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School Psychology Shortages in West Virginia

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SCHOOL PSYCHOLOGY SHORTAGES IN WEST VIRGINIA

A thesis submitted to
the Graduate College of
Marshall University
In partial fulfillment of
the requirements for the degree of
Education Specialist

In

School Psychology

by

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May 2021

APPROVAL OF THESIS

We, the faculty supervising the work of Elizabeth A. Sutfin, affirm that the thesis, *School Psychology Shortages in West Virginia*, meets the high academic standards for original scholarship and creative work established by the School Psychology Program and the College of Education and Professional Development. This work also conforms to the editorial standards of our discipline and the Graduate College of Marshall University. With our signatures, we approve the manuscript for publication.

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ACKNOWLEDGMENTS

I would like to thank my committee, Dr. Sandra Stroebel, Dr. R. Lanai Jennings, and Dr. Conrae Lucas-Adkins, for all of their greatly appreciated input and guidance during this research process, and throughout my time in the school psychology graduate program. You have shown me what kind of school psychologist I want to be. To my family, friends, and my fiancé, thank you for your support over these past 3 years. Thank you for your constant willingness to quiz me with flash cards, for allowing me to practice various assessments on you, and for listening to me discuss my research results on more than one occasion. Finally, I would also like to thank my friends that I have made in my cohort. I'm so thankful that we have been able to support one another throughout this experience and I look forward to continuing to support one another as future school psychologists.

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ABSTRACT

The United States continues to experience a shortage of school psychologists nationwide which has been found to impact both students and school psychologists in negative ways. There is a broad scope of practice that school psychologists are competently able to provide but are physically unable to deliver because of their need to focus on required assessments and testing. Overwhelming workloads can create stress and lead to burnout. However, little research has been done to understand the shortage of school psychologists in the country, including the state of West Virginia. To better understand West Virginia's shortage problem, this researcher conducted a survey successfully completed by one participant from 47 of the 55 counties in West Virginia. It was found that 33 of 47 counties currently had a ratio of students to school psychologists higher than the nation's average ratio of students to school psychologists (1:1,381). Only 4 counties met the NASP recommended ratio of no more than 1,000 students per school psychologist. Ratios did not vary by size or location of the county. Common reasons believed by participants for shortages include inadequate numbers of students produced by graduate programs, lack of interest due to salary, and lack of awareness about the profession. Common strategies to address the shortages include utilizing contract psychologists and advertising positions. Recommendations for future studies include expanding the current study to have a wider population by surveying contracted school psychologists and special education teachers.

CHAPTER 1

LITERATURE REVIEW

Considering the wide array of helpful roles that school psychologists can play, it is important for the researchers within the school systems to identify where there are school psychology shortages and contemplate all of the potentially negative effects a lack of school psychology personnel could have on mental health in the education system. While some states and provinces (Connecticut, District of Columbia, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Utah) have reported ratios that indicate a lack of shortages, other states have continued to supply data indicating that there is, indeed, a problematic shortage of school psychologists in their location (Castillo et al., 2011). In particular, the state of West Virginia has been experiencing a purported shortage of school psychologists with very little research done to investigate the reasons. Toward this end, the aim of the present study was to quantify the extent of the shortage problem throughout West Virginia, explore potential reasons for the shortage, and identify what strategies are currently being used throughout the state to address shortages. This study shed light on how the local university can use the shortage data to create innovative recruitment strategies, provide useful data for legislative advocacy, help support future grant proposals, and assist in identifying beneficial areas of potential collaboration amongst geographically close local education agencies (LEAs).

Over the recent decades, education and mental health have increasingly become two areas of importance in American society. Researchers are recognizing the need for mental health services provided in public school settings (Naik, 2019). Mental health is considered especially important by many when aspects, such as the national opioid crisis, are taken into consideration (Pollini, 2019). School psychologists, in particular, have gradually become a vital part of the

education system because of their expertise in assessment and intervention of school-age children. Their role ultimately helps to provide equal opportunities for all children to learn and thrive in school (Hacker & Hayes, 2017). For this reason, it is imperative that school districts with shortages of school psychologists are identified and the causes for shortages are obtained. The National Association of School Psychologists (NASP) identified the shortage of school psychology personnel as an issue of precedence and has focused on it throughout many of their recent publications (Desrochers, 2017). School psychology shortages have also been discussed at multiple conferences (D'Amato et al., 2004). NASP has conducted membership surveys two times per decade since 1990 so that trends regarding this issue and many others may be identified (Graden & Curtis, 1991). To analyze this information in comparison to the state level, researchers must conduct state-wide surveys regarding the shortages of school psychologists, including those who are not members of NASP. By doing so, action may be taken by leaders in the field to eradicate the problem in each state. Knowledge can be gained through analysis of literature regarding the history of school psychologists, their growing roles, reasons for choosing the field, reasons for leaving the field, past predictions for shortages, and previous research and methodology regarding school psychology shortages in different states.

It is very important for researchers to examine past literature so they may learn from and form an intellectual grasp on the research that has been completed on any particular research topic. The goal of this literature review was to compare empirically-supported evidence regarding the history of shortages of school psychology personnel in the United States. This allowed for a better understanding of the most potentially successful approach toward eliminating the school psychology shortages throughout the state of West Virginia. By doing so,

researchers hoped to obtain data that can be used for advocacy in the legislature to help facilitate solutions.

The History of School Psychology

To begin searching for answers to such questions, one must begin by reviewing the history of school psychology shortages in the United States and how shortage information has been collected. The need for more school psychologists has been an issue of concern for the field since the profession first began. According to Fagan and Wise (2007), in 1914, a man named Wallin was able to successfully complete the first survey of psychologists working within the schools. He determined that there were only 115 school psychologists who were currently practicing. This shockingly low number is due, in part, to the fact that school psychology services did not begin to exist in United States society until around 1890. The low number was also partially due to a lower percentage of children enrolled in the schools. When considering the economic model of supply and demand, a low number of children attending school would lead to a low number of school psychologists and other staff needed to support them.

The field of school psychology continued to adapt as changes occurred in American society. Fagan (2014) explained how there was a drastic increase of children born after the end of World War II with the return of soldiers to their families. This large increase of children eventually led to an impressively large rise in school attendance. This aspect, combined with comprehensive special education laws being enacted, created a successful grouping that brought about an increased need for more school psychologists within the United States. The Education for All Handicapped Children Act of 1975, a statute that began its journey as a senate bill in 1972 and is now known as the Individuals with Disabilities Education Act (IDEA), is considered by many to be one of the most significant federal laws put into place. This is because of the

increased services provided for children in special education (Jacob et al., 2016). Added services created a larger need for special education personnel. The need for school psychologists during this time allowed numbers to continue to increase, and there were around 5,000 school psychologists practicing in the field by the year 1970 (Fagan, 2014). So, the new special education policies and the number of children in the schools were essential factors leading to the increased number of school psychologists during this time.

More recent legislation has continued to increase the nation's need for school psychologists. In 2004, congress reenacted IDEA (U.S. Department of Education, 2016). In 2015, they amended the IDEA through the Every Student Succeeds Act (ESSA). ESSA was established and continues to be the central public school education law. This law ensures that students in public schools are afforded a valuable education through requiring schools to meet certain standards regarding educational testing, students in poverty, minority populations within schools, general education services, special education services, and goals for academic achievement. ESSA specifically designates school psychologists as mental health providers. Many aspects of this law center around the specialized services school psychologists are able to provide, which has led to the increased need of school psychologists across the nation.

National Shortage Studies

Due to the increased need for school psychologists, national studies were conducted to determine the current ratio of students to school psychologists. Studies to determine valid, accurate, and current ratios have exposed the challenges in reaching this goal. The difficulty of obtaining these numbers stems from the variability of credentialing requirements among the different states, and also the fact that associations such as NASP, who lead the efforts in obtaining such data, are completely voluntary regarding membership (Merrell, et al., 2012). One

strategy to determine the number of school psychologists working in schools is to access education databases. In the 40th annual report to congress on the implementation of the IDEA, the U.S. Department of Education, Office of Special Education Rehabilitative Services, & Office of Special Education Programs (2018) reported that 35,342 of full-time equivalent psychologists were employed in the United States in 2015 to provide services under IDEA. This number can include various personnel who are certified, personnel who are not certified, contracted psychologists, and part time psychologists. According to the National Center for Education Statistics, there were 50,327,015 students enrolled in public schools across the United States in 2015 (Glander, 2017). Using this information, an average ratio in the United States for this year was 1:1,424. Likewise, this data can be accessed for individual states. Data collection concluded that 125.27 full-time equivalent psychologists were employed in West Virginia Schools during the 2019-2020 school year (R. Eccles-Hardy, personal communication, January 24, 2020). This number included both certified and non-certified individuals. The West Virginia Department of Education determined that a total of 261,633 students were enrolled during the 2019-2020 school year (WVZoom, 2021). Using this information, the average West Virginia ratio of students to school psychologists was 1:2,089. Neither the nation's calculated ratio, nor the West Virginia ratio meet NASP goals. This further proves the magnitude of the school psychologist shortage.

These reports of low numbers of school psychologists in the United States align with conclusions made by investigators in multiple national shortage studies. McIntosh (2004) found that, along with a general shortage of school psychologists across the United States, there has also been an extensive shortage of diverse school psychologists, as well as a shortage of school psychologists in areas of the United States that have large numbers of diverse students. Other studies focusing on academic school psychologists found large shortages of school psychology

program staff which, when combined with the increase in retirement of school psychologists, can be especially detrimental (Castillo et al., 2014). Although national studies have reported that the shortage of school psychologists is not consistent across the 50 states (Castillo et al., 2011), the overall consensus has been that the shortage problem is real and needs to be immediately addressed.

Another strategy for determining current ratios is to analyze surveys of school psychologists. A study by Walcott and colleagues (2018) of NASP members indicated that the average number of students on a single school psychologist's caseload is 1,381. This number, when compared to the National Association of School Psychologists (NASP) expected ratio of 1 school psychologist per 500-700 students and no more than 1,000 students per school psychologist, is a very alarming discrepancy (NASP, 2010). Although the data of this study is limited because of the low percentage of members who responded, and because NASP membership is voluntary and requires a yearly payment for membership, this number still has relevance (Walcott et al., 2018). This large ratio of students to school psychologists has created a severe need for change and has become a true problem, as researchers have not yet been able to pinpoint exactly how many school psychologists are still needed (Fagan, 2014). Walcott and colleagues (2018) conducted a membership survey where valuable information regarding shortages were obtained. Researchers found that only 37.2% of members who responded to the survey have a ratio of 1,000 or less students per school psychologist, while the majority of survey takers (71%) reported a ratio of less than 1,500 students per school psychologist. The results of this survey found that the overall ratios have improved over time, but they are likely to grow again in the future.

The Need for School Psychologists

Historical changes in society give light to the increased need for school psychologists in the past, but the current need for more school psychologists has a multifaceted explanation. In the most recent decades, researchers cite additional reasons for the increased need of school psychologists. Reasons such as increases in behavior problems, crisis, violence, and a newly found importance of mental health in schools have created a need within the schools (Fagan, 2014). School psychologists are able to assist within every tier of the Multi-Tiered System of Support in a school (NASP, 2015). For example, tier one assistance can include conducting universal behavioral and emotional screenings to identify students who are potentially at risk. When a student is identified through a universal emotional screener as being at risk for potentially hurting themselves or others, the school psychologist may then assist in tier two by conducting a suicide risk or threat assessment to understand every aspect of that risk. Finally, in tier three, the school psychologist may assist through providing direct therapy or counseling to the student. School psychologists can help throughout the tiered system in this way and also with other types of behavioral, emotional, and academic needs.

Risk factors such as poverty, parent variables (e.g., substance abuse, parent incarceration), and food insecurity have all become more common in recent years and can lead to delayed academic and social skills; problems with language and literacy development; problems with numeracy and problem solving skills; increased aggression and deficient interpersonal skills; and increased anxiety, stress, and other areas of intrapersonal emotions (Brown-Chidsey & Bickford, 2015). There are many ways that school psychologists can assist with these risk factors. A school psychologist's services can include counseling, contributing to Response to Intervention, helping to create positive behavior support plans, and helping to facilitate parent and student classes on stress management and communication. School psychologists can be

especially helpful in the area of professional development, such as with trauma focused teacher trainings (Cavanaugh, 2016). It is very important to consider these continuously increasing risk factors and how school psychologists are able to help students gain the skills needed to become resilient.

Health care reform has also opened doors on the need for school psychologists as mental health providers. Specifically, the Patient Protection and Affordable Care Act created an increase in funds that are partially put toward mental health needs for students who previously had no insurance and therefore had no way to access such services (Patient Protection and Affordable Care Act, 2010). This act has created multiple options for students to access assistance through a variety of programs, which includes school-based health and mental health centers. These centers provide opportunities for school psychologists to work closely with health professionals to ensure students physical and mental needs are met.

School Psychology Roles

Another aspect contributing to the shortage issue, is the expanded role of the school psychologist. Diving into the research of school psychologists can help break down how these different roles have changed in recent decades as the number of needed school psychologists has increased. Assessment is, and always has been, a school psychologist's main area of expertise (Fagan, 2004). In the beginning years, the assessment role of the school psychologist was restricted to purely psychometric assessment in that they would perform an assessment on a child and make a decision for special education services based solely on the results (Fagan, 2014). In the past few decades, however, this role has expanded to include the school psychologist on a multi-disciplinary team where other professionals work with them to make a group decision for

services. This role change has been considerably more time consuming yet has yielded more valid results.

NASP has a long history of outlining exactly what the ideal role of the school psychologist is so that school psychologists and their school systems across the nation understand what they should strive for each year (NASP, 2006). This outlining began in 1984 when the first outline, commonly known as Blueprint I, was published with 16 domains that identified the different roles school psychologists were trained to work in (Woody & Davenport, 1998). Later on, NASP continued to update their policies and the role of school psychologists with the revisions and publications of a second and third version of the Blueprint (NASP, 2006).

Building upon the Blueprints, NASP (2017) created a strategic plan to give school psychologists across the nation a list of goals intended for completion in 3-5 years. The original strategic plan included a goal specific to the school psychology shortage. Specifically, the goal is to obtain a school psychology staff that is diverse, superior, and is able to meet the demand for services across the country. NASP also published guidance on the shortage problem in the form of a practice model known as the Model for Comprehensive and Integrated School Psychological Services (NASP, 2010). This model was created to facilitate uniformity around the nation regarding how services are implemented by school psychologists. The model includes five organizational principles. Principle three discusses the importance of the recommended ratio and why school systems should strive to meet it. After this study was conducted, the practice model was updated to include a larger emphasis on a ratio of 1:500, thus stressing the importance of reducing school psychologist caseloads (NASP, 2020).

A second area of expertise that school psychologists have always had is providing evidence-based interventions within schools. It was only in the 1970s that the intervention role of

school psychologists changed from being a traditional assessment and counseling role, to the addition of a more intensive and lengthy intervention known as psychotherapy (Fagan, 2014). With the expansion of the two main roles of school psychologists in recent years, also came the addition of consultation and system level intervention. These two roles were not previously considered within the main scope of practice for school psychologists. It is important to recognize how each aspect of a school psychologist's workload has expanded since the beginning of the field, because it helps to account for the increased need for more school psychologists working within the schools. Bahr and colleagues (2017) also pointed out that a large part of a school psychologist's role depends on the educational policies and state laws surrounding what they can and cannot do in their particular area.

The roles of school psychologists can vary depending on the specific population they work with on a regular basis. It is for this reason that Albritton and colleagues (2019) studied the current role of early childhood school psychologists to understand if their specific roles were actually increasing. The researchers explained that identifying the need for special education services and creating a plan for obtaining services for children is most certainly a main role of early childhood school psychologists, but this role is not the only expected contribution area for early childhood school psychologists. Early childhood school psychologists were expected to begin adapting their roles into a more preventative-centered approach that was presented to them over four decades before the currently discussed research study began.

To best obtain information, Albritton and colleagues (2019) created a survey that was completed by early childhood school psychologists across six different states in the United States. Questions focused on breaking down the different roles expected of the school psychologists and the roles they were able to successfully perform. Many participants reported

that a major difficulty within the field was being able to effectively communicate with the other team members when identifying special education needs and interventions. This reflects on the recent change in the school psychologists' expected role, which is to work within a team setting while providing a more reliable and valid decision for students regarding their assessment for special education services. Overall, the study came to the conclusion that, because of the lack of time and overabundance of cases, school psychologists working within early childhood settings have not been able to effectively transition into their expanded roles. This is because they still solely focus on special education service evaluations and assessments. Limitations to the study included a small sample size and a lack of identification of specific regions within the states where the school psychologists were located. As a result of these limitations, researchers suggested that future studies should focus on regional differences within states and should broaden their sample size to increase the power of the study.

The type of setting a school psychologist works in can also determine the type of role they will play. A study done by Graves and colleagues (2014) focused on the difficulties faced regarding roles of school psychologists within urban and ethnically-diverse school settings. Researchers wanted to know why they were or were not able to effectively provide the services of their expected roles. The researchers created a survey that was sent out to school psychologists in the five most ethnically-diverse school districts within the United States. This included areas such as Atlanta, Georgia, and Washington, D. C.

The study found that a shockingly high ratio of students to school psychologists existed within the ethnically-diverse districts, with reports that two-fifths of the participants had over 2,000 students on their personal caseload and one-tenth of participants had over 3,000 students on their caseload (Graves, et al., 2014). These alarmingly high numbers directly affect the roles

of the school psychologists. Of the 72% of participants who successfully answered a question regarding their greatest trials in the field, many mentioned the following: having a large caseload that creates the impossibility of providing services other than testing, re-evaluations, and paperwork; funding problems causing a decrease in school psychologists in the area and the resources needed to provide services; and problems regarding administration personnel assisting them within their role. Researchers stated that among limitations of their study, there was a need for a larger sample size; a more detailed study regarding ethnically-diverse population school psychologists; and further research on the specific struggles of school psychologists that were found in the current study. Considering these limitations, future researchers may decide to ask more personal details of participants and add more detailed questions to surveys, while also finding an option that will be approved by their institutional review board for obtaining a larger sample of participants within future studies.

State Level Studies

There have been studies conducted in other states to examine shortages. One study focused on the current and predicted shortage of school psychologists across the state of Florida (Mann et al., 2019). Researchers analyzed the current number of school psychologists, openings, filled positions, retirement, and many other aspects. Results of the study indicated that Florida was experiencing a shortage of school psychologists mainly caused by attrition and retirement. Similarly, Barbre (2019) carried out the first research project regarding the shortage of school psychologists in the state of Texas. Barbre examined the ratios of students to school psychologists across the different regions within Texas and found a range of ratios (1: 1,497 to 1: 16,751) that did not meet the NASP recommended ratio. Researchers found that school psychologists were often employed less in rural areas and more often in urban areas. Overall,

they found that, although the amount of school psychologists in the state continues to increase, the current supply in no way meets Texas's demand for school psychology practitioners. These states' studies, as well as other states' future studies, can be used by their state associations, as well as by NASP, to track the shortages, understand why these shortages exist, and further identify unique ways that the problem can be eradicated.

West Virginia Research into Related Fields

There are also areas of research regarding West Virginia that are inherently connected to the field of school psychology. Much of the research regarding other aspects of the state can help researchers identify possible areas within a school psychologist's scope of practice that could prove especially helpful. Pollini (2019) explained that West Virginia is at the center of an opioid crisis . There was a 13% average increase in opioid related overdoses and a 12% average increase in opioid-related deaths in West Virginia between the years of 2008 and 2016. West Virginia is ranked number one in both fatal drug overdose rates and neonatal opioid withdrawal syndrome. This crisis undoubtedly affects the children of West Virginia in ways that school psychologists are capable of helping with, such as through counseling and consultation.

Ahmadi-Montecalvo and colleagues (2016) researched tobacco use in the foster care children of West Virginia. They found that 32.8% of foster care children within their sample used tobacco, while 23.9% used other drugs. School psychologists can be a very valuable asset when working with children battling addiction. These two studies reflect the need for school psychology services within the state. Competent school psychologists have the ability to counsel individuals affected by these issues, and a shortage of school psychologists in West Virginia could inhibit the possibility of such services that could increase the overall quality of life for

students struggling with problems described by these two studies.

West Virginia School Psychology Research

The need for school psychologists in West Virginia has led to multiple West Virginia specific studies. Recent research has been conducted to analyze how West Virginia school psychologists are spending their time. Sheltraw (2013) surveyed school psychologists across the state of West Virginia to analyze the roles they play in the field. Sheltraw furthered her investigation by comparing how those roles differed from the NASP practice model, which is a model considered best practice in the field. Sheltraw concluded that West Virginia school psychologists had not transitioned over to the NASP model roles that are centered around intervention and consultation. These school psychologists were still participating in the more customary school psychologist roles of performing assessments and writing reports for meetings. Demographic information revealed that the majority of participants were white and female, suggesting a lack of diversity in the field across the state. It was found that school psychologists in West Virginia spent the least amount of time in the field working on program evaluation, and they would like to allocate more of their time to areas such as mental health services. Sheltraw concluded that these school psychologists were required to spend the majority of their time fulfilling the immediate and more traditional needs of their schools, which leaves little time for them to work on the broader areas of their scope of practice.

Another similar study was conducted by Stowers (2017) in which she and other investigators surveyed West Virginia school psychologists to analyze similarities and differences between the responsibilities and other characteristics of school psychologists in the state. Stowers calculated that the average school psychologist to student ratio in West Virginia was roughly 1:2,116, which is much higher than the NASP recommended ratio. Regarding

demographics, the majority of participants were female (86%) and identified their race/ethnicity as White/Caucasian (97%). These results suggest a lack of diversity among school psychologists across the state. A shortage of diverse school psychologists can have a negative effect on minority populations within the schools (Graves, et al., 2014).

Survey results regarding the role of school psychologists within West Virginia showed that the majority of survey takers (60%) acknowledged that report writing and assessments were roles of their job that they performed almost daily, while 43% of participants reported they engaged in consultation just as much (Stowers, 2017). Results also indicated that a majority (60%) of respondents participated in Eligibility, 504, and Individualized Education Plan meetings at least once or twice weekly. Results also showed that roles such as program evaluation, research, mental health, and professional development delivery were less common among school psychologists. Stowers concluded that school psychologists across the state are still required to remain in the more traditional role of the school psychologist, regardless of their desire to use their broad scope of practice to help in areas such as mental health and the Student Assistance Team process.

Stinespring (2017) conducted a survey to learn more about the part that West Virginia school psychologists play in supporting students through providing mental health services. Overall, she found that West Virginia school psychologists as a whole were providing mental health services, but she found that within that broad scope there were many inconsistencies between individuals. Results showed that while 37.9% of participants did not provide group counseling services on a regular basis, 25.9% of participants never provided group counseling services. Similar results were found for both individual counseling, primary prevention programming, and crisis support. Stinespring also discovered that a lot of her participants would

prefer to spend more of their time providing individual counseling services and 31% of participants would prefer individual counseling be their most common practice. These results show that West Virginia school psychologists are willing to provide beneficial mental health services that fall into a varied scope of practice, but the variedness of the role is extremely inconsistent across the state and those school psychologists would prefer a change in their daily work. Often school psychologists indicate the reason they cannot provide varied services is due to the high case load, requiring them to prioritize assessment related activities. A solution for this inconsistency across the state can start with obtaining accurate information regarding the number of school psychologists in West Virginia, and the average ratio of students to school psychologists. This information could be used to advocate for lower ratios in areas of the state where the ratios are high. This step could eventually lead to a consistent understanding of the ratios across the United States so that areas in need could be targeted with various shortage solutions.

Academic School Psychologists

As well as the issue of increased need, is the issue of inadequate supply. This comes from two sources, the decreased number of trainers in school psychology programs and the increase in retirements. There is a massive lack of school psychologists pursuing continued education in doctoral degree programs (Fagan, 2014). Continued education is required for school psychology practitioners to teach in training programs. This means that there is a lack of professionals able to train potential school psychologists. To add to the already problematic shortage of academic school psychologists, Castillo and colleagues (2014) found that the already insufficient amount of academic school psychology personnel may continue to rise with the expected retirements of current school psychology training program staff in the next few years. The lack of school

psychology professors ultimately inhibits training programs from expanding, and it leads to fewer graduate students being accepted into and graduating from programs. This problem inevitably contributes to the shortage of school psychologists across the country.

Reasons School Psychologists Choose the Field

Learning about the reasons people actively choose to pursue the field of school psychology can help increase the likelihood of success in recruiting future professionals to the field. As in many professions, a competitive salary can attract candidates. Fagan (2014) mentions that over time, the demand for school psychologists caused the average school psychologist salary to increase gradually. The recessionary period in the early 2000s had virtually no effect on salary considering the continuous demand for school psychologists around the United States. With a continued need for school psychologists in the current day and age, competitive salaries may be found in some parts of the United States. Noteworthy to entry are the other attractive aspects of the field. For example, most school psychologists have a summer break unless they choose to do summer testing. This means they receive contracts that typically range from 180 days to 210 days. They also work school day hours and are given holidays and other days off in concert with the student populations they serve. In alignment with the relatively attractive salaries and schedules, research also indicates that repeated education about school psychology can influence induction into the field. Bocanegra and colleagues (2019) found that students were likely to apply to school psychology graduate programs when they were exposed to information pertaining to the field many times throughout their undergraduate classes. This information impacted their decisions toward future career options. They were also more likely to apply when they were able to learn about the field of school psychology from different people (such as professors, current graduate students, or current school psychologists).

Graves and Wright (2007) developed a survey for school psychology graduate students that included the following types of questions: why they applied to a school psychology program, what type of setting they would like to work in, and what aspects of school psychology persuaded them toward choosing their program. The researchers analyzed a completed survey from 305 students, and of those 305 students, 99.4% indicated that they were either in a master's or doctoral program. A majority of those participants (74.3%) stated that they had received their bachelor's degree in psychology. This shows that it may be helpful in future recruitment situations to pursue students who have also received bachelor's degrees in other related areas, such as education or communication disorders. This would allow the range of prospective students to expand.

Graves and Wright (2007) found that almost 50% of the students pursuing master's degrees and 33% of the doctoral degree students had their school psychology programs at the school where they received their previous degree. They also found that over half of both categories of students considered school psychology as their first choice for graduate school. This indicates that many school psychology students may choose to further their education through school psychology, because they became aware of the option during undergraduate classes and found convenience in continuing their education through the same school. At schools where school psychology programs do not exist, there may be potential school psychology students, but they never find information on the field or a program they could attend. Understanding this possibility, and also the fact that a majority of participants considered school psychology their first choice, may indicate that an expansion in recruitment to other fields and other nearby undergraduate schools may prove helpful in recruiting others who are not well-informed on the field choice. Finally, 86% of participants noted that they would choose public

education as their primary employment when going out into the field for the first time (Graves & Wright, 2007). This information may indicate that the public-school setting is the most attractive school setting option for school psychology graduate students.

When analyzing differences within their study, Graves and Wright (2007) stated that a comparison of doctoral and non-doctoral graduate students showed that those more likely to choose the field because of the stability of the job itself were those pursuing their master's degree. Master's degree students were also more likely to choose the field because of the public school work schedule. When looking at personal reasons for choosing the field, 92.2% of participants indicated a main reason for choosing the field was that they wanted to work with children.

Some of the limitations within the study included the lack of information regarding location of the school psychology students. This would have been especially helpful in recognizing trends in different locations and understanding the lack of ethnic diversity within the study. The number of participants was hindered, because the inclusion of participants was based on if they were currently members of NASP. Future research in this area may include location and ethnicity of participants; an expanded participant pool to current or new school psychologists already in the field; and participants' views on the school psychology programs near their location. These details could provide further information on why school psychology students and employees choose their particular field.

Reasons School Psychologists Leave the Field

Identifying the reasons that practicing school psychologists exit the field can help leaders in the field prepare for unavoidable shortages while preventing others. Fagan (2004) predicted that the school psychologists included in the second main wave of school psychologists in the

United States (those hired from 1950-1970) would be retiring within the time frame of 2004-2024. This would essentially exacerbate the current shortage of school psychologists. For this reason, it can be valuable for researchers to look at whether this prediction for retirement is true, and to dive into what other factors may be contributing to school psychologists leaving the field.

Another reason for leaving the field of school psychology could also be the negative effects of the pressure the job places on the employees when they are school psychologists working in an area of school psychology shortages. Boccio and colleagues (2016) investigated if administrative pressure to practice beyond the scope of best practices and ethical guidelines was an associated reason for school psychologists' negative perceptions of their workplace. Negative perceptions of the workplace can also contribute to participants experiencing job burnout and can cause school psychologists to leave the field. Researchers administered a survey that was sent out to approximately 291 current school psychologists. Results found that 31.9% of survey takers admitted that they had experienced pressure by administrators within their schools to follow through with actions that, in their personal opinions, were unethical. Another 39% of participants stated that they were also pressured by administrators to make decisions or take actions that would go against laws at the federal or state level. Similarly, 31.2% of participants explained pressure was related to the large amount of work they were expected to do and the lack of both time and resources. Lastly, the study found that the participants who reported feeling such pressures from administration had expressed a larger resolve to resign from their current jobs or leave the field of school psychology completely.

This information is especially useful for future researchers because administrator pressure and burnout are two aspects that can be directly related to the shortage of school psychologists. Administrative pressure on school psychologists is a very serious issue that needs addressed

further, because burnout has been associated with many different negative effects, such as the use of drugs and alcohol to cope, an overall decrease in mental or physical health, and interpersonal struggles (Boccio et al., 2016). Eradicating the school psychologist shortage problem in the United States is likely to have a direct effect on the amount of administrative pressure that school psychologists experience. This would ultimately decrease the amount of school psychologists leaving the field due to burn out. Future researchers should include survey questions regarding administrative pressure, lack of time, lack of resources, and the experience of burnout within their studies to examine all possible reasons for leaving the field that have already been established from studies in the past.

Shortage Prediction Studies

Researchers working within the field have recognized the school psychology shortage problem across the United States for many decades. Nearly thirty years ago, many different studies were published predicting how the school psychology shortage would pan out for the next few decades. Curtis and colleagues (2004) published a follow up study to investigate if the past studies were accurate. They wanted to see what current data on this subject might signify for the future of the field. Overall, the study found that data were indicative of a continued shortage that was not as intense as previous decades, but still called for a need for more school psychologists throughout the states. They predicted that this shortage would continue to exist at least until the year 2020. They did point out that the shortages predicted would not be constant throughout the country but would differ depending on geographic and school setting differences. The researchers were able to come to this prediction because of their focus on the supply of school psychologists throughout the years. This essentially means that they looked at the

difference between the number of school psychologists entering and exiting the field during a certain period of time.

Although the school psychology shortage was predicted to continue, researchers did note that there has been a decrease of size ratio regarding students to school psychologists (Curtis et al., 2004). This is important to recognize because it shows that there has been improvement in hiring more school psychologists and has essentially lowered the amount of work expected from each employee. They made the especially important point that, although other studies have recommended recruiting students from other related fields, such as education and communication disorders, this is not an aspect that school psychology program recruiters should focus heavily on because of the shortage problems within those fields, as well. Lastly, the study recognized that there is a shortage of school psychology students pursuing doctoral degrees. This means that there will be a shortage of school psychologists who can become professors in school psychology programs. This helps to prove earlier arguments of the literature that school psychology programs will be unable to expand. This can heavily affect the school psychologist shortages across the United States. It is important for future researchers to consider all of these aspects when choosing how to further the research regarding school psychology shortages in the United States.

Another study looked at the history of school psychology shortages in the United States and specifically focused on the number of school psychologist vacancies, the location of the vacancies, and how the vacancies would affect school psychology in the future (McIntosh, 2004). The researcher found a lack of diversity among the school psychologists in the United States. This lack of diversity among practitioners is especially problematic in areas that have particularly diverse student populations, because it ultimately leads to a lack of cultural

competency among professionals and can negatively affect the quality of student services. Overall, McIntosh stressed that the school psychology shortage is a very serious and real issue that needs addressed and abated quickly or else there could be serious consequences on mental health services in schools. McIntosh's warning was not taken lightly, as will be discussed in future paragraphs of the literature review.

The third and final shortage study was completed by Fagan (2004). He analyzed methodology weaknesses within studies focused on obtaining valid school psychology shortage numbers. The researcher began by recognizing that, at the time of the study, the definition of a school psychologist varied broadly because "school psychologists" around the United States had a wide array of degrees, credentials, titles, and job requirements. Future researchers may recognize that clarity in the definition and identification of a "school psychologist" is needed for the gathering of valid data within research studies. NASP is working to unify the training of school psychologists across the nation through increased expectations of programs to prove that graduate students learn material that align with the NASP standards of professional practice (NASP, 2000). Secondly, the shortage study mentioned that research needs to clarify which specific roles within a school psychologist's scope of practice are the roles that are not being met (Fagan, 2004). By doing so, researchers may be able to identify the shortages of school psychologists and what population those shortages are heavily affecting in schools.

As many researchers have previously pointed out, it is also important to collect data regarding the geographical location of the school psychology shortages (Fagan, 2004). This will ensure that researchers are able to recognize if there are trends within rural, suburban, or urban settings. Lastly, the researcher explained that measuring the number of vacancies within a school district may not be as accurate as measuring the requirement for school psychology services.

Recognizing that certain school districts may have hidden vacancies is also essential to understand the magnitude of shortages across the United States. Hidden vacancies can happen when there is not a clearly open school psychology position, but a vacancy nonetheless still exists because there is still a need for more school psychology personnel at that particular school. Understanding that hidden vacancies exist can help future researchers to identify areas that still should be considered part of the school psychology shortage.

A study by Castillo and colleagues (2014) was published ten years after the previous three studies and centered on doing a follow-up report to update how school psychology shortage research has changed over ten years. This study differed from other past studies because it focused on using information from the United States Census to calculate the total number of school psychologists within the country; the total number of school psychologists by their geographical region; an estimate of school psychologists entering the field; and an estimate of school psychologists leaving the field due to retirement. Overall, the study found that, while the number of school psychologists is steadily increasing, the growth of the student population within schools combined with the amount of school psychologists retiring, would cause the shortage problem to continue through at least 2029. Studies have found, however, that the shortage of school psychologists does not affect every area of the country. The authors also believed the existing shortage problems may have been previously undervalued by other researchers. This information is important for future researchers to consider because using data as accurate as the United States Census can be the most effective way to calculate predictions on the shortages across the United States. This would essentially allow recognition of how great the problem is and how detrimental it can be for the United States education system as a whole if not handled accordingly.

Need for Current Study

The previously discussed literature has contributed greatly to the field of school psychology because it has assisted those within the field in identifying the history of school psychology shortages, the roles most affected, the needs of current school psychologists, the methods that yield the best results, and it has recognized the true scope of the shortage problem. Overall strengths of the literature include using well-known sources, such as NASP and the United States Census, as well as using a wide array of participants, such as current school psychologists and school psychology graduate students, to receive reliable and valuable data. Another strength within the literature is that research on the number of school psychologists within the United States has been collected over many decades, and the history can be of great value for future investigators to learn from in what they should or should not do.

Weaknesses include a lack of uniformity in the definitions of “school psychologist,” “shortages,” “vacancies,” and other important terms. Because of requirements for the safety of participants’ identities, many studies lacked significant information regarding the geographical locations of shortages. Many of the studies within the literature also had difficulties recruiting participants, so a weakness within many was a small sample size. The participants of many studies were also inaccurate representations of the school psychology population as a whole because of the fact that many studies used NASP members as participants. These studies excluded school psychologists who were not willing or able to pay for a yearly NASP membership. This factor potentially hinders school psychologists in high needs populations from participating. Surveying the entire state to ensure fair representation of the population helps to eradicate this problem.

Research missing from the literature includes a more recent data collection regarding shortages across the United States. NASP has asked all 50 states to survey their school psychologists and has provided a template for researchers regarding what questions to ask and how to ask them. This shows that NASP believes valuable data can be yielded from the current study. Essential data could also be collected from administrators working directly with school psychologists, such as special education directors. It could be especially useful if data were collected from each of the 50 states. Using the data to advocate at the state level would increase the legislature's understanding of the problem. This would allow for decisions regarding improvement of the shortage problem at the state level.

The current study included statewide research into the school psychology shortage issue in West Virginia that strives for clarity in important terminology; identifies potential trends based on geographical location; and allows the opportunity for fair representation of all areas of West Virginia. Researchers expected results to yield evidence that the school psychology shortages in West Virginia are in primarily rural areas. This is, in part, because rural Appalachian areas are heavily affected by educational funding problems and often have to experience the shutdown of small schools in their area due to financial difficulties (Howley, 2006). Researchers believed the reasons for school psychology shortages in these areas would include the following: a primary issue of lack of funding to encourage school psychologists to come to rural areas; an increase in retirement of school psychologists; an insufficient amount of school psychologists graduating from the graduate programs within West Virginia and the surrounding states; and a lack of competitive salary when compared to bordering states.

Definitions:

School Psychologist: Individuals working in a PK-12 educational setting, providing psychological services under the job title 'school psychologist.'

Shortages: A school psychologist to student ratio that is larger than the national average ratio (1:1,382) (NASP, 2019).

Local Education Agencies: The 55 counties of West Virginia.

Vacancy: An open "permanent" position for which a suitable candidate was not hired, so the position remained unfilled or filled on a temporary contractual basis.

Research questions for the current study include the following:

Research Question 1: What was the average ratio for school psychologists to students in the state of West Virginia?

Research Question 2: Did the ratio for school psychologists to students differ for urban versus rural counties?

Research Question 3: Did the ratio for school psychologists to students differ for bordering versus centralized counties?

Research Question 4: What were the factors that contributed to the shortages in school psychology?

CHAPTER 2

METHOD

Participants

Participants were special education directors or school psychologists from the LEAs in West Virginia. There were 30 special education directors and 17 school psychologists who participated in the study. Thus, 47 of the 55 counties participated. Demographic information, including gender, age, education, and race, was not collected from the participants because student to school psychologist ratios were the central focus of the study, along with perceptions about entry and exiting the discipline.

Apparatus/Materials

The survey was administered via Qualtrics, which is a survey program used widely throughout Marshall University for research purposes. Qualtrics allowed for data collection and analyzing. Surveys were sent through emails to participants where a direct link to the survey was provided. If participants requested, they were given the survey over the phone by a Marshall University graduate student who was able to clarify any questions the participants had about the survey. Survey questions were selected and are included in Appendix B. Questions were chosen from a template published by NASP and modified in order to answer the research questions of the current study (McNamara & Rossen, 2018). Questions were also developed based on surveys provided by researchers from the states of Florida and North Carolina (S. Stroebel, personal communication, August 5, 2019). The NASP template also provided researchers with clear definitions for the terms “school psychologist” and “vacancy” to ensure that data gathered in West Virginia were consistent with other states and could be compared.

The survey sent included questions regarding the district they represent; how many school psychologists are within their county (part-time and full-time); how many vacancies are within their county; the amount of students within their county; the amount of students receiving special education services within their county; the predicted amount of school psychology vacancies for the following school year; the amount of school psychologists who had retired in their county in the past 5 years; the predicted amount of school psychologists who will retire in the next 5 years; the number of school psychologists who left their position for another district or state in the past 5 years; the reasons school psychologists have left the district or state; positions advertised and filled within the past 5 years; the average number of schools covered by each school psychologist; questions regarding evaluations; their thoughts on the school psychology graduate programs in their area; their thoughts on why school psychology vacancies exist in West Virginia; and any other information they would like to add about shortages that they felt the survey questions did not cover. Other similar questions were included about special educators and other related service personnel. Questions included both close-ended and open-ended questions.

Procedure

The Marshall University Institutional Review Board reviewed and approved all aspects of this study, which included the contents of the Qualtrics survey, the way in which the participants were recruited, and the wording of the informed consent form. The Institutional Review Board approval letter can be found in appendix A. The WV Department of Education was contacted to obtain the names of Special Education Directors and School Psychologists in the state. Participants were selected based on their job status and access to information asked within the survey. Special education director participants were not selected randomly, as specific

information from each LEA was required. School psychologist participants were chosen randomly when there was more than one school psychologist working within the same LEA. Because certain participants were not chosen randomly, but based on employment status and location, information from the participants such as gender, age, education, and race were not obtained. Before being given the survey, participants were informed of the general concept of the survey and were told that the information they provided would be essential for eradicating the school psychology shortage issue in their area. They were also informed that they would be compensated for their participation by being provided with the end results of the study.

A researcher sent out the survey through a link in an email to all West Virginia special education directors. A written introduction and instructions were included at the beginning of the survey that asked participants to answer questions to the best of their ability. One month later, follow-up phone calls were made from a graduate student to each special education director who had not yet completed the survey. During those phone calls, the special education directors were given the option to take the survey over the phone, through the emailed survey link, or to decline to take the survey. A time span of approximately one month was allowed for special education directors to complete the survey. Links were then sent through emails to school psychologists within LEAs where special education directors had not previously completed the survey. One month later, follow-up phone calls were completed by a graduate student with the school psychologists who had not completed the survey via the link. School psychologists who did not complete the survey in either previous format or who did not choose to decline taking the survey were provided with a final chance to take the survey at the 2019 WVSPA state conference utilizing a paper copy. The information from the paper copies were later transferred to Qualtrics. This process continued until data were received from 47 of the 55 LEAs within West Virginia.

Analysis

Data collected included both quantitative and qualitative data from the participants' survey responses. Quantitative data consist of data such as the number of overall students; students receiving services; school psychologists; school psychologist vacancies; school psychologists who retired in the past 5 years or are predicted to retire in the next 5 years; school psychologists who left the district or state in the past 5 years; the number of positions advertised and filled in the past 5 years; the average number of schools each school psychologist covered in their caseload; the numbers regarding different types of evaluations completed in the past year; and the predicted amount of school psychologist vacancies during the next year in each of the participants' school districts.

Qualitative data collected included information such as the participants' district they represent; the participants' stated reasons for school psychologists leaving their district or state; participants' opinions on the local school psychology graduate programs; the reasons they think school psychologist shortages exist in West Virginia; and any additional comments they chose to make. Because participants were not selected randomly, and there was only one participant representing each county, there was no criteria for inclusion or exclusion of data, as all information was considered while analyzing the results. Analyzing data included finding the students to school psychologist ratio for each county and comparing it to the recommended ratio of 500 to 700 (but no more than 1,000) students per school psychologist (NASP, 2010) and the national average ratio of 1:1,382 (NASP, 2019). Qualitative data were then analyzed through a process of coding.

The researchers used measures of central tendency to find general trends within the participants' responses. This included analyzing the mean, median, and mode for all obtained

quantitative and qualitative data. T-test analysis was used with data to examine the differences in the means of West Virginia LEAs in rural and urban locations. T-test analysis was also used for LEAs located in areas bordering other states (exterior) and LEAs in areas that do not border other states (interior). One-way Analysis of Variance Analysis was used to examine the differences of means of West Virginia LEAs located in small, medium, and large counties. Chi-square analysis was used to examine relationships between the multiple choice items from the survey, which were categorical or ordinal in nature. This included the examination of the dichotomously grouped LEAs labeled as either “shortage” or “non-shortage.” The significance level was set at .05 for the study; this alpha level is the probability of rejecting the null hypothesis when the null hypothesis is true. Basic descriptive statistics were used for frequency counts. Counties were identified as rural or urban based on definitions from the United States Office of Management and Budget (OMB) which is often used for federal statistic publications (USDA, 2020). Counties were identified as interior counties if they did not connect to a state bordering West Virginia (Kentucky, Maryland, Ohio, or Virginia) while exterior counties were identified if they connected with one of the bordering states in at least one geographical area. Sizes of LEAs were determined based on the number of students reported in each county. Small LEAs reported less than 2,000 students (n=13); medium LEAs reported 2,000-5,000 students (n=20); and large counties reported greater than 5,000 students (n=14). Analysis was completed using the Statistical Package of Social Science (SPSS) software.

Independent and dependent variables varied among research questions. For research question 1: What was the average ratio for school psychologists to students in the state of West Virginia? The average ratio found was a transformation of the independent variables. For research question 2: Did the ratio for school psychologists to students differ for urban versus

rural counties? The independent variable included two levels: urban or rural, while the dependent variable also had two levels, which included shortage and non-shortage. For research question 3: Did the ratio for school psychologists to students differ for bordering versus centralized counties? The independent variable included the two levels of bordering and centralized counties, while the dependent variable included the two levels of shortage and non-shortage. For research question 4: What were the factors that contribute to the shortages in school psychology? Examination used a univariate analysis with frequency reporting.

CHAPTER 3

RESULTS

Respondents who completed the survey consisted of special education directors (n=30) and school psychologists (n=17). Forty-seven of West Virginia's fifty-five counties were included in this survey (85%). The average number of schools each school psychologist covered was 6.7 schools. Responses to this question ranged from 2-21 with the most common responses being 3-4 schools.

Research Question 1: What was the average ratio for school psychologists to students in the state of West Virginia? The average ratio of school psychologists to students was 1:2,215. Each LEA's average ratio of school psychologists to students was compared to the average national ratio (1:1,382). Out of 47 LEAs, 33 LEA ratios were higher than the national average (>1:1,382) while 14 LEAs had ratios that fell below the national average (<1:1,382). The 14 LEAs that fell below the national ratio ranged from 1:811-1:1357 with only 4 of those 14 LEAs meeting the NASP recommended ratio of no more than 1,000 students per school psychologist and 0 LEAs meeting the recommended ratio of 500-700 students per school psychologist. Four counties reported having no school psychologist in their LEA.

Research Question 2: Did the ratio for school psychologists to students differ for urban versus rural counties? Of the 47 counties who participated, 18 counties were considered urban. Of the urban counties, 13 (72%) had average ratios that were higher than the national average while 5 urban counties (28%) had average ratios below the national average. There were 29 total participating LEAs labeled rural. Of the 29 rural counties, 20 LEAs (69%) had ratios higher than the national average while 9 LEAs (31%) had average ratios below the national average. The 26 participants who were labeled rural counties ($M=2196.01$, $SD=1072.02$) compared to the 17

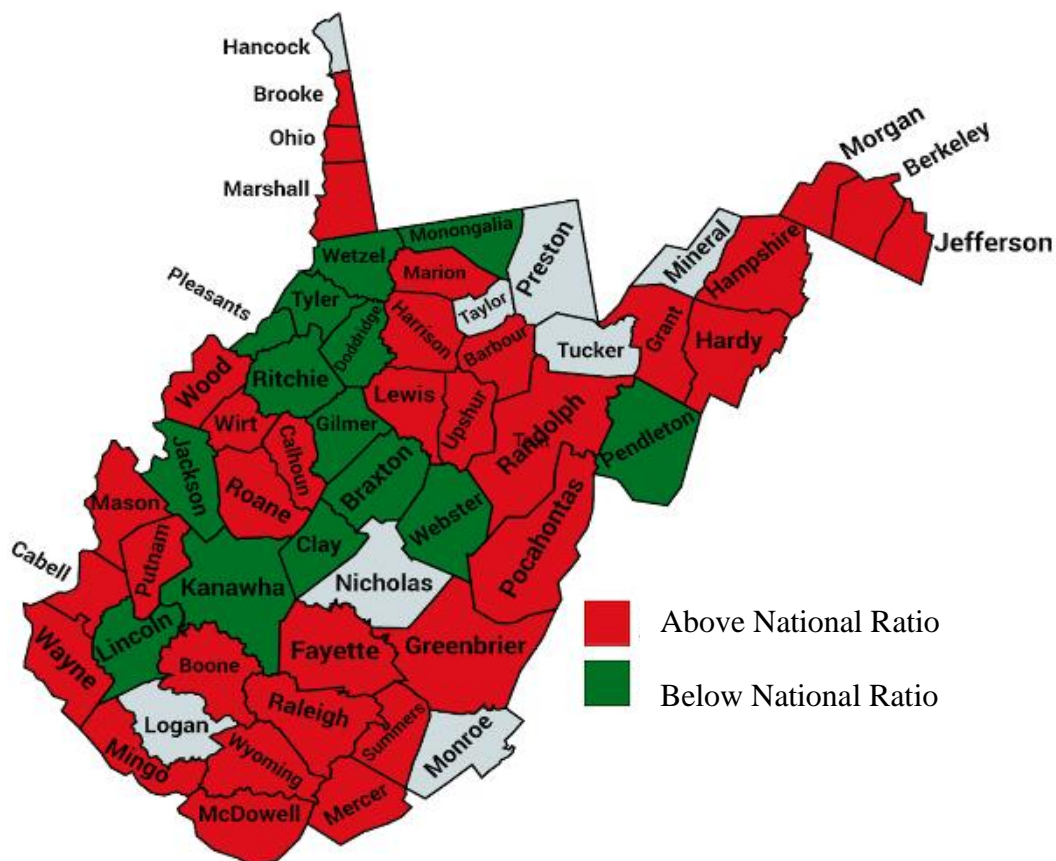
participants labeled urban ($M = 2603.37$, $SD = 1735.24$) demonstrated no significant difference between student to school psychologist ratios, $t(41) = -.954$, $p = .346$.

Research Question 3: Did the ratio for school psychologists to students differ for bordering versus centralized counties? Of the 47 respondents, 25 bordered other states while 22 were centralized. Of the counties bordering other states, 18 LEAs (72%) had higher ratios than the national average, while 7 LEAs (28%) had average ratios below the national average. Of the centralized counties, 14 LEAs (64%) had higher ratios than the national average, while 8 LEAs (36%) had average ratios below the national average. The 21 participants who were labeled interior counties ($M = 2266.12$, $SD = 1453.78$) compared to the 22 participants labeled bordering counties ($M=2443.87$, $SD=1309.38$) demonstrated no significant difference between student to school psychologist ratios, $t(41) = -.422$, $p = .675$. Counties with no reported school psychologists were not included in this calculation.

There was not a statistically significant difference between small, medium, and large counties as determined by one-way ANOVA ($F(2,40) = 2.156$, $p = .129$). As depicted in Figure 1, when the national ratio was compared to each participating LEA separately, it was found that 70% (33 of 47) of the LEAs had a ratio that was higher than the national average while 30% (14 of 47) fell below the national average.

Figure 1

West Virginia Counties Above and Below the National Ratio



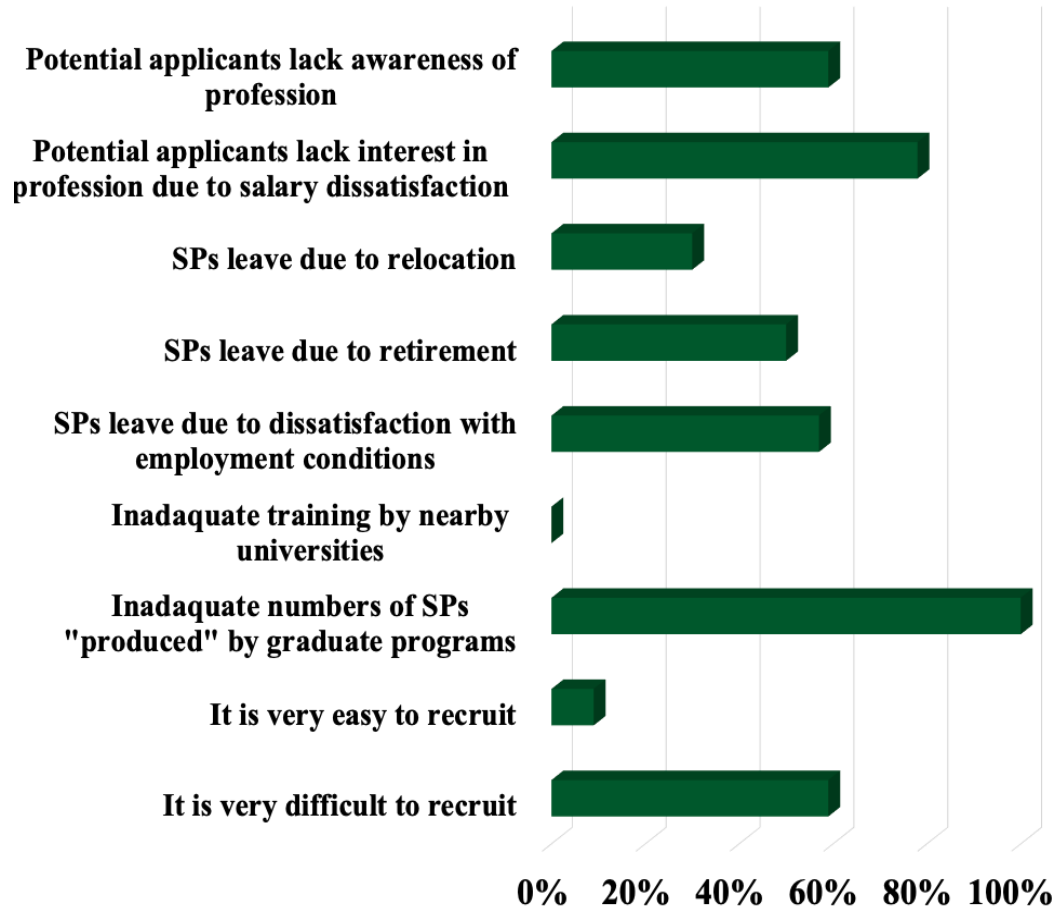
Research Question 4: What were the factors that contributed to the shortages in school psychology? As depicted on Figure 2, it was found that a lack of awareness of the profession and dissatisfaction with salaries contributed to shortages in the field. Retirement and dissatisfaction with employment conditions were the predominant reasons for school psychologists leaving the field. When participants were asked an open-ended question regarding their district's efforts to address a shortage, the most common answer (26%; n=12) was through contracting psychologists or other mental health providers, followed by advertisement (11%; n=5). Twenty-eight percent (n=13) of participants chose not to respond. Nine percent (n=4) of participants also

reported both attempted recruitment and obtaining school psychology interns as an effort to eradicate shortages. Other answers to this question included a report of no shortage (4%; n=2); partnering with local mental health providers (4%; n=2); grants for mental health (2%; n=1); providing resources to others in the school to address the behavior such as counselors, educational specialists, and teachers (2%; n=1); training other staff to give assessments (2%; n=1); teaming with local districts to combine services (2%; n=1); and increasing supplemental salary stipend/salary comparison against surrounding counties (2%; n=1).

A chi-square test of independence was performed to examine the relation between counties that supervise practicum students and whether they were labeled a shortage or non-shortage county. The proportion of subjects who reported supervising practicum students did not differ by their shortage/non-shortage label, $X^2(2, N = 47) = 2.8, p > .05$. A chi-square test of independence was performed to examine the relation between counties that supervise intern students and whether they were labeled a shortage or non-shortage county. The proportion of subjects who reported supervising intern students did not differ by their shortage/non-shortage label, $X^2(2, N = 47) = 2.4, p > .05$. A chi-square test of independence was performed to examine the relation between reasons stated for school psychologists leaving the field and whether they were labeled a shortage or non-shortage county. There was no significant association between shortage/non-shortages labels and reasons for leaving the field, $X^2(20, N = 47) = 24, p > .05$. A chi-square test of independence was performed to examine the relation between reasons stated regarding a lack of interest in the field of school psychology and whether they were labeled a shortage or non-shortage county. There was no significant association between shortage/non-shortages labels and reasons for a lack of interest in the field, $X^2(19, N = 47) = 14, p > .05$.

Figure 2

Factors Contributing to School Psychology Shortages



Represented in Table 1, participants were asked to describe the difficulty of recruiting school psychologists to their district. The majority of participants indicated that it is “very difficult” to recruit school psychologists. Only 13% (n=6) of participants indicated that recruiting school psychologists was either “easy” or “very easy.” This information is also represented in Figure 2 in bar graph format.

Table 1*Difficulty of School Psychologist Recruitment*

	Frequency	Percentage
Very Difficult	27	57.4
Moderately Difficult	8	17.0
Somewhat Difficult	5	10.6
Easy	2	4.3
Very Easy	4	8.5

Represented in Table 2, participants were asked to specify the difficulty of retaining school psychologists in their district. Participants varied with their answers to this question. The most common answer provided was that it is “easy” to retain school psychologists while the answers “very difficult” and “somewhat difficult” both were the second most common answer. Overall, 55.9% of participants found it “very difficult” to “somewhat difficult,” while 40.4% found it “easy” to “very easy” to retain school psychologists in their counties.

Table 2*Difficulty of Retaining School Psychologists*

	Frequency	Percentage
Very Difficult	10	21.3
Moderately Difficult	6	13.3
Somewhat Difficult	10	21.3
Easy	12	25.5
Very Easy	7	14.9

Represented in Table 3, participants were asked to choose what issues they believe contribute to the shortage of school psychologists when evaluating the school psychology programs near them. Of the total survey participants, 38 of the 47 (80.9%) participated in this question, and 100% of the 38 individuals who participated in the question answered that it was because of an insufficient number of students graduating from the programs and not because of the training the university provides to those graduate students. This information is also represented in Figure 2 in bar graph format.

Table 3*School Psychology Program Contributions to Shortages*

	Frequency	Percentage
Inadequate number of students “produced” by graduate education programs	38	80.9
Inadequate training by the university	0	0

Represented in Table 4, participants were asked if their district provides school psychology practicum supervision for graduate students. There were slightly more counties providing supervision of practicum students than counties who were not.

Table 4*Field Supervision of Practicum Students*

	Frequency	Percentage
Yes	25	53.2
No	21	44.7

Represented in Table 5, participants were asked to state whether their district provided supervision for interns. Similar to Table 4, the majority of counties surveyed were providing supervision of interns.

Table 5

Field Supervision of Interns

	Frequency	Percentage
Yes	26	55.3
No	19	40.4

CHAPTER 4

DISCUSSION

School psychologists have a broad scope of practice which contains important areas within the school system, such as counseling, cognitive and achievement testing, and consultation. This broad scope of practice means that shortages of school psychologists can directly impact students, parents, and other school personnel in a negative way. For this reason, it is essential to pinpoint and abolish these shortage problems. The purpose of this study was to identify which areas in the state of West Virginia have school psychology shortages; analyze the extent of those shortages; analyze possible trends among areas with shortages to find out reasons for the shortages; and find out what is currently being done to fix shortage problems throughout the state.

NASP continues to identify school psychology shortages as an important area for research and growth (Desrochers, 2017). Previous research in West Virginia has shown that school psychologists would like to use more of their time to provide services in areas within their scope of practice such as counseling and other mental health services (Stinespring, 2017). Unfortunately, research continues to show that West Virginia school psychologists are often stuck in the more traditional role of assessment and report writing (Sheltraw, 2013; Stowers, 2017). Studies have shown that school psychologists feel larger caseloads cause their work to become centered on testing (Graves, Proctor, & Aston, 2014).

The current study analyzed the location of these larger caseloads in West Virginia by identifying student to school psychologist ratios per each LEA; comparing those ratios to the national ratio to identify shortages; and analyzing the trends among them and other questions asked throughout the survey. Out of 47 counties that participated in the survey, 70% had ratios

higher than the national average, and were therefore labeled shortage areas, while 30% of participants had lower ratios than the national average. The average ratio among all participating LEAs of 1:2,215 was higher than both the national average of 1:1,382 (NASP, 2019) and the NASP recommended ratio of 1:500-700 (and no more than 1,000) (NASP, 2010). Of the 47 participating LEAs, only 14 were labeled “no shortage” counties with ratios below the national ratio. Of those 14 counties, only four fell below the recommended ratio of no more than 1,000 students per school psychologist while zero counties fell in the recommended NASP ratio of 500-700 students per school psychologist. This data shows that the majority of West Virginia LEAs are experiencing a shortage of school psychologists; all West Virginia LEAs have room to improve their ratios; and overall, West Virginia does not have the recommended number of school psychologists for the number of students currently enrolled in their school systems. This higher ratio is consistent with ratios reported in national and other state studies including Barbre (2019); Curtis and colleagues (2004); Graves and colleagues (2014); Stowers (2017); and Walcott and colleagues (2018). Results indicate that four LEAs did not currently have a school psychologist working in their district during the time of the survey. These four LEAs were included as shortage counties in Figure 1 and responses throughout the survey were also included, but these LEAs were not included in statistical analyses because a ratio of 0 cannot be computed within SPSS software analysis. The four LEAs without reported school psychologists, indicate that there are not only LEAs with shortages of school psychologists, but in some areas that ratio cannot be calculated.

Once the 47 participating counties in West Virginia were labeled “shortage” or “no shortage” counties, they were analyzed to see if there was a statistically significant pattern among them regarding rural versus urban counties; interior versus bordering counties; and

counties by size (small, medium, or large). Although researchers have found evidence that rural counties often employ less school psychologists (Barbre, 2019) and have found that rural Appalachian areas often struggle to find the financial support for their school systems (Howley, 2006), there were no statistically significant trends found in the current study. Overall, this data shows that the lack of trends among shortage areas and non-shortage areas means that West Virginia LEAs have their own unique reasons for having shortages. For this reason, shortage issues should be handled individually by LEAs as no generalizations should be made regarding why shortage problems are happening in one particular area of the state. It should also be taken into consideration that the reasons found for shortages such as low salaries, lack of awareness, and a single West Virginia training program transcend population or location of the county. All counties may be evenly affected by these factors.

Results regarding difficulty of recruitment and retention of school psychologists indicate that although the majority of West Virginia LEAs have great difficulty recruiting school psychologists, many of those LEAs do not find it challenging to keep those school psychologists once they have been hired. This indicates that districts should focus on improving the recruitment process. Many survey takers believed that dissatisfaction with salary contributed to the lack of interest in the field of school psychology, which is consistent with the findings of Fagan (2014). Recruitment efforts may improve within the state if salary is increased to include a pay raise that acknowledges the state's required EdS degree.

Another indication that recruitment improvement is needed is the high number of participants who agreed that a lack of awareness contributes to the lack of interest of potential school psychologists in the field. Results of the participants' beliefs regarding local graduate education programs indicate that the survey takers all believe that the shortage of school

psychologists is connected to the number of school psychologists produced by the program, and not the quality of the program itself. Areas around the United States that do not experience school psychology shortages, such as New York, often have multiple programs across the state. This information indicates that Marshall University and other graduate programs should consider taking the steps necessary to increase the number of students accepted into their school psychology program. This may include increased recruitment efforts, additions to the staff, or working with NASP to increase the approved number of students per professor that is allowed in the accredited program.

Results regarding school psychology practicum mentoring and internship supervision both indicate that slightly more than half of participants offer mentoring and supervision. If districts who have shortages were to offer supervision or mentoring, they may be able to diminish their shortage through recruitment of new school psychologists. This data, combined with the data indicating that it is easier to retain school psychologists than it is to recruit, show that supervision and mentoring of graduate students and interns could be a very promising attempt at shortage relief. Although this study did not show that those counties participating in the supervision of practicum students and school psychology interns had less of a shortage problem, multiple participants did list supervision and internship as ways that they have alleviated shortage issues in the past.

Results regarding the reasons that participants thought school psychologists leave the field indicate that on one hand, half (50%) of participants think school psychologists enjoy the field and often only leave the field due to retirement. This conclusion is consistent with literature including Castillo and colleagues (2014); Fagan (2004); and Mann and colleagues (2019). On the other hand, over half (57%) of participants also stated that they think school psychologists leave

the field due to dissatisfaction with employment conditions. Conditions could be related to the large workload assigned to school psychologists due to the shortage, which often forces school psychologists to focus on a more traditional role of testing and less on other aspects of their scope of practice they prefer, such as counseling and research. This conclusion is consistent with literature including Albritton and colleagues (2019); Boccio and colleagues (2016); Graves and colleagues (2014); Sheltraw (2017); Stinespring (2017); and Stowers (2017). Answers among survey takers varied greatly regarding the LEA's efforts to fix or alleviate their shortage problem. This implies that districts are using the resources that have to fix shortages and make decisions based on their unique needs. A statewide plan to address shortages may be something that should be explored.

Implications

Findings from the current study may be helpful for a variety of reasons. The results of this survey may help LEAs to identify if they have a shortage problem in their area while simultaneously showing them what areas currently do not have shortages. Districts may choose to seek advice or collaboration efforts from their neighboring districts to improve the shortage issue. The results of this study can be used at the legislative level to advocate for a pay increase, as well as the improvement of other aspects of the job in West Virginia. Results of this study may be used by NASP to help further their study of the shortage of school psychologists on the national level. Other states may use this study to make decisions regarding the different steps they may take to conduct a similar study in their area. Future researchers may utilize similar steps so that they may yield successful response rates. They may also use this study to determine what questions they want to include in their surveys, and to utilize the same definitions of important terms (e.g., school psychologist) so that direct comparisons can be made. Results of

this study may also be used by local universities' school psychology programs to make decisions regarding recruitment improvement in specific counties. Graduate students from shortage areas may be more likely to return to their home as a practicing professional. Lastly, the results from this study may be used to help future researchers continue the analysis of the shortage of school psychologists in West Virginia.

Limitations and Future Research

There are many limitations within the current study. The researchers were unable to obtain participants from each of the 55 LEAs. For this reason, the average ratio and other reported data are not an accurate representation of the entire state. Directly after data collection was finished, many education-based grants were awarded in the state of West Virginia that may have helped to increase the number of school psychologists throughout the state. Because of this, the ratio and other data obtained may not be the most current and accurate data available. The ratios obtained during this study only represent a snapshot of time. Limitations may also include a lack of understanding of the role of school psychologists by special education directors completing this survey, which may have ultimately affected the validity of the data obtained. There is a possibility that West Virginia school psychologists who completed this survey were graduates of Marshall University, and therefore may have felt reluctance to mention possible deficiencies in their previous training program. The survey was created to allow participants to leave questions unanswered which limited the power among many questions where a large portion of survey takers chose not to respond.

Regarding future research into the shortages of school psychologists, this study can serve as a model for other states regarding methods for obtaining a high participation percentage of their total districts. A more detailed study of the shortages of school psychologists in West

Virginia could include other types of participants who could shed light on valuable opinions regarding shortages, such as special education teachers and school psychology graduate students. Researchers may benefit from identifying the number of schools each school psychologist has on their caseload and comparing those areas with counties that choose alternative methods of determining caseloads. Future research may focus on areas more specifically, such as the dissatisfaction in salary. Such a focused and particular study could prove useful regarding legislative advocacy and grant proposals within the state. On a national research level, future researchers could compare and contrast areas of the country that have shortages and those that do not. This could include looking for potential relationships regarding salary and shortages; the number of training programs and shortages; and paid versus unpaid internships and shortages. It is essential for the field that future researchers continue to analyze shortages so that school systems can focus on improving the ratio. For this reason, future research could focus on the newly published practice model, which highlights six organizational principles, including an adjusted lower ratio, to ensure school psychologists are able to work in a broad role (NASP, 2020).

Future researchers may also choose to focus on understanding the jobs school psychologists are expected to perform in their districts and the jobs they are actually able to perform every year. Gathering this type of information may help researchers to recognize shortages in certain school districts where school psychologists are already currently employed but are unable to carry out the full scope of their job because of a shortage of school psychologists in their school district. The shortages may be less noticeable than other situations where no school psychologist currently works, but is still a shortage problem, nonetheless. This will reveal the hidden vacancies.

A possibility for future research would be to address the need for uniformity in definitions used within future studies to allow accurate comparisons. If each state clearly defines the school psychologist in the study, comparisons between state studies can be made. Future researchers may need to focus on regional locations of school psychology shortages and create longer studies that allow for larger sample sizes. A good first step in truly identifying this problem would be to assign a researcher for each state separately. This would ensure that separate boards of education are enlightened on the specific needs of their states and could potentially help surrounding states identify trends of shortages near their areas. This would also permit for advocacy within each state legislation and could be further advocated for nationally.

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APPENDIX A: INSTITUTIONAL REVIEW BOARD APPROVAL LETTER



April 24, 2019

Sandra Stroebel
Psychology Department

RE: IRBNet ID# 1383821-1

At: Marshall University Institutional Review Board #2 (Social/Behavioral)

Dear Dr. Stroebel:

Protocol Title: [1383821-1] School Psychology Shortages in WV

Site Location: MUGC

Submission Type: New Project APPROVED

Review Type: Expedited Review

In accordance with 45CFR46.110(a)(7), the above study was granted Expedited approval today by the Marshall University Institutional Review Board #2 (Social/Behavioral) Chair. An annual update will be required on April 24, 2020 for administrative review and approval. The update must include the Annual Update Form and current educational certificates for all investigators involved in the study. All amendments must be submitted for approval by the IRB Chair prior to implementation and a closure request is required upon completion of the study.

If you have any questions, please contact the Marshall University Institutional Review Board #2 (Social/Behavioral) Coordinator Anna Robinson at (304) 696-2477 or robinsonn1@marshall.edu. Please include your study title and reference number in all correspondence with this office.

Sincerely,

A handwritten signature in blue ink that reads 'Bruce F. Day'.

Bruce F. Day, ThD, CIP
Director, Office of Research Integrity

APPENDIX B: SURVEY QUESTIONS

The following introduction and questions will be included in the Qualtrics survey sent to all participants within the study. If participants choose to take the survey over the phone, the graduate assistant will read the introduction and questions verbatim. This research project was combined with another project to create a merged survey of questions.

Thank you for taking the time to support Marshall University School Psychology Program in better understanding the state of the school psychologist shortage in West Virginia. We know many of you are experiencing shortages in your district and we want to work to address this problem. In order to obtain a better count of vacant positions, you are being asked to take a short survey. We have added in a few questions about other positions in the school to assist us with grant applications where we collaborate with other professions.

The survey should take approximately 5-10 minutes to complete. One hundred percent completion will enable MU School Psychology Program in cooperation with West Virginia School Psychologists Association (WVSPA) to accurately and strongly advocate for more adequate funding and improved ratios. If you decide to not answer the survey, we will follow up with a phone call to see if you want to answer by phone. Once again you will be given the option to decline to participate.

We will share the results as soon as they are available. We will only share in state-wide aggregate form so you do not need to be concerned that your individual responses will be available to others. Your responses will be kept confidential. We will email you the findings

along with information on how MU School Psychology program is attempting to address the issue. We greatly appreciate your support!

Please tell us what district you represent

What is the total number of students enrolled in your district during the current (2018-2019) school year?

During the current (2018-2019) school year: How many students in your district are currently receiving special education services?

During the current (2018-2019) school year: How many of the following staff are currently employed in your district full time? (For the purpose of this survey, school psychologists are defined as "individuals working in a PK-12 educational setting, providing psychological services under the job title 'school psychologist')

	Total Number
School Psychologists	
School Counselors	

Special Educators

Speech Language Pathologists

Nurses

During the current (2018-2019) school year: How many of the following staff are currently employed in your district at least on a part-time basis? (For the purpose of this survey, school psychologists are defined as "individuals working in a PK-12 educational setting, providing psychological services under the job title 'school psychologist')

	Total Number	FTE %age
School Psychologists		
School Counselors		
Special Educators		
Speech Language Pathologists		
Nurses		

Identify the total number of staff vacancies at the beginning of the 2018-2019 school year in your district. ("Vacancy" is defined as an open "permanent" position for which a suitable candidate was not hired, so the position remained unfilled or filled on a temporary contractual basis.)

	Total Number
School Psychologists	
School Counselors	
Special Educators	
Speech Language Pathologists	
Nurses	

Identify the total number of staff vacancies expected at the beginning of the 2019-2020 school year in your district.

	Total Number
School Psychologists	
School Counselors	
Special Educators	
Speech Language Pathologists	
Nurses	

How difficult is it to **recruit** the following staff in your district?

	Very Difficult	Moderately Difficult	Somewhat Difficult	Easy	Very Easy
School Psychologists					
School Counselors					
Special Educators					
Speech Language Pathologists					

Nurses

How difficult is it to **retain** the following staff in your district?

Very	Moderately	Somewhat		
Difficult	Difficult	Difficult	Easy	Very Easy

School Psychologists

School Counselors

Special Educators

Speech Language

Pathologists

Nurses

This question relates to school psychologists leaving your district:

Please answer the questions below, if unknown you can respond with DK

	How many	How many	How many
	school	school	school
How many	psychologists	psychologists	psychologi
school	in your	in your	sts in your
psychologists	district do you	district went	district
in your	think will	to a different	went to a
district retired	retire in the	WV school	different
in the last 5	next 5 years?	district in the	state in the
years?	Please	last 5 years	last 5 years
	provide your	for a new	for a new
	best estimate.	position?	position?

If you experienced school psychologists leaving for other districts or states for a new position, what reason(s) were given?

This question relates to open positions for school psychologists in your district:

Please answer the questions below, if unknown you can respond with DK

How many open positions for school psychologists has your district advertised for in the last 5 years?	How many positions for school psychologists that were advertised in the last 5 years went unfilled?
--	---

Add
number

How many schools on average does each school psychologist in your district cover?

This question relates to the number of evaluations completed by school psychologists in the 2018-2019 school year:

|

How many initial evaluations were completed in the 2018- 2019 school year?	How many reevaluations were completed in the 2018-2019 school year?	How many Pre-K evaluations were completed in the 2018- 2019 school year?
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When evaluating the School Psychology graduate programs nearby, which of the following issues contribute to the shortages problem, please select all that apply.

- Inadequate number of students "produced" by graduate education programs
- Inadequate number of students "produced" by graduate education programs
- Inadequate training by the university

Which of the following contribute to school psychologists leaving the profession, select all that apply.

- Due to retirement
- Due to dissatisfaction with the nature of the work or role of a school psychologist

- Due to dissatisfaction with employment conditions (e.g., salary, benefits, length of work year, etc.)
- Due to a change in employment position within education field (e.g., become a principal or administrator)
- Due to leaving the field of education altogether (other than retirement)
- Due to relocation to another state

Select all of the following reasons regarding inadequate interest in school psychology as a profession/career that you believe help contribute to the shortages of school psychologists in West Virginia.

- Lack of awareness of or familiarity with school psychology as a career
- Dissatisfaction with expected or typical salary
- Dissatisfaction with the nature of the work or role of a school psychologist
- Negative perception in general of school psychology or the education field as a career option
- Lack of opportunities for career advancement as a school psychologist

How does (or would) your district provide SP services in the absence of an adequate number of school psychologists (Rank order each response as you observed it):

- Contracted for services from an independent contractor or their-party provider
- Increased caseload or responsibilities of the rest of the school psychologist staff
- Hired a person who was a clinical psychologist or other mental health professional

- Hired an educator who was not credentialed as a school psychologist (e.g., educational specialist)
- Assigned duties to existing non-school psychologist personnel (assistant, aide, etc.)
- Restricted or changed the nature of services provided by school psychologist staff, placing greater emphasis on compliance-oriented school psychological services (e.g., administering tests, writing evaluation team reports)
- Some services/locations were not covered
- Tele-Assessment

Has your district experienced challenges related to the shortage with meeting the deadline for completing evaluations? If yes, please describe.

Has your district experienced other challenges related to the shortage such as reduced ability to provide consultation, mental/behavioral health interventions, professional development, etc.? If yes, please describe.

If your district has had school psychology shortages issues, what efforts have you tried to address it?

Does your district provide field supervision for school psychology practicum students from nearby universities?

- Yes
- No

Does your district provide field supervision for students on school psychology internships?

- Yes
- No

Please add any other comments you would like to share regarding the school psychology shortage.

Table 6*Students Per School Psychologist for All Participants in Numerical Order*

County	Students per School Psychologist
1	739.5
2	811
3	929
4	929.5
5	987.5
6	1100
7	1119
8	1130.333
9	1152.1
10	1223.143
11	1260
12	1308.857
13	1357
14	1533.429
15	1589.333
16	1603.724
17	1633
18	1860.8
19	1919.5
20	2035.5

21	2047.667
22	2090
23	2163.444
24	2340
25	2358.333
26	2486.8
27	2529.714
28	2558
29	2581.143
30	2623.729
31	2624
32	2967
33	2994
34	3068
35	3208.667
36	3481.333
37	3762
38	3848
39	3919
40	3949
41	4075
42	6726.667
43	6730

44	No school psychologist
45	No school psychologist
46	No school psychologist
47	No school psychologist