years of Experience	-0.03012	0.043	-.034
Ratio	0.001057	0.000	0.145**

* $p < .05$ ** $p < .01$

Research Question Two (C). What is the relationship between school psychologists' demographic, preparation, and professional context factors (e.g., gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio) and the amount of time school psychologists spend in intervention services related to mental health?

In this study, intervention services related to mental health were identified as individual therapy/counseling, family therapy/counseling, group therapy/counseling, substance abuse counseling, early intervention services, family/child advocacy, crisis intervention, designing and administering individual service plans, vocational counseling, and social skills training. When the multiple regression analysis was conducted, the obtained R^2 value was .041, suggesting that about 4.1% of the variance in the total amount of time spent delivering intervention services related to mental health was accounted for by the set of predictors. The adjusted R^2 value was .029. This variance was

statistically significant ($F(464) = 3.258, p = .004$). Cohen's (1992) effect size $f^2 = R^2/(1-R^2)$ was computed to be .042 which can be interpreted as a small effect size using Cohen's general guidelines (.02 small, .15 medium, .35 large).

Table 15

Multiple Regression Summary for Variables Predicting Amount of Time Spent in Intervention Services Related to Mental Health (N=464)

Variable	B	SEB	β
Gender	-.533	0.845	-.031
Ethnicity	1.740	1.258	.064
Educational Level	0.06229	0.443	.007
% of Minority Students Served	-0.006919	0.012	-.028
Years of Experience	-0.007752	0.039	-.010
Ratio	-0.001249	0.000	-.187**

* $p < .05$ ** $p < .01$

The results of the multiple regression analysis are reported in Table 15. In this table, the first column lists the independent predictor variables. The next columns report the unstandardized coefficients (B), the standard error of B (SEB), the betas (β), and the significance levels. Again, the regression coefficient for students to school psychologist ratio was statistically significant ($t(464) = -4.014, p = .000$). However, the regression coefficients for gender, ethnicity, educational level, percentage of minority students served, and years of experience were not significant ($t(464) = -.655, p = .513$; $t(464) = 1.383, p = .167$; $t(464) = .144, p = .886$; $t(464) = -.596, p = .552$; $t(464) = -.197, p = .844$, respectively).

Research Question Two (D). What is the relationship between school psychologists' demographic, preparation, and professional context factors (e.g., gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio) and the amount of time school psychologists spend in professional development services related to mental health?

In this study, professional development services related to mental health were identified as program development and administration, personnel training (staff development), and research and evaluation. When the multiple regression analysis was conducted the obtained R^2 value was .012, suggesting that about 1.2% of the variance in the total amount of time spent delivering professional development services related to mental health was accounted for by the set of predictors. The adjusted R^2 value was -.001. This variance was not statistically significant ($F(464) = .887, p = .504$). Cohen's (1992) effect size $f^2 = R^2/(1-R^2)$ was computed to be .012 which can be interpreted as a small effect size using Cohen's general guidelines (.02 small, .15 medium, .35 large).

Table 16

Multiple Regression Summary for Variables Predicting Amount of Time Spent in Professional Development Services Related to Mental Health (N=464)

Variable	<i>B</i>	<i>SEB</i>	β
Gender	.785	.507	.075
Ethnicity	-.364	.755	-.023
Educational Level	.297	.260	.054
% of Minority Students Served	-0.0002252	.007	-.002
Years of Experience	0.03328	.024	.069
Ratio	-0.00007030	.000	-.18

* $p < .05$ ** $p < .01$

The results of the multiple regression analysis are found in Table 16. In this table, the first column lists the independent predictor variables. The next three columns report the unstandardized coefficients (*B*), the standard error of *B* (*SEB*), the betas (β), and the significance levels. None of the regression coefficients of gender, ethnicity, educational level, percentage of minority students served, years of experience, or students to school psychologist ratio were significant ($t(464) = 1.550, p = .122$; $t(464) = -.483, p = .630$; $t(464) = 1.144, p = .253$; $t(464) = -.032, p = .974$; $t(464) = 1.410, p = .159$; $t(464) = -.377, p = .707$, respectively).

Research Question Three

What is the relationship between school psychologists' demographic, preparation, and professional context factors (e.g., gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio) and their desire to provide or not to provide more mental health services?

The third research question was developed to address the relationship among the variables gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio with the variable, desire to provide or not to provide more mental health services. The percentages of school psychologists who reported that they did or did not desire to provide more mental health services are reported in Table 17 according to gender, ethnicity, and educational level.

Table 17

Percentage of Participants Indicating Desire To Provide or Not To Provide More Mental Health Services Based on Gender, Ethnicity, and Educational Level (N=464)

Variable	<i>Desire</i>	
	<i>% Yes</i>	<i>% No</i>
Male	66.7	33.3
Female	78.0	22.0
Caucasian	74.4	25.6
Other Minority	86.8	13.2
Master's	71.9	28.1
Educational Specialist	84.3	15.7
Doctorate	68.3	31.7

To analyze this relationship, Chi-square tests of independence were conducted to compare the categorical variables of gender, ethnicity, and educational level with the categorical variable of the desire to provide or not to provide more mental health services. The chi-square test for independence is used to determine whether two categorical variables are related. This test compares the frequency of cases found in various categories of one variable across the different categories of another variable. The

chi-square test of independence is a non-parametric technique that is based on several assumptions including random samples, independent observations, and minimum expected cell frequency (Pallant, 2001). This study utilized random sampling and each participant was counted only once in the study. In addition, the data of one subject could not influence the data of another subject ensuring independent observations. The minimum expected cell frequency should be five or greater. This assumption would have been violated for the variables of ethnicity and educational level, therefore, these variables were collapsed into two and three categories and dummy coded. The results of the Chi-Square analyses are reported in Table 18.

Table 18

Chi-Square Summary for Variables in Relation to Desire To Provide or Not To Provide More Mental Health Services (N=464)

Variable	X^2	df	p
Gender	5.030	1	.025*
Ethnicity	2.932	1	.087
Educational Level	11.558	2	.003*

* $p < .05$ ** $p < .01$

In Table 18, the first column lists the variables. The next columns report the Person Chi-Square Value (X^2), the degrees of freedom (df), and the associated significance level (p). When the Chi-square tests were conducted for gender, the X^2 value was 5.030 ($X^2(1, N = 464) = 5.030, p = .025$). This means that the difference in the percentages of males and females who desired to provide or not provide more mental health services was statistically significant, with the percent of females who did wish to provide more services being higher than the percent of males, as indicated in Table 17.

When the Chi-square tests were conducted for educational level, the X^2 value was 11.558

($X^2(2, N = 464) = 11.558, p = .003$). This means that the percentages of participants in the different educational categories who desired to provide or not provide more mental health services was statistically significant. There was no difference in the desire to provide or not to provide more mental health services for participants based on ethnicity.

Pearson product-moment correlations were calculated to compare the continuous variables of percentage of minority students served, years of experience, and students to school psychologist ratio with the variable of the desire to provide or not to provide more mental health services. The Pearson-product moment coefficient provides a numerical summary of the direction and the strength of the linear relationship between two variables (Pallant, 2001). The Pearson-product moment coefficient is based on several assumptions. One assumption is the level of measurement which states that there is one dichotomous independent variable and one continuous variable to compare (Pallant, 2001). This assumption was not violated for this study.

Another assumption is that there are related pairs, meaning that each subject must provide a score on both variables (Pallant, 2001). This assumption was not violated for this study. Independence is another assumption that was not violated. Normality, linearity, and homoscedasticity were also analyzed. Tests of normality suggest that for the variables of years of experience, percentage of minority students served, and students to school psychologist ratio the data were not normally distributed, violating this assumption. Linearity and homoscedasticity of the data suggest moderate deviations from normality, suggesting that this assumption may also be violated.

The results of the Pearson-product moment analyses are reported in Table 19. A small, positive correlation was found between years of experience and desire to provide

or not to provide more mental health services ($r = .112$, $n = 464$, $p = .016$), with high levels of desire associated with more years of experience. The correlations between the percentages of minority students served and students to school psychologist ratio with desire to provide or not to provide more mental health services were not statistically significant.

Table 19

Pearson Product-Moment Correlations (N=464)

Variable	1	2	3
Desire	.112*	.007	-.059
Variables			
1. Years of Experience	--	-.075	.141**
2. % of Minority Students Served	--	--	.022
3. Ratio	--	--	--

* $p < .05$ ** $p < .01$

Research Question Four

What proportion of school psychologists spend time in consultation, assessment, intervention, and professional development services related to mental health?

In the survey used to create the database, school psychologists were asked to identify the services provided during a typical work week. The fourth research question was addressed by calculating proportions and confidence intervals. The frequencies of participants indicating that they provided each of these types of mental health services were tallied and the percentage of the sample was calculated based on a 40 hour work week. (Tables 20-23)

Table 20

Percentages of School Psychologists Providing No to Three Types of Consultation Services Related to Mental Health

	<i>% of sample</i>	<i>95% CI</i>
All Respondents (n=464)		
Types of Consultation Services		
0 of 3	4.3	2.74-6.45
1 of 3	17.7	14.41-21.43
2 of 3	52.2	47.61-56.68
3 of 3	25.9	22.04-29.99

Table 20 displays the percentages of school psychologists who reported providing no or one, two, or all three types of consultation services related to mental health, as well as the 95% confidence intervals for the percentage of the sample providing the corresponding number of consultation services. In this question, all services were defined the same as in question 2A-2D. The first column represents the types and number of consultation services. In sum, approximately 96% of school psychologists in this sample provided at least one type of consultation service related to mental health (i.e., been behavior management consultation, academic consultation, or educational support) on average each week.

Table 21

Percentages of School Psychologists Providing and Not Providing Assessment Services Related to Mental Health

	<i>% of sample</i>	<i>95% CI</i>
All Respondents (n=464)		
Types of Assessment Services		
Not Providing	6.7	4.67-9.23
Providing	93.3	90.77-95.33

Table 21 displays the percentage of school psychologists who provide assessment services related to mental health, as well as the 95% confidence intervals for the percentage of the sample providing the services. In sum, approximately 93% of school psychologists in this sample reported providing assessment services related to mental health each week.

Table 22 displays the percentage of school psychologists who provide different numbers of types of intervention services related to mental health each week, as well as the 95% confidence intervals for the percentage of the sample providing the corresponding numbers. In sum, 88% of school psychologists in this sample provided at least one type of intervention service related to mental health. However, 11% of school psychologist indicated that they did not provide any type of intervention services related to mental health.

Table 22

Percentages of School Psychologists Providing No to Ten Types of Intervention Services Related to Mental Health

	<i>% of sample</i>	<i>95%CI</i>
	All Respondents (n=464)	
Types of Intervention Services		
0 of 10	11.0	8.39-14.08
1 of 10	14.0	11.08-17.39
2 of 10	15.5	12.44-19.02
3 of 10	16.4	13.23-19.95
4 of 10	16.6	13.42-20.18
5 of 10	11.4	8.77-14.55
6 of 10	8.0	5.77-10.70
7 of 10	4.5	2.91-6.71
8 of 10	1.7	0.82-3.23
9 of 10	0.2	0.02-1.00
10 of 10	0.4	0.09-1.38

Table 23 displays the percentages of school psychologists who provide different numbers of types of professional development services related to mental health, as well as the 95% confidence intervals for the percentage of the sample providing those services. In sum, 47% of school psychologists in this sample provided at least one type of professional development service related to mental health each week. However, the majority (53%) indicated that they did not provide any professional development services related to mental health.

Table 23

Percentages of School Psychologists Providing No to Three Types of Professional Development Services Related to Mental Health

	<i>% of sample</i>	<i>95% CI</i>
All Respondents (n=464)		
Types of Professional Development Services		
0 of 3	52.8	48.25-57.31
1 of 3	23.5	19.81-27.51
2 of 3	17.5	14.21-21.11
3 of 3	6.3	4.31-8.73

The average number of the types of services related to mental health delivered on a weekly basis by school psychologists was seven with a standard deviation of 3.064. There is a 95% percent confidence that the population mean falls between six and seven types of services. The average number of the types consultation service related to mental health delivered on a weekly basis was 1.99 with a standard deviation of .780. There is a 95% percent confidence that the population mean falls between 1.92 and 2.06 types of consultation services. The average number of the types of assessment services related to mental health was .933 with a standard deviation of .250. There is a 95% percent confidence that the population mean falls between .911 and .955 types of assessment services. The average number of the types of intervention services delivered was 3.18 with a standard deviation of 2.12. There is a 95% percent confidence that the population mean falls between 2.31 and 2.93 types of intervention services. The average number of the types of professional development services delivered on a weekly basis was .772 with

a standard deviation of .949. There is a 95% percent confidence that the population mean falls between .635 and .809 types of professional development services.

Research Question Five

What proportion of school psychologists' time is spent in consultation, assessment, intervention, and professional development services related to mental health?

The fifth and final research question was addressed by calculating proportions and confidence intervals. The average number of hours was analyzed for each service type and the percentage of each week devoted to this service type was calculated by dividing the average number of hours reported by an assumed total hours in an average work week (40 hours). A confidence interval was developed around the average number of hours per week for each service type.

Table 24 displays the means, standard deviations, and 95% confidence intervals for the total number of hours school psychologists spend in consultation, assessment, intervention, and professional development services related to mental health. The table also displays the total percentage of time, based on a 40 hour work week, that school psychologists reported providing these services in the different areas.

Table 24

Average Number of Hours and Percent of Work Week School Psychologists Provide Services Related to Mental Health

	<i>M</i>	<i>SD</i>	<i>95%CI</i>	<i>% of week</i>
All Respondents (n = 464)				
Type of Services				
Consultation	7.53	5.65	7.01-8.04	18.8
Assessment	10.15	8.07	9.41-10.89	25.3
Intervention	9.13	7.42	8.45-9.81	22.8
Professional Development	2.07	4.38	1.67-2.47	5.18
Total All Services	29.6	10.30	28.7-30.5	74.0

The average number of hours related to mental health services delivered on a weekly basis by school psychologists was 29.6 with a standard deviation of 10.30. It is with 95% confidence that the population mean falls between 28.7 and 30.53 hours of services. The average number of hours spent delivering consultation services related to mental health was 7.53 with a standard deviation of 5.65. It is with a 95% confidence that the population mean falls between 7.01 and 8.04 hours spent delivering consultation services. The average number of hours spent delivering assessment services related to mental health delivered on a weekly basis was 10.15 with a standard deviation of 8.07. It is with a 95% percent confidence that the population mean falls between 9.41 and 10.89 hours spent delivering assessment services. The average number of hours spent delivering intervention services related to mental health was 9.13 with a standard deviation of 7.42. It is with 95% confidence that the population mean falls between 8.45 and 9.81 hours spent delivering intervention services. The average number of hours spent delivering

professional development services related to mental health was 2.07 with a standard deviation of 4.38. It is with 95% confidence that the population mean falls between 1.67 and 2.47 hours spent delivering professional development services.

Chapter Five

Discussion

The present study was designed to examine the relationship of school psychologists' demographic characteristics, graduate-level preparation, and professional context factors with the extent and nature of mental health services provided, as well as with the extent to which they did or did not desire to provide more mental health services. This study also examined the proportion of school psychologists who engaged in the delivery of consultation, assessment, intervention, and professional development services related to mental health, as well as the amount of time they reported investing in the delivery of those services. The purpose of this chapter is to summarize the findings relating to each research question and to discuss those findings within the context of previous research and to present conclusions. Additionally, this chapter will offer a discussion of the contributions this study makes to the field of school psychology, the delimitations and limitations of the study, and recommendations for future research.

Summary of Results

Research question one addressed the relationship among the independent variables of gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio with the dependent variable, types of mental health services provided by school psychologists. Students

to school psychologist ratio, gender, and percentage of minority students served were found to be statistically significant predictors of the types of mental health services delivered by school psychologists. Both percentage of minority students served and students to school psychologist ratio had significant negative relationships with the types of mental health services provided by school psychologists. Gender also had a significant relationship with the types of mental health services provided by school psychologists. The strongest predictor of the types of mental health services being delivered by school psychologists was students to school psychologist ratio, followed by gender and percentage of minority students served.

Students to school psychologist ratio was the strongest, significant predictor variable. This variable demonstrated a negative relationship with the types of mental health services being delivered, meaning that as students to school psychologist ratio increased the variety of mental health services being delivered decreased. Ratios have been recommended by professional associations such as the National Association of School Psychologists (NASP). NASP has recommended a students to school psychologist ratio of 1,000:1 since 1984 (Fagan & Wise, 2000). Students to school psychologist ratios serve as rough indicators of the quality and quantity of student services (Fagan & Wise, 2000). In this study, the average students to school psychologist ratio was 1,350:1, exceeding the recommended ratio of NASP. Therefore, as the number of students increase, the school psychologists in this study had less opportunity to provide an array of services. Research has demonstrated that school psychologists are spending over 50% of their time providing psychoeducational assessment services (Reschly, 1999). Curtis,

Hunley, and Grier (2004) found that higher students to school psychologist ratios were associated with services often cited as being less desirable within the field of school psychology (e.g., psychoeducational assessment). If school psychologists are serving more students than recommended, it is possible that their highest priority is likely to be assessment and that assessment will take precedence over delivering mental health services.

Gender was found to be a significant predictor of the types of mental health services being delivered by school psychologists. Participants in this study who were female reported providing more types of mental health services than did male participants. This finding is noteworthy in that approximately three out of four school psychologists are female (Curtis, Lopez, Batsche, & Smith, 2006). Consequently, an increased variety of mental health service types is being provided in the schools because the field is largely women.

The significant, negative relationship between minority students served and the number of types of mental health services being delivered by school psychologists indicates that as the percentage of minority students served increased, the types of mental health services being delivered by school psychologists decreased. This finding is troubling with regard to school-based services for minority students. Research has demonstrated that the mental health needs of minority students are escalating (Adelman & Taylor, 1998; Crespi & Hughes, 2003; Fantuzzo et al., 2003; Power, 2005); yet, many of these students are not receiving mental health services. In many cases, the response to the need for mental health services for minority students has been to refer these students

for special education evaluations, rather than formulating and implementing mental health interventions. Sutton (2004) found that, “school psychologists who engage primarily in direct and indirect services (e.g., consultation, individual counseling, etc.) engage in less special education services (e.g., initial special education evaluation, re-evaluations), while school psychologists who engage in services in relation to special education engage in less direct and indirect services” (p.108). As a result, it could be speculated that school psychologists are spending a great deal of time assessing minority students for special education services. If school psychologists are spending more time in psychoeducational assessment of minority students, it stands to reason that they have less opportunity to be providing minority students with different types of interventions, including mental health services. School psychologists need to move away from the traditional test and place model of service delivery and progress to a more proactive, problem-solving model, especially for students of minority status (Curtis, Hunley, Walker, & Baker, 1999). Therefore, school psychologists would have a much more positive impact on the well-being of minority children if they increased emphasis on intervention-based services, including services that address the mental health needs of children in their everyday lives.

Another consideration for the finding of the negative relationship between the percentage of minority students served and the types of mental health services provided relates to the possibility that school psychologists who provide mental health services to minority students may be involved in the provision of a smaller variety of mental health services (e.g., counseling, assessment, or behavioral consultation) for the majority of the

time they spend with these students. Therefore, even though school psychologists in the sample are providing a fewer variety of services to minority students they still may be spending a great deal of time providing these mental health services to children of minority status.

In contrast, the predictor variables of ethnicity, educational level, and years of experience were not significant predictors of the total types of mental health services delivered by school psychologists. This demonstrates that participants from different cultural groups, educational levels, and with varying years of experience reported providing similar amounts of mental health services. Although limited research has been conducted investigating how these factors are related with mental health service delivery, this finding is consistent with some prior research. Sutton (2004) found that, regardless of ethnic background, school psychologists were similar in general services provision. In a study investigating racial/ethnic issues relating to services delivery, she reported that, “service delivery appears to be relatively the same for minority and non-minority school psychologists regardless of the percentage of minority students served and type of school district in which they work” (p.108).

It was of interest to find that years of experience as a school psychologist was not a significant predictor of the types of mental health services being delivered. The average number of years of experience for school psychologists in this sample was 12.75. It might be reasoned that school psychologists who graduated more recently would be more likely to have been trained in the new paradigms emphasizing problem-solving and response to intervention models and, therefore, would be more likely to deliver more

mental health services. However, there was not a significant amount of variability in the total types of mental health services being delivered based on the participants' years of experience. Whether a psychologist was in his/her first or 30th year of service, he/she was likely to deliver a similar amount of mental health services weekly. On the other hand, the current debate within the field relating to response to intervention has only occurred within the last two to three years with any level of intensity. The data for this study were collected in 2004. It is very likely that the present debate and related changes in the field would not have had much of an impact on actual practices by the time these data were collected.

Research question two addressed the relationship among the predictor variables of gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio with the dependent variable, amount of time school psychologists reported spending providing mental health services based on a 40 hour work week. None of the regression coefficients for gender, ethnicity, educational level, years of experience, percentage of minority students served, or students to school psychologist ratio was found to be statistically significant.

This finding was interesting in that it might have been expected from question one's results regarding the types of mental health services being delivered that types and amount of time would be similar. It was speculated that similar predictor variables would be significant for the dependent variable defined as amount of time since the types of services and amount of time spent delivering these services were significantly correlated. These two variables had a small positive correlation, meaning that as the number of

mental health services provided increased, the amount of time spent delivering mental health services also increased. However, the correlation was very small and these two variables may not be meaningfully related because school psychologists may have indicated engaging in only a few mental health services, but could have engaged in the delivery of those services for a large amount of time. Therefore, it should not be assumed that if a school psychologist indicated that he/she provided many services he/she should necessarily be spending a great deal of time providing those services. In addition, a possible explanation for the large amounts of time (hours per week) reported in the provision of mental health services could relate to the option for school psychologists to duplicate types of services reported.

The researcher further explored research question two by analyzing the predictor variables in relation to the amount of time spent delivering consultation, assessment, intervention, and professional development services related to mental health. This was done because the results of the regression analysis conducted to answer research question two, (i.e., analyzing the predictor variables in relation to the amount of time spent delivering mental health services as a whole) did not yield any statistically significant results.

Results of these additional analyses indicated that students to school psychologist ratio was the strongest and most consistent predictor of the amount of time spent delivering consultation, assessment, and intervention services related to mental health. Each service was defined as follows: consultation services related to mental health included behavior management consultation, academic consultation, and educational

support; assessment services related to mental health included assessment and diagnosis; intervention services related to mental health included individual therapy/counseling, family therapy/counseling, group therapy/counseling, substance abuse counseling, early intervention services, family/child advocacy, crisis intervention, designing and administering individual service plans, vocational counseling, and social skills training; and professional development services related to mental health included program development and administration, personnel training (staff development), and research and evaluation. There was a small positive relationship between the total amount of time spent in assessment services related to mental health and students to school psychologist ratio, meaning that as the students to school psychologist ratio increased the amount of time spent in assessment services related to mental health also increased. It has been demonstrated that 50% to 70% of school psychologists' time is spent in assessment related activities (Curtis, et al., 1999; Fagan & Wise, 2000; Luis, et al., 2005); therefore, as the number of students served increases, it is logical to assume that school psychologists will be evaluating more students and spending more time in assessment activities.

There was a small negative relationship between total amount of time spent in intervention and consultation services related to mental health and students to school psychologist ratio, meaning that as the students to school psychologist ratio increased the amount of time spent in intervention and consultation services related to mental health decreased. Past research has demonstrated that 21% to 26% of school psychologists' time is spent in intervention related activities (Curtis, et al., 1999, Fagan & Wise, 2000, Luis,

et al., 2005) and that the majority of school psychologists' time is spent in assessment related services. In addition, Curtis, Hunley, and Grier (2004) found that higher students to school psychologist ratios were associated with assessment-related services, while lower ratios were associated with indirect (e.g., consultation) and direct (e.g., mental health counseling) interventions services. Therefore, school psychologists may have less amounts of time to be providing intervention services related to mental health when they are serving larger numbers of students. If, however, school psychologists are serving fewer students, they may have more opportunity to be involved in providing intervention services related to mental health. None of the predictor variables were statistically significant in predicting the amount of time spent in professional development services related to mental health.

The third research question was developed to address the relationship of the variables of gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio with the variable, desire to provide or not to provide more mental health services. Results of the analyses indicated that there was a statistically significant difference between male and female school psychologists' desire to provide or not to provide more mental health services with a larger percentage of females indicating their desire to provide more services. In contrast, a higher percentage of male school psychologists indicated that they did not want to provide more mental health services. Recent research (Tipton, 2001) has investigated female school psychologists' changing roles. Many female school psychologists have

indicated their interest in providing more intervention services rather than traditional psychoeducational assessment services (Tipton, 2001).

Much research has focused on the changing role of the school psychologist (Knoff & Curtis, 1996; Power, et al., 1999; Reeder, et al., 1997). The underlying theme in these studies suggests that school psychologists should and want to take part in school reform efforts, be involved in prevention and intervention services, and take part in training, research, and evaluation of services. Considerable research has been conducted on female school psychologists, since a majority of the field has been comprised of women since the mid-1980's (Fagan & Wise, 2000); however, only limited research has examined differences between males' and females' desire to provide mental health services. Nevertheless, all of the roles advocated for the field should be integrated so that school psychologists can provide the optimal contribution to mental health services in schools, regardless of their gender.

Results of the analysis also demonstrated that school psychologists from different educational levels (i.e., Master's, Master's +30 and Educational Specialist, or Doctorate) provided significantly different responses in their desire to provide or not to provide more mental health services. A larger percentage of school psychologist's with a Master's+30/Educational Specialist's degree reported that they wanted to provide more mental health services, while more school psychologists with a doctorate degree reported that they did not want to provide more mental health services. There was no difference in the desire to provide or not to provide more mental health services based on ethnicity.

Traditionally, training programs in school psychology have been at the Master's, Educational Specialist, or Doctoral level. The Educational Specialist degree is held by over 50% of the field, while approximately 25% of the field has a Doctorate (Fagan & Wise, 2000). Specialty training in several areas including consultation, counseling, systems-level change, and pediatrics are available at many institutions; however, these are typically only available to doctoral level students. This might lead to the assumption that doctoral level school psychologists would have more desire to provide mental health services since they have specialized training, however, this was not the finding of the current study. Therefore, it may be possible that doctoral level school psychologists working in schools are utilizing their advanced training to be involved in supervision or training of other school psychologists in the field. In addition, since school psychology graduate programs are so diverse in training methodologies, this finding provides evidence that regardless of educational training, school psychologists have different desirability relating to the provision of mental health services.

Results of correlational analyses found a small, positive relationship between years of experience and desire to provide or not to provide more mental health services. Higher levels of desire were associated with more years of experience. It is speculated that as school psychologists gain more experience, they may feel more confident in their skills and want to provide more services that are outside the traditional school psychologist's role. Again, research has demonstrated that school psychologists with more years of experience served more students through consultation and conducted more

in-service education programs than did those with less experience or training (Curtis, et al., 2002).

There was no relationship found in this study between the desire to provide or not to provide more mental health services and percentage of minority students served or students to school psychologist ratio. This means that regardless of the increase or decrease in the percentage of minority students served or the students to school psychologist ratio, the desire to provide or not to provide more mental health services remained constant.

Research question four addressed what proportion of school psychologists spend time in consultation, assessment, intervention, and professional development service types related to mental health, while question five addressed what proportion of school psychologists' time was spent delivering those different services related to mental health. Results of these research questions indicated that, on average, school psychologists in this sample provide approximately seven types of mental health services and engaged in an average of 29.6 hours of mental health service delivery weekly. The results are discrepant from past literature that suggests that school psychologist spend less amounts (e.g., 20%) of time engaging in services related to mental health (Fagan & Wise, 2000). A reason for this finding may have been influenced by the survey instrument used. The survey question asked, "Which of the following services do you provide to children/families with mental health problems?" School psychologists in this sample may have been estimating the time they spent in general service provision, rather than in the provision of services that are directly related to mental health because of the way the question was

presented in the survey. School psychologists may have indicated services that they provide to all children/families rather than children/families that have concerns directly related to mental health. Therefore, this may have led to an over-reporting of mental health service provision by school psychologists in this sample. Another possible reason for this finding is that school psychologists may have felt that all of these services are in one way or another directly tied to mental health concerns. It is possible that school psychologists in this sample felt that, regardless of the service type (i.e., academic consultation, counseling, or developing individual service plans), all job responsibilities of the school psychologist center around mental health concerns. This may have led to the greater number of mental service types and time being reported in comparison to past research.

Results of the analysis indicated that 96% of school psychologists in this sample reported providing at least one type of consultation service related to mental health. It was also found that 18.8% of school psychologist's work week was devoted to providing consultation services related to mental health. Consultation services relating to mental health in this study were defined as academic, behavior management, and educational support services. This result is similar to findings in prior research which estimated that 22% of school psychologists' time was spent in consultation related activities (Curtis, et al., 2006). However, the findings by Curtis and his colleagues pertained to all types of consultation services, whereas school psychologists in this sample should have been reporting only consultation that is related to mental health services. Again, this factor suggests that respondents in this study may have been over-estimating services related

specifically to mental health. On the other hand, it was promising to see that only four percent of the present sample did not engage in any consultation services related to mental health. Despite concerns about the possible over-reporting of mental health services, the findings of this study provide more evidence that school psychologists are shifting to an intervention-based model of service delivery rather than a test-and-place model.

Results of the analysis indicated that 93% of school psychologists in this sample provided at least one type of assessment service related to mental health during the average week and that 25% of their work week was devoted to assessment services related to mental health. In this study, assessment services related to mental health were identified as assessment and diagnosis. Much research has been conducted that demonstrates that the majority of school psychologists' time is spent in assessment. A study conducted by Short and Rosenthal in 1995 found that 63.2% of a school psychologist's time was spent in assessment while Fagan and Wise (2000) estimate that 52%-55% of a school psychologist's time is devoted to assessment. In a study conducted by Curtis, et al., (2002) school psychologist's time invested in special education-related activities was 79.1%, with 41% of that time being spent in assessment activities, 25% in report writing, 25% in meetings, and eight percent in other activities. For most of these studies, however, assessment in general was studied, rather than assessment specifically related to mental health.

Results of the present analyses indicated that 88% of school psychologists in this sample provided at least one type of intervention service related to mental health during

the week and that 22.8% of their work week was devoted to such services. In this study, intervention services related to mental health were identified as individual therapy/counseling, family therapy/counseling, group therapy/counseling, substance abuse counseling, early intervention services, family/child advocacy, crisis intervention, designing and administering individual service plans, vocational counseling, and social skills training. Fagan and Wise (2000) estimated that 21%-26% of school psychologists' time is spent in counseling and remediation. The findings in this study are consistent with that estimate. However, it was surprising to find that 11% of school psychologists indicated that they did not provide any intervention services related to mental health.

Results of analysis also indicated that 47% of the school psychologists in this sample provided at least one type of professional development service related to mental health during the week and that 2% of their work week was devoted to professional development services. In this study, professional development services related to mental health were identified as program development and administration, personnel training (staff development), and research and evaluation. Past research has estimated that one to two percent of school psychologist's time is spent in general professional development related activities (Fagan & Wise, 2000). The present findings are consistent with those earlier estimates. However, it was surprising to find that approximately 53% of school psychologist indicated that they did not provide any professional development services related to mental health. The Luis et al., (2005) study found that the most important factor that school psychologists believe contributed to their success in the delivery of mental health services (i.e., their professional practices) was training. Key factors that may affect

how individuals within the school use a new program involves the type of professional training and support available (Ringeisen, Henderson, & Hoagwood, 2003). School psychologists cannot be expected to provide mental health services without adequate, appropriate training. Given the somewhat limited opportunities for knowledge and skill development in the area of mental health service delivery that are available in specialist-level training programs, systematic and intensive attention to this area should be pursued through continuing professional development programs.

Delimitations

The research design for this study included three intentional limitations. One was related to ethnic diversity. For the purposes of this study, participants who reported any ethnicity other than Caucasian were placed into a category labeled Mixed Ethnicities prior to performing statistical analyses. In addition, those who reported more than one ethnicity were also placed in the Mixed Ethnicity category.

Another delimitation was related to educational level. For the purposes of this study, participants who reported any educational level other than Master's +30/Educational Specialist or Doctorate were placed into another category labeled Master's, prior to performing statistical analyses.

A final delimitation of this study was that only school psychologists who were Regular members of the National Association of School Psychologists (NASP) were participants in the research that led to the development of the national database used to address the research questions. This excluded all other school psychologists who were

not affiliated with NASP. Nevertheless, Fagan & Wise (2000) report that membership in NASP is very likely the best representation of the field of school psychology.

Limitations

A potential threat to internal validity is related to the methodology used to create the database. The survey instrument asked school psychologists to recall the mental health services that they had provided over the past week. Potentially, there was the problem of recall bias (Schweigert, 1994). School psychologists may not have recalled the correct number or types of services that they provided. They had to reflect back on prior experiences and this may have resulted in inaccurate information being provided.

An additional threat to internal validity was that participants may have been inclined to provide socially desirable responses. The study was conducted on behalf of the National Association of School Psychologists' (NASP) Research Committee, which was investigating mental health services provision. In administering the survey, NASP researchers were under the assumption that school psychologists do provide some mental health services. If a school psychologist did not provide such services at all, he/she may have been more inclined to respond falsely since their national association demonstrated interest and support of these services. Since, the participants would have known the purpose of the study, they may have overestimated the types and amount of time invested in the delivery of mental health services (Schweigert, 1994). Furthermore, with the changing role of the school psychologist cited in recent legislation and research (Bureau of Exceptional Education and Student Services, 2006), participants may have felt that

they should be providing more intervention services rather than indicate that they were still functioning primarily the role of a psychoeducational assessor.

A potential threat to external validity relates to population validity. This is a limitation because only school psychologists who were affiliated with NASP were surveyed, not all school psychologists in the field. The survey used to create the database was mailed to 1,000 “Regular members” of NASP. While using a national association membership list as the basis for sampling does not represent random selection of all school psychologists, Fagan and Wise (2000) argue that NASP membership probably offers the best representation of the field.

Another limitation is related to response rate. Although the survey was mailed to 1,000 “Regular members” of NASP, only 464 participants chose to respond (a 47.4% response rate). Therefore, only the responses of those members who chose to participate in the study were included. As a result, the results of the study are based only on approximately one-half of the potential participants pooled and may not be an accurate reflection of all school psychologists providing mental health services.

Final limitations include the survey instrument and the database. The survey instrument had some flaws in its design. For example, only three categories of educational level (e.g. Master’s, Master’s +30/Educational Specialist, and Doctorate) should have been used as possible responses, rather than the responses of Bachelor’s, Master’s, Master’s +30, Educational Specialist, and Doctorate. In addition, the question asking school psychologist to indicate the types and amount of time they spent delivering mental health services could have been worded more clearly. This question should have

emphasized more clearly that these services were to have been specific to mental health, not services provision in general. A limitation specific to the databases includes not having enough participants in the predictor variable of ethnicity. There were only 33 participants who reported being members of a racial/ethnic minority group.

Directions for Future Research

Due to the limitations of this study, several recommendations are suggested for future research. With regard to instrumentation, review of the survey used in this study should be conducted to ensure acceptable reliability and validity. This could be done by using this instrument repeatedly to determine the consistency of results obtained. From the repeated uses of the instrument, changes could be made such as modifying questions, or changing the order of the questions to ensure the best possible results.

Future researchers may also want to consider using a different sampling procedure to ensure randomization of participants. For example, instead of taking a random sample of school psychologists based on NASP or other association memberships, perhaps a different methodology could be used to secure a nationally representative sample. Other possible participants could be pooled through state departments of education, state school psychology associations, school districts, or state licensure boards.

Further analyses of the data also are suggested. By understanding what promotes mental health services delivered by school psychologists, training programs and school environments can implement changes that place a greater emphasis on mental health.

Additionally, future research might generate new knowledge of mental health service delivery. For example, questions relating to the characteristics of students who receive mental health services and venues for training relative to mental health services such as state and national associations need to be analyzed as well.

Conclusions

The purpose this study was to examine factors that relate to the delivery of mental health services by school psychologists using an already existing database. The relationship between school psychologists' demographic, preparation, and professional context factors (e.g., gender, ethnicity, educational level, percentage of minority students served, years of experience, and students to school psychologist ratio), and the types of mental health services delivered, amount of time invested in such services, and the desirability of school psychologists to provide or not to provide more mental health services was addressed. In addition, the percentages of school psychologists who deliver mental health services and the amount of time they spend in broadly defined mental health service types was addressed.

Results of the analyses suggest that students to school psychologist ratio, gender, and percentage of minority students served significantly predict the types of mental health services delivered by school psychologists. For example, higher students to school psychologist ratios and percent of minority students served were associated with fewer types of mental health services being delivered weekly. In addition, students to school psychologist ratio was related to the amount of time school psychologists spend providing consultation, assessment, and intervention services related to mental health.

Higher students to school psychologist ratios were associated with less consultation and less intervention services being provided, whereas, higher students to school psychologist ratios were associated with more assessment services being delivered. There was a statistically significant difference in the desire to provide or not to provide more mental health services for male and female school psychologists and school psychologists with different educational levels. In addition, school psychologists' years of experience were related to the desire to provide or not to provide more mental health services. On average, school psychologists in this sample provided seven types of services related to mental health weekly, and spent approximately 29 hours in the delivery of services related to mental health on a weekly basis.

Perhaps the most important suggestion of the present study is that few individual characteristics of the school psychologist (e.g., gender, educational level, ethnicity, or years of experience) were associated with mental health service provision. However, the setting characteristic and system variable, students to school psychologist ratio, was the most consistent predictor of mental health services being delivered by school psychologists. This suggests that that it may not be traits of the individual school psychologist that leads to service provision, but rather system or content issues that significantly influence mental health services being delivered in schools. In addition, other system factors such as administrative support, resource accessibility, and time may be factors that must be addressed in attempts to improve the provision of mental health services in schools.

Much research has been conducted that has identified school psychologists as an essential part of the team that provides mental health services in schools (Nastasi et al., 1998; Power et al., 1999; Thrainger, 1995). However, research has not consistently demonstrated that commonly available mental health programs such as Systems of Care and Positive Behavior Support are evidence-based or are directly linked to positive student outcomes (Kutash et al., 2006). A review of the literature on the efficacy of mental health services indicates that the critical issue in the success of mental health programs in schools is that evidence-based practices are being used. Mental health programs that are evidence-based contain information regarding the resources and training necessary to implement the program and, as a result, these programs are associated with increased student success (Kutash et al., 2006). School psychologists need to engage in the use of mental health practices for which there is empirical evidence of efficacy in order to make the most significant impact on students' success.

In conclusion, the mental health needs of children and adolescents are escalating (Adelman et al., 1998), calling for increased mental health services by school psychologists and other health professionals to enhance students' educational and adaptive gains. It has been estimated that over 20% of students experience serious mental health problems (Adelman, et al., 1998). With 53 million children in school and an estimated 20% of all children meeting criteria for mental health services at some point in time, it might be predicted that 10 million children will need some type of intervention to meet goals related to emotional well-being (Kutash, et al., 2006). However, the economic availability and staff support to ensure that these services are provided to

students are decreasing. For children to grow both academically and emotionally, it is important that children's mental health be addressed in schools. In addition, mental health services should be aligned with the major concern of schools, academic achievement. Research has demonstrated that by improving instruction and achievement, as well as improving social and emotional functioning, children can reach their fullest potentials (Kutash et al., 2006). The convergence of these two perspectives should be the underlying theme in the provision of school based mental health services (Kutash et al., 2006).

Because the mental health needs of children are so vital, it is the responsibility of professionals, such as school psychologists, to be part of a school team that supplies these services. There is a great need to increase the provision of mental health services by school psychologists. School psychologists should be key players in the provision, implementation, and evaluation of mental health services because they embody the skills and knowledge to ensure that services provision is applied with integrity. Researching school psychologists' roles in the delivery of mental health services can provide information on how much time school psychologists engage in providing mental health services and what is lacking in the training and support for such services. The investigation of factors such as these can further the development of school policies and training programs that facilitate the delivery of mental health services. In addition, by comparing these results with those of past research, the field of school psychology can analyze and predict trends in the future role of school psychologists. This information can

aid in the process of understanding where school psychology is today and where it should be in the future.

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Appendices

Appendix A

**Mental Health Services Survey
For School Psychologists**

A study by the: National Association of School Psychologists Research Committee

I. General Information

1. Gender: **A.** Male _____ **B.** Female _____

2. Ethnicity:
A. Caucasian _____
B. Hispanic _____
C. African-American _____
D. Asian/Pacific Islander _____
E. Native American, Alaskan Native _____
F. Other (Please Specify) _____

3. Do you fluently speak a language other than English?
Yes _____ No _____ What language(s)? _____

4. What is the percent of minority students that you work with in your schools?

5. What is your annual salary?
Less than \$20,000 _____ \$20,001-25,000 _____ \$25,001-30,000 _____
\$30,001-35,000 _____ \$35,001-40,000 _____ \$40,001-45,000 _____
\$45,001-50,000 _____ \$50,001-55,000 _____ \$55,000+ _____

6. What is your highest level of formal training as a school psychologist?
A. Bachelors _____
B. Masters _____
C. Master + 30 hours _____
D. Educational Specialist. _____
F. Doctoral Level _____

7. How many years have you been working as a school psychologist following the completion of your internship (including the present year)? _____

8. In what state are you currently employed?

9. What best describes the schools that serve as your primary employment setting?
(Please check all that apply)
- A. Large City _____
 - B. Small City _____
 - C. Suburban _____
 - D. Rural _____
10. What is the student to school psychologist ratio of your assignment?

11. What is the age range of children/adolescents with whom you work primarily
(more than 50% of time)? (Check all that apply)
- A. 0-3 yrs old _____
 - B. 4-5 yrs old _____
 - C. 6-12 yrs old _____
 - D. 13-15 yrs old _____
 - E. 16-18 yrs old _____
 - F. 18 or older _____

II. Information on Employment

12. What is your employment status?
- A. Full-time _____
 - B. Part-time _____
13. What is the average number of hours you work in a week? _____
14. How many annual work days are included in your school contract? _____
15. What best describes your employment situation? (Check all that apply)
- A. School-Based (Public or Private School) _____
 - B. Public agency _____
 - C. Private not-for-profit organization _____
 - D. Private for-profit organization _____
 - E. Public/Private partnership (employed by public school and private organization) _____
 - F. Community Mental Health Center _____
 - G. Solo private practice _____
 - H. Group Practice _____
 - I. University faculty _____

J. Other (Please Specify): _____

16. In what service settings do you primarily work with students/families with mental health problems? (Check all that apply)

A. Outpatient mental health clinic/center _____

B. Residential treatment center _____

C. Day treatment center _____

D. School-based program _____

E. School-based crisis services _____

F. Shelter _____

G. Psychiatric hospital _____

H. General/Community hospital _____

I. Physician's office/ Health clinic _____

J. Day care _____

K. Private Practice _____

L. Charter School _____

M. Other (Please Specify): _____

17. In your assignment, are there any special characteristics of children with whom you primarily work? (Check all that apply)

A. Children with developmental disabilities _____

B. Children with learning disabilities _____

C. Children with behavior problems _____

D. Children with emotional problems _____

E. Children with social problems _____

F. Children who have experienced abuse/neglect _____

G. Other (Please Specify): _____

III. Information on Mental Health Services

18. Which of the following services do you provide to children/families with mental health problems? ***Place a check next to each service that you provide, then estimate the number of hours per week you spend providing service.***

<u>Service</u>	<u>Check if Provided</u>	<u>Hour Per Week</u>
A. Individual therapy/counseling	_____	_____
B. Family therapy/counseling	_____	_____
C. Group therapy/counseling	_____	_____
D. Substance abuse counseling	_____	_____
E. Early intervention services	_____	_____
F. Family/child advocacy	_____	_____
G. Behavior management consultation	_____	_____
H. Academic consultation	_____	_____
I. Assessment and diagnosis	_____	_____

- J. Crisis intervention _____
- K. Designing/administering individual service plans _____
- L. Program development and administration _____
- M. Personnel training (staff development) _____
- N. Vocational counseling _____
- O. Educational support _____
- P. Social skills training _____
- Q. Research and evaluation _____

19. If you are involved in providing mental health services to children and families, to what extent do you feel that you are supported by school administration?
- A. No Support _____
 - B. Slight Support _____
 - C. Average Support _____
 - D. More than Average Support _____
 - E. Much Support _____
20. If you are involved in providing mental health services to children and families, to what extent do you feel that you are supported by department administration?
- A. No Support _____
 - B. Slight Support _____
 - C. Average Support _____
 - D. More than Average Support _____
 - E. Much Support _____
21. If you are involved in providing mental health services to children and families, to what extent do you feel that you are supported by staff?
- A. No Support _____
 - B. Slight Support _____
 - C. Average Support _____
 - D. More than Average Support _____
 - E. Much Support _____
22. What factors do you believe contribute to your success in the delivery of mental health services? (Please rank order)
- A. Training _____
 - B. School Psychologist/Student Ratio _____
 - C. Funding _____
 - D. Administrative support _____
 - E. School problem-solving team _____
 - F. Staff support _____
 - G. Teacher willingness/acceptance _____
 - H. Parental/family support _____
 - I. Access to/linkages with community resources _____

J. Other (Please Specify): _____

23. What factors do you believe contribute to positive student outcomes resulting from the mental health services you deliver? (Please rank order)
- A. Training _____
 - B. School Psychologist/Student Ratio _____
 - C. Funding _____
 - D. Administrative support _____
 - E. School problem-solving team _____
 - F. Staff support _____
 - G. Teacher willingness/acceptance _____
 - H. Parental/family support _____
 - I. Access to/linkages with community resources _____
 - J. Other (Please Specify): _____
24. In which areas of mental health services would you like more training in? (Please choose and rank order three that are most important to your success)
- A. Prevention of emotional and behavioral problems _____
 - B. Behavior management at home _____
 - C. Behavior management in the classroom _____
 - D. Individual therapy for children _____
 - E. Life skills training _____
 - F. Drug/alcohol treatment _____
 - G. Medication _____
 - H. Family therapy models _____
 - I. Academic skills training _____
 - J. Social skills training _____
 - K. Teaching reading strategies _____
 - L. Other (Please Specify): _____
25. What is the best venue to receive additional information on training in mental health service delivery? (Please rank order)
- A. NASP Publications _____
 - B. NASP Websites _____
 - C. APA Publications _____
 - D. APA Websites _____
 - E. In-service Trainings _____
 - F. CEUs/ CPD units _____
 - G. State or national conferences _____
 - H. Other (Please Specify): _____
26. Would you as a school psychologist like to spend more time engaging in delivering school-based mental health services?
- A. Yes _____

B. No _____

Please indicate why or why not?

27. What specific mental health services would you be interested in providing? (Please select as many items as you want and then rate each item you selected using the following scale: 1 = highest priority, 2 = moderate priority, 3 = lowest priority, 4= not needed)

- A. Individual therapy/counseling _____
- B. Family therapy/counseling _____
- C. Group therapy/counseling _____
- D. Substance abuse counseling _____
- E. Early intervention services _____
- F. Family/child advocacy _____
- G. Behavior management consultation _____
- H. Academic consultation _____
- I. Assessment and diagnosis _____
- J. Crisis intervention _____
- K. Designing/administering individual service plans (IEPs) _____
- L. Program development and administration _____
- M. Personnel training (staff development) _____
- N. Vocational counseling _____
- O. Educational support _____
- P. Social skills training _____
- Q. Research and evaluation _____
- R. Other (Please Specify): _____

28. What else do these researchers need to know about school psychologists providing mental health services to children?

**Please return the survey in the postage –paid envelope.
Thank you for your participation in this study!**

Appendix B

Consent Letter

Dear School Psychologist,

You are receiving this letter because your name was randomly selected from the National Association of School Psychologists' (NASP) database of "regular" members whose membership registration indicates that they are practicing school psychologists. The NASP Research Committee is conducting a study entitled "National Survey of School Psychologists' Mental Health Services." The information in this letter is provided to help you decide whether or not you want to take part in this research study. Please read this information carefully. If you do not understand anything, please contact the principal investigator (Kelly A. Powell-Smith, Ph.D., NASP Research Committee Chairperson).

General Information about the Research Study

The committee is asking you to complete a brief (10-15 minute) survey developed to acquire information about school psychologists and mental health services. Mental Health as defined by the Surgeon General is **"The successful performance of mental function, resulting in productive activities, fulfilling relationships with other people, and the ability to adapt to change and cope with adversity, from early childhood until late life. Mental health is the springboard of thinking and communication skills, learning, emotional growth, resilience, and self-esteem"** (2002). Mental health services are those services provided directly by a school psychologist, or in networking with others, at a district, building, classroom, or individual student level. These services are targeted at optimizing developmental skills or behaviors that increase the probability of school success.

The intent of this study is to develop a national database regarding the mental health services provided by school psychologists. This study is a follow-up to a previous study where school psychologists kept a log of mental health services. The results of that initial study stimulated several important questions related to the delivery of mental health services by school psychologists. For example, multiple issues exist regarding the mental health needs of students, (the numbers and types of mental health services delivered), the backgrounds of the school psychologists, and characteristics of the school setting. To address these issues, a national survey with a larger number of participants than the initial study is needed.

Plan of Study

The enclosed survey (both front and back) contains 28 items and should take no more than 10-15 minutes to complete. Please make sure that all items are completed before submitting the survey. For your convenience, we have provided you with a postage-paid envelope to use in returning the survey to us.

Benefits of Being a Part of this Research Study

Ten participants who return completed surveys will be randomly selected to each receive \$50.00 NASP Bucks Certificates. Even though each participant will not receive direct personal benefits from this study, by participating in this study you may increase our overall knowledge of issues surrounding the provision of mental health services by school psychologists.

Confidentiality of Your Records

Your privacy and research records will be kept confidential to the extent of the law. Authorized research personnel, employees of the Department of Health and Human Services, and the USF Institutional Review Board may inspect the records from this research project. The results of this study may be published. However, the data obtained from you will be combined with data from others. The published results will not include your name or any other information that would personally identify you in any way.

Volunteering to Be Part of this Research Study

Your decision to participate in this research study is completely voluntary. You are free to participate in this research study or to withdraw at any time. There will be no penalty or loss of benefits you are entitled to receive, if you stop taking part in the study.

If you have any questions about this research study, contact Dr. Kelly A. Powell-Smith, NASP Research Committee chairperson at (813) 974-9698 or at kpsmith@tempest.coedu.usf.edu.

Thank you very much for your participation.

Kelly A. Powell-Smith, Ph.D.
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Appendix C

Table 25
Mental Health Services

Service	<i>n</i>	<i>% sample</i>	<i>M</i>	<i>P of work week</i>	<i>CI</i>
Assessment and Diagnosis	433	93.52	10.15	25.3	9.40-10.89
Behavior Management Consultation	402	86.83	3.73	8.43	3.56-3.91
Academic Consultation	382	82.51	3.74	9.35	3.57-3.91
Individual Therapy/Counseling	277	59.83	2.78	6.95	1.03-2.94
Crisis Intervention	269	58.10	1.19	2.96	1.09-1.29
Designing/Administering (ISPs)	214	46.23	1.90	4.75	1.78-2.03
Social Skills Training	177	38.23	0.89	2.23	0.81-0.98
Personnel Training (Staff Development)	175	37.80	0.85	2.13	0.7-0.94
Family/Child Advocacy	143	30.89	1.01	2.53	0.92-1.97
Group Therapy/Counseling	142	30.67	0.83	2.08	0.75-0.92
Educational Support	141	30.45	0.99	2.48	0.90-0.99
Early Intervention Services	126	27.21	0.90	2.25	0.38-0.99
Program Development and Administration	125	27.0	1.20	3.00	1.12-1.32
Family Therapy/Counseling	67	14.47	0.52	1.3	0.46-0.59
Research and Evaluation	60	12.96	0.36	0.90	0.31-0.42
Vocational Counseling	25	5.39	0.12	0.30	0.09-0.16
Substance Counseling	20	4.32	0.06	0.15	0.04-0.09

About the Author

Emily Luis Cimino graduated Suma Cum Laude with a Bachelor's degree in Psychology from the University of South Florida in 2002. Emily received her Master's Degree in Curriculum and Instruction in 2003 and her Educational Specialist's Degree in 2006 from the University of South Florida. During her graduate training, Emily taught several undergraduate and graduate level courses at the university.

While in the Ph.D. school psychology program at the University of South Florida, Emily served as a member of the National Association of School Psychologists' (NASP) Mental Health Research Committee. In 2005, she presented the research committee's findings at the NASP conference in Atlanta, Georgia. Currently, Emily is a nationally certified school psychologist and is working full-time in a local school district.