

ABSTRACT

Title of Dissertation: POLICY, PRACTICE, AND THE SCHOOL
PSYCHOLOGIST SHORTAGE: A
QUALITATIVE STUDY

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For several decades, a shortage of school psychologists has been anticipated when the baby boom generation reached retirement age. Projections forecast that the worst of the shortage would take place in the latter half of the current decade. The present research investigated the experiences and perspectives of stakeholders in a mid-Atlantic state as they related to a possible school psychologist shortage. Ten individuals were interviewed with roles in public school districts, university training programs, and state-level organizations. Interviews revealed that, in the spring of 2017, there was no shortage in the classical sense of positions going unfilled. To date, the supply of new school psychologists has been sufficient to fill vacancies in the state. Many participants felt there was a shortage in the sense that they did not have enough school psychologists to meet school needs, however, and district directors sought the creation of additional positions. Interviewees reported that in recent years their psychologist-to-student ratios have

increased, applications for open positions and internships have decreased, and student needs seem to be getting more complex. There were significant differences between the perspectives of trainers and non-trainers, with the latter advocating more strongly for changes at the university level. Comparisons between districts' geographic setting (i.e., urban, suburban, or rural) revealed greater differences within geographic settings than between them. Instead, psychologist-to-student ratio was more influential on interviewee experiences. There were a limited number of proposals and implications for policy changes to counteract a shortage. In most cases, they would require a significant reconceptualization of school psychologist training or practices.

POLICY, PRACTICE, AND THE SCHOOL PSYCHOLOGIST SHORTAGE:

A QUALITATIVE STUDY

by

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Chapter 1: Introduction

For many years, school psychologists have feared and forecasted that the field would experience a shortage of its membership (e.g., Fagan, 1998; Dawson & Curtis, 2002; Curtis, Hunley, & Grier, 2004). Although attention on the topic has ebbed and flowed over the years, the field of school psychology currently finds itself at a point when a shortage¹ is expected to be most severe (Castillo, Curtis, & Tan, 2014). This chapter will detail the foundation of the field of school psychology, its growth, and the way in which external forces have impacted school psychology practice. It will also describe past and current concerns that the field would experience a shortage of practitioners. Various contextual factors will be presented about the nature of education and school psychology practice in the target state. Finally, the research questions that framed this research as well as additional context on the practice of school psychology within the target state will be provided.

The Development of School Psychology and Its Workforce

Today, school psychologists provide a variety of services in schools throughout the country. According to the most recent survey of the members of the National Association of School Psychologists (NASP), 86% of school psychologists work in public schools, with small percentages serving in private or faith-based schools as well (Walcott, Charvat, McNamara, & Hyson, 2016). Through their knowledge of and training in interventions for mental health, learning, and behavior, they assist children in

¹ While leading figures in school psychology have presumed that there is or will be a serious shortage, at this time there is not enough data to verify that a serious shortage exists or if such a shortage is only confined to certain geographic areas. The researcher does not assume the presence of a shortage at this moment, but given the regularity with which the topic will be featured in this document he has chosen to refer to it simply as “the shortage.” The reader should interpret all references to a shortage to mean a “predicted” or “supposed” shortage.

developing their academic and socioemotional skills (NASP, 2018e). In addition to administering psychological testing as part of the special education eligibility process, school psychologists are able to provide direct counseling services to students, consult with school staff as well as families, and work with administrators to optimize school-wide practices (NASP, 2018e). The school psychologist has not always had a presence in the American public school and the role has continually changed over the years in reaction to the needs, scientific advances, and zeitgeist of each era. The development of the school psychologist role from its beginnings into its present incarnation will be described in order to illustrate how and why that evolution has occurred.

The Hybrid Years

Foundations of the field. In the late 19th and early 20th century, numerous child-centered initiatives led to increased school attendance (Fagan, 2003). Laws requiring children to attend school came into effect gradually over a 40-year period—county by county and state by state—between 1890 and 1930 (Fagan, 1992). As more jurisdictions adopted compulsory schooling, schools suddenly were presented with an influx of students featuring unfamiliar disorders but had no established interventions with which to treat them (Fagan, 1992). Schools established formal relationships with medical and social service providers and were soon pressured to take on many of these services themselves (Carlson, Tharinger, Bricklin, DeMers, & Paavola, 1996). The influx of students served as the impetus for some early psychologists to provide schools with their expertise in mental health, formal evaluation of human abilities, and psychosocial treatments.

Lightner Witmer advocated at the fifth annual meeting of the American Psychological Association (APA) in 1896 for the creation of a new psychological profession to permanently fill this role. Witmer believed that psychologists would be able to recommend effective treatments to improve or cure students' academic difficulties (Fagan, 1992). To be sure, the profession he envisioned differed from its modern equivalent and many early school psychologists did not receive their primary training in psychology, as Witmer had envisioned (Fagan, 2003). Yet many of the methods he championed are still used by school psychologists to this day (Fagan, 2008), such as the use of multi-modal evaluations, formal observations, clinical intake interviews, and collaboration with specialists from other fields (Fagan, 1992).

The early 20th century. Fagan, the widely acknowledged historian of school psychology, has divided the field's history into two general eras: the Hybrid Years (1890-1969) and the Thoroughbred Years (1970 to the present; Fagan & Wise, 1994; Fagan, 2003). While his demarcation of time should not be considered sacrosanct and other views do exist (c.f. Merrell, Ervin, & Gimpel, 2006), Fagan's voice and stature in the community are such that his views are the most widely recognized. The distinction between the Hybrid Years and the Thoroughbred Years is that school psychology in the former era was characterized almost exclusively by practitioners who had originally trained in a variety of fields (Fagan & Wise, 1994). Thus, the school psychologists of the era were "hybrid" combinations of different specialties, but over time the field became more cohesive. Training programs specific to school psychology began forming, government-issued credentials were conferred, professional organizations developed within states, and a body of professional literature flourished (Fagan, 2003).

It was much easier to enter school psychology from another discipline during this period since practitioners initially had a very narrow set of responsibilities. At that time, “the dominant role [of school psychologists] was assessment to meet public education’s need for diagnoses for special class placement” (Fagan, 2003, p. 414). Indeed, the birth of school psychology coincided with the development and popularization of the earliest cognitive instruments and the two have been inextricably linked ever since (Merrell et al., 2006). Fagan (2003) opined that it is unlikely that individual practitioners were able to provide comprehensive services in most cases. It has been estimated that in 1920 there were approximately 200 school psychologists throughout the country, including trainers, government personnel, and other non-practitioners (Fagan, 2008).

The mid-20th century. By the time of the Thayer Conference in 1954, there were still only about 1,000 school psychology practitioners throughout the country (Fagan, 2005). Moreover, these individuals were concentrated in urban and suburban schools with few serving rural areas. Only 29 states reported having any school psychologist practitioners at all in 1954, though additional services were provided through clinics and private resources (Fagan, 2005).

While the field was small by today’s standards, school psychologists and other education professionals nonetheless began implementing certain practices that are cornerstones of modern American education. Beyond diagnosis, records show that psychologists working in schools in the 1930s also provided counseling, oversaw and trained teachers on how to provide remedial instruction, and provided remediation services themselves (Fagan, 2003; Merrell et al., 2006). In fact, certification guidelines suggest that school psychologists were expected to play an active role in directly

instructing students. Of the 20 states that certified school psychologists in 1955, 12 required a teaching certificate as well (Fagan, 2005).

Towards the end of the Hybrid Years, the school psychologist role expanded further. Practitioners increasingly directed their focus away from the child as the sole factor in children's educational success and instead took a view that was more inclusive of environmental factors, like family, school, and community dynamics (Fagan, 2003). Following World War II, schools expanded kindergarten, preschool, day care, and Head Start programs with the entry of the baby boomers. School psychologists, among others, became responsible for responding to those children's needs (Fagan, 2003).

This increase in student numbers also resulted in an increase in the number of students with disabilities or learning difficulties. As a result, many school personnel and families sought guidance from school psychologists on how best to intervene (Merrell et al., 2006). Although no federal laws were passed during this era to address the education of students with disabilities, the groundwork for that process was being laid. Many states and some of the larger school districts had begun standardizing their approach to working with these students and school psychologists were involved in this process (Merrell et al., 2006).

The Thoroughbred Years

The late 20th century. Fagan (2003) marked the start of the Thoroughbred Years as 1970, the year after the formation of NASP, reasoning that by this point the field's present incarnation was mostly formed (Fagan, 2003). NASP represented school psychologists of all degree levels (not simply those at the doctoral level) and its membership quickly surpassed that of Division 16, the APA's division devoted to school

psychology (Merrell et al., 2006). This period has been characterized by a strengthened identity for school psychologists, whose training and roles had become more homogenized. Professional organizations on both the state and national level increased membership and their advocacy for the profession. The Thoroughbred Years have also featured the first accreditation of graduate programs and a proliferation of school psychology literature (Fagan, 2003).

School psychologists at the beginning of the Thoroughbred Years adopted a role as advocates for children as they attempted to diversify their professional responsibilities (Fagan, 2003; Merrell et al., 2006). Although there had long been evidence of school psychologists engaging in activities beyond psychological testing, this era brought with it a heightened effort to broaden the practitioner role. In the early 1970s, they adapted to increases in cultural diversity in public school populations and were now mandated to assess individuals in nondiscriminatory ways. School psychologists furthermore assisted with consideration of linguistic and cultural differences in various aspects of education (Fagan, 2003).

School psychologists' efforts to expand their purview were restrained by the passage of federal, state, and local regulations that legally required certain practices (Fagan, 2003). Most notable was the passage of Public Law (PL) 94-142, the law now called the Individuals with Disabilities Education Improvement Act (and typically referred to as "IDEA") in 1975. PL 94-142 for the first time mandated that public schools seek out and educate all students with disabilities throughout the country. This federal law had the effect of spurring incredible growth in the school psychology workforce as school systems were forced to hire practitioners and otherwise allocate funds in order to

be in compliance with the new law (Merrell et al., 2006; Carlson et al., 1996). It also forced school psychologists to invest more time and attention, however, in the assessor role that many were trying to distance themselves from (Fagan, 2003; Merrell et al., 2006; Carlson et al., 1996). A survey conducted by Goldwasser, Meyers, Christenson, and Graden (1983) in 1979-1980 of 856 NASP members found that, after the law's enactment, the time that school psychologists spent working with students receiving special education increased considerably.

Guidelines for determining special education eligibility were codified during this period. Of note, the Department of Education specified in 1977 that specific learning disabilities would be determined by a discrepancy between cognitive and academic achievement scores (Merrell et al., 2006), even though “no one particularly liked or supported [those specific rules] at the time” (Donovan & Cross, 2002, p. 244). These rules remained in place and entrenched school psychologists deeply in the assessor role for decades (Merrell et al., 2006). Since the mid-1970s, additional federal regulations have further delineated the special education eligibility process (and therefore school psychology practice as well) by mandating periodic reevaluations, a team-based approach to service delivery, and various other requirements (Fagan, 2003). For example, PL 99-457—the Education of the Handicapped Act Amendments of 1986—helped establish comprehensive services for children with disabilities beginning at birth (McLinden & Prasse, 1991) and required school psychologists to develop competency in working with much younger children (McLinden & Prasse, 1991; Miranda & Andrews, 1994). The reauthorization of IDEA in 1997 forced school psychologists to become much more adept at behavioral analysis and intervention with the requirement that Functional Behavior

Assessments (FBAs) be conducted for students with severe behavioral problems (Merrell et al., 2006). While school psychologists long strove to provide comprehensive services to children, these changes increasingly mandated them while also retaining the obligations of the traditional assessor role.

School psychology in the 21st century. The No Child Left Behind Act (NCLB), which was enacted in 2002, as well as the next (and most recent) reauthorization of IDEA in 2004 shifted the federal government's focus from the process of how services were delivered to the outcomes of those services, which resulted in important ramifications for the field of school psychology (Reschly & Bergstrom, 2009). In response to growing concerns over the validity of the severe discrepancy model of determining the existence of specific learning disabilities (e.g., Donovan & Cross, 2002), IDEA 2004 provided for eligibility to be determined through two other models (Reschly & Bergstrom, 2009).

One of these models, called Response to Intervention or RTI, was a dramatic departure in the process that entails the use of a series of tiered interventions for students, with each tier being more intensive than the last. Reschly and Bergstrom (2009) noted that implementation of RTI requires full systems change, is costly, is time consuming, and will not work unless critical competencies are developed in staff members. School psychologists working in districts that adopted this model would have had to cultivate many new skills to adapt to this model. Some conjectured that school psychologists in districts using RTI would potentially have fewer assessments to conduct and could spend more time in other aspects of the role (Ball, Pierson, & McIntosh, 2011). Others warned that RTI could result in decreased demand for school psychologists (Canter, 2006),

though it seems no formal research has been done to investigate this hypothesis and no significant changes in the size of the workforce have been attributed to RTI.

NCLB, meanwhile, had the effect of shifting resources towards programs that fostered a positive learning environment and addressed learning and behavioral issues (Ball et al., 2011). NCLB “impacted school psychology by bringing the need for high-quality instruction, prevention, program evaluation, and data-based decision making to the forefront of educational discourse and practice” (Ball et al., 2011, p. 48). It was reauthorized in December 2015 as the Every Student Succeeds Act (ESSA), which explicitly authorizes a variety of funding sources to support the implementation of many services that school psychologists are closely involved in, such as positive behavior support systems, mental health first aid, and efforts to improve school climate and safety (Vaillancourt-Strobach & Cowan, 2016). The flexibility that the ESSA brings with it appears at first blush to make it easier to financially support school psychology positions, though it remains to be seen whether this comes to fruition.

Trends in Workforce Size

The profession of school psychology has been closely tied to the special education system since the beginning, both in terms of the school psychologist’s role and the size of the workforce. Fagan has asserted that the number of students receiving special education and the number of school psychologists have grown in parallel (Florell & Fagan, 2011). The entrance of the baby boomers into public schools resulted in special education enrollments growing from 310,000 to 2 million students (Fagan, 2003) while the number of practitioners grew from less than 1,000 to 5,000 (Fagan, 2003). As Table 1 shows, when comparing workforce estimates since 1975 to the number of special education

enrollments, the former’s growth actually outpaces the latter’s. Fagan (2005) believes that job growth has also been propelled by the progressive broadening of the school psychologist role over the years. Throughout the twentieth century, demand for practitioners has typically been greater than the supply and school psychologists have never experienced a period of significant national unemployment (Fagan, 2008).

Table 1
Workforce and Special Education Trends

Year	School Psychologists (Estimate) ^a	Special Education Students ^b	Special Education Students per School Psychologist
1975	8,000	3,694,000	462
1980	10,000	4,144,000	414
1985	15,000	-	-
1990	22,000	4,710,000	214
2000	25,000-30,000	6,296,000	209-252
2005	30,000-35,000	6,718,000	192-224

^aData from Fagan (2008). ^bData from the National Center for Education Statistics (2015). Number of special education students for 1985 is not reported.

Fears of a School Psychologist Shortage

For many years, individuals in the field have warned about a shortage of practitioners. For instance, Hayes and Clair (1978) wrote an article four decades ago titled, “School Psychology—Why is the Profession Dying?” A decade later, in June 1987, the National Association of State Consultants for School Psychological Services (NASCSPS) organized an emergency meeting to develop ways of coping with an undersupply of practitioners (Fagan, 1988). In the wake of that meeting came the first warnings of an even larger shortage, “a dangerous supply-demand gap [that was] approaching” and would arrive after the turn of the century (Fagan, 1988, p. 453). The NASCSPS conference inspired NASP to begin a campaign to increase awareness of the profession on college campuses (Curtis & Hunley, 1994), but it is unknown how effective such efforts ultimately were.

Fifteen years later, in November 2002, the Future of School Psychology Conference was held in part to address the same concern. Over the course of three days, attendees focused on the many issues influencing their profession at that time and what they anticipated would influence it in the future, including the possibility for a shortage of school psychologists in the near term (“Future of School Psychology,” 2012). Afterwards, the organizers published its outcomes in four special issues of school psychology journals—including one issue devoted specifically to a shortage (McIntosh, 2004)—and new groups were established to coordinate the activities of the various organizations with vested interests in the field (Dawson, Cummings, Harrison, Short, Gorin, & Palomares, 2004). In 2012, a second Futures Conference was held, but the topic of a shortage had fallen from view. While the 2002 conference placed the issue front and center, by 2012 there were no presentations on the shortage and only a single mention thereof on the conference webpage (“Futures 2012,” 2012).

One might think that the movement away from the shortage was due to it being resolved by 2012 or at least less severe than had been anticipated. Informal data, however, suggests that the shortage is still very much an issue, as attention is again being drawn to it in both professional and popular publications. NASP has released multiple documents surrounding the shortage in recent years, such as a resource guide (NASP, 2016) and research summary (NASP, 2017c), and includes on its website a page solely devoted to the topic. A shortage has also been discussed in multiple articles in its professional newsletter, the *Communiqué* (e.g., Bocanegra, Grapin, Nellis, & Rossen, 2017; Dixon, 2017). A recent NASP President even made his final *Communiqué* column a call to action for the field to take steps to counteract a shortage (Brock, 2015). The

official NASP conceptualization of a shortage, however, differs from what has traditionally defined a workforce shortage; namely, it asserts that a shortage “can include both an insufficient supply of qualified school psychologists as well as an insufficient number of positions to meet the needs of students” (NASP, 2016, p. 1). This position is far more flexible as a result and is a departure from the original concerns that first alerted the field to the possibility of shortages decades ago.

Articles from news sources across the country, meanwhile, have described how specific school systems have struggled to adequately staff their school buildings. Although schools have attempted to hire additional staff, they are sometimes unable to attract any applicants, even for years on end (Downey, 2016; Guerrero, 2016; Rodewald, Welter, & Dickmann, 2016). As a result, school psychologists have been reported to put off retirement (Weyhe, 2016) or are stretched so thin to cover schools that they are routinely out of compliance with testing timelines (Wall, 2015). These reports and others detail the struggles that individual practitioners, students, and their families are experiencing in either providing or receiving necessary school supports. Furthermore, they attribute those struggles to a need for more school psychologists.

Other news pieces speak of budgetary fights that have resulted in reduced or stagnant funding for psychological services. In California, the most recent recession led many school systems to lay off many of their school psychologists (Cornejo, 2015). Area universities then reduced enrollment in, or eliminated entirely, their school psychology training programs (Cornejo, 2015). School psychology positions have been subject to cutbacks even many years after the recession (Stein, 2015). In Georgia, there have been calls to increase the availability of paid internships to keep new graduates in the state as

well as to change the funding formula for new school psychologist positions that has not been adjusted for a quarter century (Downey, 2016). The funding that the state currently provides allows for a ratio of one school psychologist for every 2,475 students, whereas NASP recommends a ratio of 1:1,000 students or 1:500-700 for comprehensive services (NASP, 2010).

The tendency for psychological services funding to be limited is not a new phenomenon; since pupil services were first integrated into public schools at the turn of the twentieth century, they have been vulnerable to financial concerns, especially during difficult times (Carlson et al., 1996). Before federal laws were established to require such services, “in times of budget cuts, more affluent communities were able to maintain health and social services, whereas schools in less prosperous communities were forced to eliminate them” (Carlson et al., 1996, p. 15). Although school systems would now be unable to eliminate these services entirely, news stories like these illustrate that their funding is often differentially affected by long-stagnant or slashed budgets.

Indeed, the Center for Mental Health in Schools at UCLA (2012) has noted that of three components that facilitate student success (instructional, learning supports, and management components), the learning supports component is prioritized lower than the other two. From 1990 through 2008, national statistics found that student supports account for about 5% of all expenditures, compared to roughly 65% for instruction and 22% for management and related operations (National Center for Education Statistics, 2010). Despite being legally mandated, student supports tend to be regarded as supplementary and applicable to only a small subsection of the student population

(Center for Mental Health, 2012). As a result, these services tend to be cut early and more dramatically when budgets become constrained (Center for Mental Health, 2012).

State Context²

The present research was conducted in a mid-Atlantic state that fell in the top 10 for per-pupil expenses in the country in fiscal year 2015, the most recent for which that data is available (U.S. Census Bureau, 2017). This relatively high level of education expenditure partially reflects that the state also consistently falls in the top 10 for median household income (Kaiser Family Foundation, 2018). Despite this, a study conducted by consultants to the state department of education concluded that public schools are underfunded by over 20% on an annual basis. More than 40% of students are eligible for the federal free and reduced-price lunch program, a figure that was still better than the national average of 51.3% (National Center for Education Statistics, 2014). Data from 2013-2014, the most recent for which all states' data is included, indicates that the percentage of students in special education also places the target state among the lowest 20 by that metric (U.S. Department of Education, 2015). Its rate of approximately 12% is below the national average of 13.0% (U.S. Department of Education, 2015).

Each school district within the state maps directly onto a county or large city and the school system is fiscally dependent on its jurisdiction's local government for appropriations. Federal funding accounts for about 5% of revenues, with the remainder split almost equally between state and local sources (U.S. Census Bureau, 2017). State revenues are allocated so that greater assistance is provided to needier districts in an effort to reduce funding disparities. In early 2018, the state union for education

² Some citations that would necessarily identify the target state have been omitted in order to obscure the state's identity.

employees noted that most of the increases in funding over the past five years had been mandated to account for inflation and rising student enrollment. Teacher-to-student ratios have worsened in the state over the past ten years, as over 100 new students enrolled in public schools for every new teacher position that had been added. The state department of education, meanwhile, lists school psychology as an area with a “critical shortage” in its most recent staffing report, which is based on surveys and projection data.

Because school districts are county- or city-wide, student enrollment varies substantially depending on the characteristics of that jurisdiction. The smallest districts serve only a couple of thousand students, while the very largest enroll more than 100,000 students each. Similarly, the size of each district’s psychological services staff varies considerably from only a few people to over 100 school psychologists. The experience of an individual practitioner within the district will therefore vary considerably. In a larger district with many bureaucratic layers, a school psychologist might not have much direct contact with upper level administrators. This stands in contrast to the smaller districts (and the experiences of school psychologists in other states, where districts often serve far fewer students), where such contact and collaboration might be more frequent.

Perhaps as a result of districts being so large, there is also a strong culture of local control regarding education throughout the state. Whereas school systems in other states might primarily take their cues from the state department of education or are open to adopting new practices with input or training from that organization, in the target state each system exercises much more autonomy. Nonetheless, the governor-appointed state board of education sets statewide educational policy, approves budgets to aid the local school systems, and resolves conflicts within each system.

Recent state-by-state investigations of psychologist-to-student ratios have had mixed results with regard to the target state. Charvat (2005) administered a systematic state-by-state survey of all known school psychologists and concluded that the state had a ratio below (i.e., better than) the national average by about 100 students in 2004. Two NASP member surveys, however, estimated its ratio to be 300-400 students higher than the national average (Curtis et al., 2008; Curtis et al., 2012). As was the case with student enrollments, the size of psychological services staffs likewise varies depending on the county or city. The number of school psychologists in a district ranges from just a few to over a hundred, with the larger staffs able to provide more opportunities for practitioners to specialize within the school psychologist role. School psychologists in those larger districts sometimes serve on a team that assists with psychological testing, counseling services, evaluations for English Language Learners, or crisis interventions.

There are two primary ways individuals can become certified to practice school psychology in the target state. The first is to (a) attain a graduate degree specifically in school psychology from a program approved by any state and to have (b) received a qualifying score on the school psychologist PRAXIS exam. The second way to become certified is to have practiced satisfactorily as a certified school psychologist in another state for 27 months within the past 7 years. Designation as a Nationally Certified School Psychologist (NCSP) also qualifies an individual for certification, but the current requirements for the NCSP exceed those just described, so only a practitioner who received the NCSP designation through earlier, lower standards (NASP, 2018f) need this credential to qualify for certification. A total of 32 states accept the NCSP credential when considering state certification and, according to NASP, “individuals who meet

requirements for the NCSP generally meet or exceed the graduate preparation requirements for initial credentialing in ALL states with few exceptions” (NASP, 2018e). The standards set by the target state for certification are therefore comparable to other states throughout the country.

According to state law, school-based practitioners are expected to provide comprehensive services to students that address educational, emotional, and behavioral problems in students. This should be done through consultation, observation, and direct assessment. Unlike many areas in the country, school psychologists do not typically complete academic assessments, as these are usually administered by special educators. Also, the state does not make use of diagnosticians or other professionals whose sole role is to test students. State law further recommends that school psychologists intervene through consultation with school staff, parents, and community members; group or individual counseling; and staff development activities. A more recent change in regulation mandated that psychological reports and other documents to be discussed at IEP meetings must be made available to parents at least five business days before the meeting, which further constrains federal timelines. Research into the change found that practitioners devoted more time to special education eligibility activities and brought more work home following the enactment of that law.

School psychologists are often also involved in the delivery of multi-tiered systems of supports (MTSS) for academic and behavioral needs, though this manifests differently across systems and individual schools. Every school district has adopted a Positive Behavioral Interventions and Supports (PBIS) system in at least some of its schools. The state department of education has provided guidelines for using an RTI

approach to identifying students with specific learning disabilities, but does not provide any information on which, if any, districts actually use RTI for this purpose. According to those guidelines, if districts were to use RTI for special education eligibility, they would be required to use the method in all of their schools.

Most districts, therefore, make use of the pattern of strengths and weaknesses (PSW) method of identifying learning disabilities. A discrepancy between cognition and achievement may also be investigated, but it can only be used in conjunction with either RTI or PSW. For comparison, PSW is not an acceptable means of identifying learning disabilities in half of states and only 16% of states require the use of RTI for that purpose (Maki, Floyd, & Roberson, 2015). Two-thirds of states allow the discrepancy model while only 20% explicitly forbid it (Maki et al., 2015). Cottrell and Barrett (2015) surveyed school psychologists across the country to understand how they determine learning disability eligibility, with 471 responses ultimately being included. Over two thirds of respondents indicated that their schools require the discrepancy model and nearly a quarter more said their schools allowed its use. RTI was required in nearly a quarter of respondents' schools and was allowed in 55% of others'. PSW was adopted least prevalently, as it was required in only 9% of schools and allowed in 32% (Cottrell & Barrett, 2015).

School psychologist contracts in the target state range from 10 to 12 months with practitioners typically being paid either on their own scale, the teacher scale, or an administrator scale. Positions might be funded by, and fall within, different areas of their school system's organizational chart across districts. They are most often within a pupil services department that oversees psychological services as well as school counseling and

social work. They are occasionally housed within the special education department, as is the case in many school districts throughout the country, or a combination of pupil services and special education. Regardless, state law requires a coordinated program of student services of which school psychologists are members along with school counselors, pupil personnel workers, and health services workers. These teams exist at all levels of the education system, from individual schools up to the state department of education. For this reason, there is a formal position for a school psychologist at the state department of education.

Despite being in a relatively affluent state, school districts have not been immune to financial pressures. In spring 2018, two of three candidates for a position in the state's school psychologist professional organization cited shortages as a topic that must be addressed going forward. A few years ago, the *Communiqué* detailed budget cuts in one of this state's (and therefore also the country's) largest and wealthiest districts and noted that practitioners there were facing a potential reduction in their contracted hours. This was expected to further exacerbate a recent trend in practice shifting away from prevention/intervention services and towards a narrower, more traditional role as assessor for special education eligibility.

The Present Research

The purpose of the current study was to understand how the predicted shortage is unfolding through the eyes of various stakeholders within the same region, a mid-Atlantic state. When this research began there had been no systematic study of whether a shortage was actually occurring and how it might be impacting school-based practice. This research was thus broadly bounded by the following research questions:

1. How are different stakeholders anticipating/experiencing the upcoming/ongoing shortage of school psychologists?
 - a. How do these experiences differ by professional role?
 - b. How do these experiences differ by geographic setting?
2. What factors (policy or other) are impacting the supply and demand of school psychologists?
 - a. What is being done (or could be done) to mitigate the effects of the school psychologist shortage?

The methodology for investigating these questions will be described in detail in the third chapter. Interviews were conducted with a collection of stakeholders, including public school directors of psychological services, trainers within school psychology graduate programs, the school psychology representative in the state's department of education, and a statewide leader in a professional school psychology organization. For a diversity of perspectives, directors were sought from urban, suburban, and rural districts. The interviews were then analyzed using grounded theory methods in order to systematically find trends and themes in the data.

This research is limited by the fact that, like much qualitative research, the findings are not easily generalizable, as they are specific to the experiences of a relatively small group of people in one specific region of the country. Also, a workforce shortage is a rare and lengthy event for a field. Once it is resolved, there is no guarantee that another will occur soon enough for the lessons to be applicable again, as various other factors might have substantially changed by then.

Significance of the Present Research

As has been illustrated, the field of school psychology has been dramatically shaped over the years by the increasing availability of practitioners in schools and legal changes that have dictated the work that they do. With the possibility of a shortage upon it, the question arises of whether the field is on the cusp of another dramatic change like those that have occurred in the past. Regulations are such in the current environment that school-based practitioners are expected to fulfill a wide variety of responsibilities, but those functions could potentially be negatively impacted if school districts are unable to fill open positions. A severe shortage could substantially alter the nature of school psychology practice and the manner in which students are supported in schools for years to come. Yet, many warnings and proposals to stave off a shortage have, until this point, resulted in few substantive changes.

To date, only national studies have been conducted on the school psychology workforce and the possibility of a shortage of school-based practitioners. There are, however, substantial differences between educational models, school psychology practice, and funding between regions of the country. Indeed, there are often substantial differences between districts in close proximity to each other. The present research aimed to understand the existence and impact of the school psychologist shortage more deeply by focusing on one state.

Focusing on one state also lends itself better to exploring possible remedies for a shortage, as the researcher was able to discuss proposed policy changes with the individuals who would be responsible for enacting them, particularly at the university level. An effective response to an issue that affects an entire field would require a

coordinated response from stakeholders both within and outside of that field. Integrating multiple stakeholders into one piece of research allows for the most feasible remedies to become apparent, thereby providing a roadmap for which efforts to emphasize. Lessons learned from this state could potentially be extrapolated to help other locales address their own shortages.

Chapter 2: Literature Review

The current chapter will first describe the school psychology workforce as it currently stands with respect to factors of supply and demand. As workforce factors are tied to educational policies, and because many of the suggestions for alleviating a shortage would require changes in that regard, there will also be a review of how educational policies are created along with a summary of several policies that have impact on the school psychology workforce.

Literature was collected on many sub-topics. With regard to the shortage, articles were gathered that focused specifically on the expected shortage, as well as on the history of school psychology, surveys of the field, factors affecting supply and demand, and the psychologist-to-student ratio. The initial method of gathering these pieces was through broad searches of the PsycInfo and ERIC databases, using a variety of phrases relevant to the research. “School psychology shortage” and “school psychologist shortage” yielded a total of 120 results. “Psychologist-to-student ratio” and “student-to-psychologist ratio” resulted in a combined 14 results, while “history of ‘school psychology’ United States” produced 86 results. Relevant articles cited in identified works were tracked down as well. School psychology journals, the NASP newsletter, and NASP member emails were monitored throughout the research for new publications as they arose.

Information that was unlikely to be found in an academic database or was more time sensitive was sought via web searches. For instance, “public school student projections,” “special education statistics,” and other relevant terms yielded more up-to-date data from the U.S. Department of Education. Typically, each of these searches yielded hundreds of thousands of results. The researcher utilized the NASP website,

which provides articles and presentations about the organization's membership surveys since 1989. In two instances, individual school psychologists were contacted directly for information not otherwise available.

When researching educational policies, many of the same methods were initially used. Both PsycInfo and the ERIC database were searched with phrases like "school psychology' policy," "policy formation," and "changing educational policy." "School psychology' policy" produced 1,100 results, while "policy formation" yielded 73, and "changing educational policy" resulted in 14. Articles and textbooks with legal or ethical emphases were also reviewed for commentary on educational policies that have had an impact on school psychology.

The Current Workforce and Anticipated Developments

Supply of School Psychologists

Regular assessments of the field were first conducted during the 1970s through national surveys of who school psychologists are and what they do. Farling and Hoedt (1971) conducted the first known national survey of school psychologists from 1969-1970 when they canvassed all school psychologists in the country for demographic and practice data. This was soon followed by others investigating specific topics. For instance, Goldwasser and colleagues (1983) investigated how the field was adjusting to PL 94-142, while Smith (1984) targeted psychologist-to-student ratios. Following this period of independently organized research, NASP began sanctioning surveys of its members and has continued to do so at regular intervals since the late 1980s. As was described in the first chapter, these surveys demonstrate that the field of school psychology has adapted through significant changes in American education.

Current workforce size. Interestingly, no one knows exactly how many individuals are active in the field. Castillo and colleagues' (2014) workforce estimate for 2010 of 42,593 was produced by taking psychologist-to-student ratios from the most recent NASP survey and dividing into school enrollment data. Lower estimates have resulted from attempts to count all school psychologists. Charvat (2005) contacted leaders of state professional organizations for the number of school psychologists in their state and came up with an approximation of 37,893 in 2004. According to the most recent data available from the federal government, in the fall of 2014 there were 34,392 full time equivalent (FTE) school psychologist positions in the country (U.S. Department of Education, 2017). FTEs are not equal to the number of actual school psychologists, however, as multiple part-time employees may comprise a single FTE.

Charvat (2005) estimated there to be about 750 credentialed school psychologists in the target state in 2004. Curtis et al. (2012) indicated that about 500 of those school psychologists were NASP members in 2010. Data from Walcott et al. (2016) suggests the NASP membership represents between 31.2% on the low end (Castillo et al., 2014) and 44.2% on the high end (Fagan, 2008) of the total workforce, meaning the target state has a much higher percentage of NASP members than the national average.

Current demographics. Since 1989, NASP has conducted a survey of its members every five years. The most recent for which the full results have been released was conducted by Curtis, Castillo, and Gelley (2012) from 2009-2010. Walcott and colleagues (2016) administered the 2014-2015 iteration of the survey and presented their preliminary results at the 2016 NASP convention, but the full results have not been published as of spring 2018. While the items have changed over the years, most surveys

have included information about the respondents' demographics and professional practices. For a summary of the nationwide surveys referred to in this review, including methodology and key findings, refer to Appendix A. For each survey, 20% of NASP "regular" members—meaning those currently practicing as school psychologists in the United States (Graden & Curtis, 1991)—are randomly selected to receive the surveys. Response rates fell for every iteration of the NASP survey through 2010, from a high of 79% in 1989-1990 (Graden & Curtis, 1991) to 44% in 2009-2010 (Castillo et al., 2012), though the most recent survey showed a slight uptick in respondents to 48% (Walcott et al., 2016).

According to these surveys, for many years the field had consistently gotten older, a phenomenon that has been described as the "greying of the field" (Canter, 2006; Castillo et al., 2014). In the 2009-2010 NASP survey, Curtis, Castillo, and Gelley (2012) found that their respondents ($n=2,885$) had an average age of 47.4 years old. By comparison, Smith's (1984) survey that sampled 15% of all known school psychologists across the country yielded an average age of 38.8 years ($n=1,982$). Comparing the two results suggests that the field's age increased by 22% in a nearly 30-year period. Significantly, the proportion of psychologists nearing retirement age had increased substantially. In Graden and Curtis's (1991) survey of NASP members, only 20.2% of respondents were 50 years or older. When Curtis and his colleagues (2012) polled another sample of the NASP membership in 2010, this figure was 45.9%.

When Walcott and colleagues (2016) presented initial data from the 2014-2015 NASP survey, however, the average age had declined to 42.4 years. This was the lowest it had been since Reschly and Wilson (1995) found that a sample of over 1,300 NASP

member practitioners had an average age of 41.4 in 1991-1992. The proportion of respondents to the 2014-2015 survey who were over age 50 has not yet been published, but a possible explanation for the reversal is that the baby boomers have begun exiting the field in large numbers.

Retirements and attrition. Given the “greying of the field” and the size of the baby boomer cohort, the rate of retirement is a key component for forecasting a shortage. Early research investigating the anticipated lack of school psychologists expected the shortage to begin by 2010; half of school psychologists surveyed in 1998-1999 reported that they expected to retire by that date (Thomas, 2000). When estimates were conducted several years later based on years of experience (rather than age), Curtis and his colleagues (2004) projected that 37.7% of the field would retire by 2010 and 52.9% would stop working by 2015. When those researchers reexamined the data in 2010, however, they found that one in nine of the individuals they had expected to retire by that point were still working (Castillo et al., 2014). When the projections were recalculated assuming school psychologists would have a 35-year career, the results showed that 20.2% of the 2010 workforce was expected to retire by 2015 and 32.7% would by the year 2020 (Castillo et al., 2014).

School psychologists might alternatively leave their positions for jobs in related fields or temporarily cease working in order to care for children or parents. In the last two years, three articles have also been published focusing on burnout in the profession, with all three citing school psychologist shortages as a possible contributor to the phenomenon (Boccio, Weisz, & Lefkowitz, 2016; Schilling, Randolph, & Boan-Lenzo, 2017; Weaver & Allen, 2017). In general, research has found that factors contributing to burnout can be

divided into (a) factors related specifically to one's job demands and (b) those related to feeling supported (Schilling et al., 2017). Boccio, Weisz, and Lefkowitz (2016) surveyed 600 practitioners throughout the United States and found that one third of the 291 respondents were experiencing high levels of emotional exhaustion. Meanwhile, Schilling and colleagues (2017) surveyed school psychologist practitioners in the southeastern United States using the same instrument and nearly half of those 122 respondents yielded high levels of emotional exhaustion.

None of the literature on the shortage has cited research that investigated the rate of non-retirement attrition among school psychologists. Multiple workforce estimates have used a 5% annual attrition rate over the years (e.g., Lund, Reschly, & Martin, 1998; Curtis, Grier, et al., 2004; Curtis, Hunley, et al., 2004; Castillo et al., 2014). The earliest of these articles included retirements in this attrition rate, but subsequent analyses have used a 5% attrition rate *in addition to* retirement estimates. When Boccio and colleagues (2016) asked survey respondents about their intention to leave the field due to administrator pressures to behave in unethical ways, 4.8% indicated that their desire was either very or moderately high, suggesting the 5% might be accurate.

School psychologists in training. The supply of school psychologists will also be affected by those undergoing training currently or in the future. To practice in a school, one need not have a degree in school psychology, but most do (Castillo et al., 2014). Gadke and colleagues (2017) estimated based on survey data from program directors that that there were approximately 2,580 school psychology students graduating during the 2015-2016 academic year. This figure is comparable to information listed on the NASP website for the number of interns nationally, which has ranged between 2,500 and 2,600

in recent years (Gadke et al., 2017). According to that data, the number of school-based school psychologists being produced by graduate programs annually is only about 600 higher than it was in the 1980s (Castillo et al., 2014). Although this trend suggests a growing supply of new school psychologists, it is unclear whether this rate of increase is sufficient.

It is unlikely that this number will change dramatically in future years, as an increase would require that more programs be developed or that more students be admitted into each existing program. The rate of growth of new programs, however, has slowed over time (Prus & Strein, 2011). According to Rossen and von der Embse (as cited in NASP, 2017a), the number of school psychology programs has increased only 8% over the past 35 years. Increased enrollments at existing programs, meanwhile, would necessarily require faculty to take on more advisees, which would increase their work demands. Psychology faculty members report that advising graduate students consumes time, decreases research productivity, drains energy, and creates extra demands that must be managed (Knox, Schlosser, Pruitt, & Hill, 2006). An increased number of students would also threaten the quality of the training provided (Canter, 2006).

Respecialization. The other avenue for individuals to enter school psychology is to respecialize from a different psychological discipline. This, however, seems to be a relatively small group. Data from the 2009-2010 NASP survey (Curtis et al., 2012) suggests that fewer than 100 doctoral-level psychologists respecialize into the field of school psychology each year when using the largest workforce estimate (Castillo et al., 2014). It is also possible for psychologists to specialize below the doctoral level (e.g., someone with a master's in clinical psychology could receive a specialist's degree in

school psychology), but the 2010 survey data was not reported in such a way to estimate how many individuals may have entered the field through this process.

Even though respecialization accounts for a small proportion of school psychologists, there is potential for that to change in the future. Credentialing guidelines permitting the practice of school psychology are set by each state and therefore could be quickly changed in such a way that could encourage more non-school psychologists to enter the specialty. Moreover, the shortage of school psychologists is occurring concurrently with an oversupply of clinical psychologists (Crespi & Politikos, 2004). Clinical psychologists have been faced with a lack of postdoctoral residencies that are required to obtain licensure, declining salaries, and more limited employment opportunities (Crespi & Politikos, 2004). If the shortage of school psychologists and the glut of clinical psychologists worsen—and if decision-makers set guidelines that ease the transition between the two—respecialization into school psychology could increase markedly. In its resource guide to address the shortage, NASP has specifically cited clinical psychologists as a group that might be attracted to respecialize into the profession (NASP, 2016).

While the easing of respecialization requirements could be made at the discretion of state governing bodies, this would run contrary to the direction of the field thus far. For decades NASP has pushed to *raise* the standards for practicing school psychology throughout the fifty states by increasing the minimum training they possess (Tharinger, Pryzwansky, & Miller, 2008). Some have observed that there are aspects of school psychology that other psychologists have been inadequately trained to handle and that paving the way for quick respecializations would necessarily open the door to

undertrained practitioners (Canter, 2006; Crespi & Politikos, 2004). Furthermore, the field has long fought against the criticism that it requires a lower level of training than other psychological specialties (Tharinger et al., 2008) and to lower standards in order to speed respecialization would only invite further criticism in this vein.

Demand for School Psychologists

Public school enrollments. The number of students in American K-12 public schools has been increasing since the mid-1980s. From 2014 to 2026, the National Center for Education Statistics (2018) projects that enrollments will grow another 2.8%. This growth is not expected to be universal throughout the country, as changes in public school enrollments generally parallel overall population changes and movements between states. The target state is forecast to increase enrollment by 6.0% over that same period of time (National Center for Education Statistics, 2018). As the number of school children increases, there will be pressure for more school psychologists to serve them. If the state were to add positions in line with the current national ratio, it would need about 30 additional positions over that time, which equates to two or three per year.

Psychologist-to-student ratio. The psychologist-to-student ratio has been dropping consistently over the past century (Fagan, 1988). While the growth of the school psychology workforce has largely kept pace with or even outpaced the growth of the special education population (as shown earlier in Table 1), the ratio refers to both special and general education students, a collective group that has grown more slowly. The most recent data, from the 2010 NASP survey, shows that the average psychologist-to-student ratio in the United States was 1:1,383 and that 43.6% of practitioners serve fewer than 1,000 students, the ratio advocated for by NASP (Curtis et al., 2012; NASP,

2010). For comparison, the 2005 survey reported a ratio of 1:1,482 (Curtis et al., 2008), meaning that in five short years school psychologists have come to serve 100 fewer students on average. Estimates of the target state's ratio have ranged from 1,300-1,900 per school psychologist (Charvat, 2005; Curtis et al., 2008; Curtis et al., 2012).

The number of students that each psychologist serves is one of the most significant factors for determining the role of a school psychologist. For many years, NASP has set a goal of a 1:1,000 psychologist-to-student ratio (NASP, 1997; NASP, 2010) so that practitioners may best serve their schools and students. NASP (2010) recommends ratios between 1:500 and 1:700 in settings where the psychologist is expected to perform comprehensive and preventative services, as most districts in the state strive to do. Even lower proportions are endorsed when students require intensive interventions or unusually high levels of supports, as in the example provided by Canter (2006). These ratios are certainly aspirational, yet according to NASP in some environments they might need to be even lower (NASP, 2010). As Canter (2006) noted, a psychologist serving a thousand students has a very different workload if all of those students receive special education versus a more traditional mix of a thousand students.

The key reason for advocating lower ratios is because they have been associated with psychologists providing a greater range of service (Smith, 1984). Practitioners with lower ratios spend less time performing activities related to special education eligibility and more time consulting and providing direct services (Curtis et al., 2002; Goldwasser et al., 1983; Smith, 1984). The psychologist-to-student ratio is positively correlated with the number of evaluations performed (Goldwasser et al., 1983; Hosp & Reschly, 2002), regardless of whether they are initials or reevaluations (Curtis et al., 2002).

Changing roles and expectations. The declining ratios over the years have resulted in different expectations for the role of school psychologists. Members of the field have long advocated for lower ratios in order to focus more of their energies on activities that are often neglected in order to complete legally-mandated assessments for the special education process (Ramage, 1979; Farling & Hoedt, 1979; Smith, 1984; Reschly & Wilson, 1995; Hosp & Reschly, 2002). Despite the decreasing ratio, however, the proportion of time psychologists spend in different activities has remained roughly the same over time. Surveys of the field have consistently found that practitioners devote about 60% of their time to special education activities (such as evaluations, meetings, and other associated tasks) and 20% each in consultation and direct services (e.g., Castillo et al., 2012; Hosp & Reschly, 2002; Smith, 1984; Hughes, 2014).

What have changed as a result of the lower ratios are the specific activities within each of those categories. Assessment and intervention has expanded beyond the student to external factors, such as parents, home conditions, teachers/teaching styles, and the classroom environment (Fagan, 2008). Assessments have increasingly adopted an individualized, problem-solving perspective (e.g., FBAs) and interventions have become more sophisticated, pulling from a variety of theoretical bases (Fagan, 2008). The advent of the RTI model has emerged from decades of practitioners moving away from normative assessments towards direct curricular assessments of academic skills linked to interventions (Fagan, 2008; Donovan & Cross, 2002). Psychologists are now also expected to maintain a higher level of competence related to advances in technology. They must be careful to maintain confidentiality when using digital records and

communicating via the internet (Oliver, 2013; Ysseldyke et al., 2006) while also combatting cyberbullying and its fallout (von Marées & Petermann, 2012).

The end result of all these developments is that practitioners and their employers have come to expect certain duties to be performed by psychologists that they were not obligated to in the past. Even though the psychologist-to-student ratio is at the lowest it has ever been, these expectations could potentially make it difficult to increase that ratio to cope with a shortage of school psychologists. At the very least it would require a reversal in the trends toward a broader role that have been in place for several decades.

The Anticipated Shortage

There have been two systematic estimates of the school psychologist shortage from a national perspective. Curtis, Hunley, and Grier (2004) foresaw an annual shortage of 617 school psychologists between 2011 and 2020. Castillo and colleagues (2014), however, calculated the annual deficit through 2020 at 1,225, nearly twice that amount. That represents a 2.9% decrease of the workforce in the first year and a cumulative 14.3% shrinking of the field after five years. It must be strongly emphasized that, although these studies provided exact numbers, their predictions should be regarded with caution. These figures were based on numerous assumptions, each of which had varying levels of support. Nonetheless, the calculations can provide a rough ballpark figure of how severe the shortage might be.

The anticipated impact. Canter (2006) described five possible outcomes that could result from a significant personnel shortage. First, school psychology positions that cannot be filled may be eliminated as districts reallocate the funding towards different services. Second, a lack of trainers in graduate programs might result in programs

reducing the number of enrollments or ending programs altogether. This would have the effect of decreasing the number of entrants to the field when they are needed most. Third, school children would suffer as a result of lower quality services. Prevention and early intervention services could be curtailed, potentially increasing the number of students who are referred to (and ultimately qualify for) special education. School psychologists' current responsibilities could be transferred to less qualified or overburdened individuals, which may be difficult for those individuals to carry out properly (Canter, 2006; Davis, McIntosh, Phelps, & Kehle, 2004). Fourth, the shortage of school psychologists from culturally and linguistically diverse backgrounds would likely continue.

Finally, the fifth outcome Canter (2006) warned of was that school psychology positions could be filled by those who are not fully credentialed in their states. Although 98.9% of all school-based school psychologists are fully certified based on the most recent data (U.S. Department of Education, 2017), that figure has been lower in previous years (Canter, 2006). Among all school psychologists, including those in non-school settings, the 2010 NASP survey revealed that 86.7% of respondents have state certification (Castillo, Curtis, Chappel, & Cunningham, 2011). This rate has been trending downward for the past two decades, suggesting that school psychologists working in non-school settings are increasingly foregoing certification (Castillo et al., 2011). In a crisis situation where fully credentialed practitioners could not be found, provisional, emergency, or temporary certifications could potentially be issued as a stopgap to such individuals. Or, as was previously discussed in the section on respecialization, the states could decide to lower their standards in order to create a larger pool of candidates (Canter, 2006; Lund et al., 1998).

NASP echoed many of these sentiments in its own assessment of the shortage, pointing out that practitioners' roles were sure to narrow with comprehensive academic, school mental health, and prevention services suffering as a result (NASP, 2006; Lund et al., 1998; Davis et al., 2004). The organization emphasized in a position statement that school psychologists are already serving more students than it believes appropriate and that the shortage will only exacerbate practitioners' difficulties in properly serving students (NASP, 2006). The APA has published a separate document addressing the need for more mental health workers in general, highlighting those who work with children and youth (Levitt, 2009). A lack of mental health workers would interfere with the goals of reducing high-risk behaviors among all youth, not merely those with disabilities. The shortage would therefore impact all public school children and place a greater burden on teachers to manage socio-emotional challenges (NASP, 2006).

While many individuals have issued such grim warnings about the future of school psychology, there are others who are more skeptical of this narrative. Some feel that the workforce has never reached the ratios advocated for by NASP, so an argument could be made that there has always been a shortage within the field. Canter (2006) illustrated this point in her remark, "Even defining *shortage* is problematic—does a shortage only exist when positions are unfilled or does a high ratio of students to psychologists also reflect a shortage of 'needed' personnel?" (p. 27). Fagan (2008) observed that "for most of the twentieth century the demand was greater than the supply of practitioners" and that "the personnel shortages of the past decade are likely to persist." (p. 2070). He emphasized that the field was likely to continue growing in the future.

In an even starker contrast to the mainstream outlook, a minority of school psychologists have noted potentially positive outcomes to a workforce shortage. A shortage of practitioners could force the field to make substantial changes in the way it operates in order to more efficiently serve students (Harrison & Cummings, 2002). Increased emphasis may be placed on prevention and consultation, or a public health approach may be adopted (Castillo et al., 2014). Such an approach would not only help the field to weather a period with fewer school psychologists, but it would also increase the positive impact practitioners would make once that period ended (Canter, 2006).

Lund and colleagues (1998) opined that a shortage would result in a job market that could act as a strong attractant for individuals interested in human services professions. It could spur the development of new graduate training programs, as universities often consider the “demonstrable need” of programs when deciding whether to maintain, expand, or eliminate them (Lund et al., 1998; NASP, 2017a). The authors argued that colleges would be less willing to discontinue a program with a high demand and highly sought-after alumni (Lund et al., 1998), which could raise the profile of the schools in their communities.

Even those researchers investigating the shortage expressed muted concerns about its impact on the field. Castillo et al. (2014) projected the more severe shortage of the two formal investigations, yet they seemed to regard their very own findings with a shrug, emphasizing that—within the context of the entire workforce—the annual deficits would be small. They wrote, “A deficit of 1,552 school psychologists per year from 2010 through 2015 represents only 3.6% of the field of school psychology or viewed in practical terms, fewer than four of 100 positions would go unfilled each year” (Castillo et

al., 2014, p. 840). This is a strange conclusion to draw a mere page after demonstrating that there would be nearly 16,000 more people leaving the field than entering it between 2010 and 2025.

Differences between geographic settings. No matter the severity of the shortage, it is expected that it will impact different settings in disparate ways. On the micro level, there already are a limited number of practitioners willing to work in certain types of communities, such as rural, high-crime, and high-poverty areas (NASP, 2006). As of the 2010 NASP survey, 24.0% of practitioners worked in a rural area while another 26.5% worked in urban settings (Castillo et al., 2011). There is also a decreased supply of individuals who would work with certain populations, such as the socially disadvantaged, economically disadvantaged, and various ethnic groups (NASP, 2006). The needs of schools serving these populations or in these communities will only increase as the nationwide shortage takes effect (Zhou et al., 2004).

On the macro level, it is worth noting that school psychology entails different demands in different geographic settings. For instance, school psychologists in urban districts are more likely to be working with students living in unsafe conditions and attending schools that lack resources (Graves, Proctor, & Aston, 2014). Graves and colleagues (2014) surveyed school psychologists working in five school districts serving large cities in the United States, with 97 individuals ultimately participating. Compared to national surveys, responses indicated that urban school psychologists serve considerably more students and that those students have very high needs. The respondents indicated, however, that they receive a much higher rate of clinical supervision, which the authors

hypothesized was a result of urban school districts more often having a position on staff for a school psychologist supervisor (Graves et al., 2014).

Clopton and Knesting (2006) surveyed 106 school psychologists working in rural settings in a midwestern state and themes emerged around concerns about mental health services in the community, feelings of professional isolation, a lack of work space, and high travel times. Further research of rural school psychologists indicated that these practitioners tended to serve more schools and have fewer years of experience than those in urban and suburban settings (Goforth, Yosai, Brown, & Shindorf, 2016). Positions can be more difficult to fill in rural districts (Goforth et al., 2016) and there have been reports of multiple vacancies persisting for decades (Lahman, D'Amato, Stecker, & McGrain, 2006).

Proposed Efforts to Counteract the Shortage

The school psychology field has not wanted for suggestions regarding how to combat the shortage. In general, they fall into three broad areas: recruitment, retention, and policy changes.

Recruitment. The first message commonly touted to increase recruitment is the need for greater awareness of the field of school psychology, particularly among undergraduates majoring in psychology or education (Canter, 2006; Davis et al., 2004; Zhou et al., 2004; NASP, 2016; NASP, 2017a). As described in the introduction, this was the intervention used during the previous shortage in the 1980s (Curtis & Hunley, 1994). Those currently in the field are also encouraged to reach out to students at the high schools where they work, to community members with whom they come into contact, and to professionals in related fields who may consider respecialization (Canter, 2006;

NASP, 2016; NASP, 2017a). Graduate programs may consider partnering with local school districts to promote the profession to interested students through seminars, research opportunities, and field experiences (Canter 2006; Castillo et al. 2014; Zhou et al., 2004).

Canter (2006) suggested the development of an interconnected application process to ensure that no program goes with unfilled spots while others must turn away qualified applicants due to too few spots. Since then, NASP has begun a so-called “Second Round Candidate Match” process for programs to advertise slots that remain open after the application process (NASP, 2018d). As of April 2018, however, only five programs were listed on the website (NASP, 2018d), suggesting this practice would result in a small number of additional students gaining entrance to a graduate program.

Zhou and colleagues (2004) proposed increasing the applicant pool through the use of financial incentives and employment contracts. They, as well as NASP’s resource guide for addressing shortages (NASP, 2016), advocated that government-sponsored incentives, such as scholarships and loan forgiveness, should be pursued and then advertised if secured. Zhou (2004) noted that admission offers are more likely to be accepted when paired with monetary support through research positions, teaching assistantships, grants, and contracts. These contracts are typically set up so that a student spends a certain number of days each week working in a school district, learning side by side from a practitioner and doing the tasks he or she is qualified to perform. The district then pays the university the student’s cost of attendance (or a portion thereof) for the services rendered (Zhou et al., 2004). The authors did not state how widespread the use of such contracts is.

Although it has been discussed and briefly pursued in the past (e.g., Lahman et al., 2006), distance learning has received renewed interest as of late (NASP, 2016; NASP, 2017a). A recent series of articles in the *Communiqué*, NASP's professional publication, advocated for the field to explore and expand online training as a means of counteracting a school psychologist shortage, particularly in rural areas (Dixon, 2017; Moy, Chaffin, Fischer, & Robbins, 2017). One author noted that, within six months of posting on his university's website that he was exploring a form of online school psychology training, he received 150 inquiries from educators working in rural areas of his state who were interested in such a program (Dixon, 2017). It is no secret that distance learning has increased over time (Allen, Seaman, Poulin, & Straut, 2016), particularly as technology has improved.

There is precedent for successfully training individuals primarily through online methods. Moy et al. (2017) cited the existence of at least one school psychology program that already offers an online degree, although it is currently only offered for psychologists respecializing into the field and individuals who have worked for several years teaching or in a closely related field. Lahman and colleagues (2006) described a one-time program that was established specifically to address school psychologist shortages in rural areas of a western state. The students, who worked full-time, completed online assignments and attended one of three satellite locations within the state on weekends where they could participate in classes via video link (Lahman et al., 2006).

Although it seems there is no current school psychology program that offers an online degree for individuals new to the field, two articles from the counseling literature describe a model for online instruction in counselor programs accredited by the Council

for Accreditation of Counseling and Related Educational Programs (CACREP; Sells, Tan, Brogan, Dahlen, & Stupart, 2012; Reicherzer et al., 2012). In both cases, students are required to attend short (i.e., 8-10 days) in-person residencies periodically in the first years of the program, but otherwise classes are conducted entirely online. Faculty cultivate counseling skills by providing feedback on video-recorded counseling sessions and practical experiences occur in the students' local areas (Sells et al., 2012; Reicherzer et al., 2012).

Retention. Once individuals are attracted to the field, it is essential that they remain within it. As Lund et al. (1998) pointed out, "There would be no shortage of practitioners if every current practitioner continued in the profession in a practitioner role until retirement and if every graduate represented a new practitioner to the market; however, that is not an accurate depiction of school psychology trends" (p. 107). Davis et al. (2004) placed the onus on school psychologists themselves, suggesting that good relations with coworkers, parents, and community members would in turn result in a more positive work environment.

School districts are also important for establishing an environment that encourages school psychologists to stay in the field. NASP recommends a comprehensive role that is in alignment with its *Model for Comprehensive and Integrated School Psychological Services* (usually called the "NASP Practice Model;" NASP, 2016). In order to foster high rates of retention, districts are encouraged to give special consideration to the point that each individual practitioner is in their career and the challenges faced at each phase. Support for new school psychologists during the first few years of employment, specifically through supervision and mentoring, should be made

available in order to provide them with a solid foundation for the rest of their careers (Canter, 2006; NASP, 2016). Later on, more opportunities for career advancement must be provided to retain more experienced psychologists (Canter, 2006; Castillo et al., 2014; NASP, 2016). Furthermore, throughout employment professional development ought to focus on the knowledge and skills that are most relevant to the obstacles that school psychologists are facing at that time (Castillo et al., 2014; NASP, 2016).

Policy changes and the current NASP platform. For many years, NASP has identified various issues that the organization feels is exacerbating the anticipated shortage and provided suggestions for possible policy changes that would alleviate it. To date, it does not appear that any of the recommendations have been adopted by federal or state legislatures, making them still relevant today.

With its first document concerning shortages over a decade ago, NASP (2006) advocated for loan forgiveness and tax credits for school psychologists who successfully complete an accredited training program and then agree to work in a community with a demonstrated shortage. It requested greater funding for the Elementary and Secondary School Counseling Program which provides funds for school districts to hire new school psychologists. This point is even more salient today. From 2002-2007, between \$32 million and \$35 million were appropriated every year for this program, but from 2010-2014 the U.S. Department of Education (2014) estimated funds averaged only about \$15 million per year. NASP advocated for the creation of programs that would recruit graduate students to work in under-served communities or to serve under-represented populations (NASP, 2006). It also requested that incentives be provided specifically for the expansion of existing school psychology training programs. In addition to these

attempts to increase the school psychology workforce, NASP sought increased funding to programs that would be further burdened if the shortage were allowed to persist, such as the now-defunct Safe and Drug Free Schools program (NASP, 2006).

In addition to documents specifically targeting the shortage, NASP publishes a public policy platform every year with a list of key policy objectives and a list of legislation before the U.S. Congress that supports those objectives. This year the second key policy objective is to remedy shortages in school psychology (NASP, 2018b). Goals range from broad proposals to assist local efforts to recruit and retain school psychologists to targeted calls for specific laws to be passed. The organization wants increased reciprocity between states for school psychologist credentials (and recommends the NCSP as a means of doing so) with an aim to reduce barriers to filling positions in underserved areas (NASP, 2018b). The platform opposes, however, the use of emergency credentials that allow professions from related fields to supplant school psychologists in schools (NASP, 2018b).

NASP continues to endorse a number of proposals that would provide funding to individual school psychologists, school districts, and other stakeholders. NASP advocates for funding to support school psychologists by making them eligible for Health Services Loan Forgiveness grants and the Public Service Loan Forgiveness Program (NASP, 2018b). It also supports funding for Behavioral Health Workforce Grants that provide financial supports for school psychology interns in underserved communities as well as the passage of the Increased Student Achievement Through Increased Student Support Act, which would provide grants to create partnerships between low-income school districts and graduate programs (NASP, 2018b).

It is worth noting that there are two opportunities for legislative action to be taken with regard to education in this country. First, reauthorization of IDEA is long overdue, as it was traditionally reauthorized every five years, but Congress has not done so since 2004. Secondly, the current presidential administration has consistently advocated for substantial departures from the status quo across many policy areas. It could potentially enact changes in education policy that are similarly contrasting to those currently in place. As Merrell et al. (2006) asserted, “None of us can possibly imagine the specific social, political, and economic conditions that will result in changes to federal education laws, but if the past is a guide, we can be assured that such changes will indeed happen. In fact, you should be able to safely bet your paycheck on this prediction” (p. 271).

Educational Policy

Effecting Change in Educational Policy

Educational policy is largely driven by three factors which will be described in further detail below: theory, practice, and politics (Kogan, 1985).

Theory. On the surface, policy theorists and policy makers seem to exist on opposite ends of a spectrum. Theorists are often removed enough from the political process that they can develop broad philosophies that are generalizable to a variety of situations, while policy makers often develop in-depth expertise related to the specific issues applicable to them (Cairney, 2015). When a new theory comes in vogue, it can result in a drastic paradigm shift. On a local level, differences between school districts can often be attributed to differences among their leaders’ or citizens’ philosophical underpinnings. Although it might be the most difficult, perhaps the best way of

effectively creating a widespread change in educational policy would be to gain support for a particular theory in line with one's goals.

Practice. Practice also informs policy formation. Practitioners develop their own methods, either through variations of proven methods or through synthesizing existing research. Some may argue that an effective scientist-practitioner is obligated to continuously operate in such a fashion (Huber, 2007). Philosophy also plays a role in the development of new practices, as individuals are apt to attempt new methods that align with the scientific theories they subscribe to long before those methods are adopted broadly by mainstream practitioners (Dunn, 1999). As effective practices are attempted, tested, and verified, they will often come to the attention of legislators or advocates who attempt to promote their use through formal educational policies.

Politics. The third factor influencing policy formation is likely the most prominent: politics. Policy change may occur at three levels of the political process, namely the federal, state, and local. Public education is primarily the responsibility of states and local jurisdictions, but the federal government has enacted greater control in recent years through its so-called 'power of the purse strings' and antidiscrimination laws (Wong, 1999; Jacob, Decker, & Hartshorne, 2011). Importantly, rules and regulations derived from newly enacted laws are developed by an executive agency and ultimately have the same weight as the laws themselves (Jacob et al., 2011). This gives that agency—the U.S. or state Department of Education for most laws pertaining to schooling—a great degree of power in interpreting laws and how individuals or organizations will adhere to them. School systems are highly motivated to be involved in the formation of educational policy, as it ultimately falls on them to provide a free

appropriate public education must be provided to all school-aged children (Jacob et al., 2011). Systems must consider the realities of cost and employee compliance (Pullin, 1999).

Recognizing the importance of the political process, many professional organizations, such as NASP and the APA, employ lobbyists and enlist their members to advocate for their interests to elected representatives and departments of education. It therefore behooves school psychologists to liaise with those agencies to ensure that they are mindful of the work school psychologists do. The political process is especially important to the field of school psychology, as most of its members work for organizations funded by tax revenues (such as public schools, public universities, or educational agencies; Lund et al., 1998) and support positions in public schools are differentially impacted when school budgets tighten (Center for Mental Health, 2012).

Educational Policies Affecting School Psychologist Employment

Credentialing. Particularly important policies for school psychologists are those that set the guidelines for attaining practice credentials in each state. Credentialing is a formal means of ensuring a psychologist practices only within their areas of competency, thereby aligning their training with professional ethical standards (Fagan & Wise, 2006). It can be viewed as a means of “quality control” (Merrell et al., 2006). While there are some exceptions, in most states (including the target state for this research) the state department of education is responsible for credentialing school-based practitioners (Fagan, 2003; Fagan & Wise, 2007). Notably, school-based practice does not require a doctoral degree, while non-school practice (i.e., independent practice) does require one (Fagan, 2003).

Because of differences between state policies, having a credential in one state does not necessarily mean an individual will qualify for the same credential in another state (Merrell et al., 2006). This could limit a person's geographic mobility and the ability of the workforce to adjust to supply and demand fluctuations as they occur in different regions. As was stated above, NASP is presently advocating for greater reciprocity between states (NASP, 2018b). Over the years, NASP has already been successful in advocating for credentialing requirements to more closely match NASP's criteria for being nationally certified. Thirty-one states, including the target state, currently accept the NCSP designation as at least a partial fulfillment of their requirements (NASP, 2015b; Tharinger et al., 2008; Merrell et al., 2006). As is the case with respecialization, changes to these credentialing criteria could have an impact on the size of the school psychology workforce.

Accreditation³. Any discussion of credentialing must also briefly touch upon the topic of training program accreditation. A program's accreditation status plays a large role in its graduates' ease of qualifying for several credentials (Fagan & Wise, 2007; Prus & Strein, 2011). Although the accreditation organizations are not government agencies, "their decisions influence government funding agencies, scholarship commissions, employers, and potential students" (Fagan & Wise, 2007, p. 204). Accreditation also serves as a means of comparison between programs, affording program directors the

³ Technically, APA "accredits" programs while NASP "approves" programs. NASP functions, however, as a specialized professional association of the Council for the Accreditation of Educator Preparation (CAEP, but still referred to as "NCATE" for program approval), which is responsible for accrediting programs within the field of education. Because NASP acts as a proxy for CAEP/NCATE, its approval essentially functions as *de facto* accreditation. For simplicity and clarity, the word "accreditation" will be used throughout this section to mean any type of formal approval of a training program by a professional organization.

opportunity to advocate to their universities for resources found at other programs of similar stature (Prus & Strein, 2011).

APA and NASP accreditation requirements directly shape the training that school psychologists receive and their prospects for future employment. For instance, NASP has raised its standards since it set its first program guidelines in the 1970s. In that time it has more than doubled the expected number of credits and internship hours of entry-level school psychologists (Florell & Fagan, 2011). Many state boards of examiners in psychology accept a doctoral degree from an APA-accredited program as automatic fulfillment of their education requirements for licensure. These programs, therefore, are more attractive to applicants who hope to practice in a non-school setting following graduation (Prus & Strein, 2011). Likewise, a degree from a NASP-approved program expedites the process of attaining the NCSP, which, as previously stated, has become widely accepted throughout the country. Thus, programs have great incentives to attain and keep these accreditation designations in order to attract quality students and maintain prestige (Fagan & Wise, 2007). Although accreditation standards are set by private organizations, they have an effect on the field commensurate with formal educational policies.

Chapter 3: Methods

This chapter will describe the methods by which the researcher investigated the manifestation of the school psychologist shortage, the factors influencing its impact, and possible future directions. It will outline the research questions guiding the research as well as a description of the methodology used in collecting and analyzing data.

Research Questions

As delineated in Chapter 1, the present research was guided by five research questions grouped into two broad categories. These are:

1. How are different stakeholders anticipating/experiencing the upcoming/ongoing shortage of school psychologists?
 - a. How do these experiences differ by professional role?
 - b. How do these experiences differ by geographic setting?
2. What factors (policy or other) are impacting the supply and demand of school psychologists?
 - a. What is being done (or could be done) to mitigate the effects of the school psychologist shortage?

Grounded Theory Methods

In order to explore the above research questions and to learn more about these stakeholders and their viewpoints, qualitative research methods were used to address the research questions. Qualitative methodologies are generally used to understand individuals' experiences and views of the world (Hallberg, 2006). Qualitative research culls a depth of detail from the participants that is not possible through other means, such as a survey. Using broad, pre-determined questions in a semi-structured interview

ensured that key topics were covered while allowing for the exploration of unique perspectives in greater detail (Corbin & Strauss, 2015). The depth offered by qualitative research practices allowed the results to be described beyond mere description; instead, a broader understanding could be developed as to how and why things were happening (Corbin & Strauss, 2015).

The specific qualitative methods used for this research were those used in grounded theory research. Such grounded theory methods have been used in several studies published in recent years in school psychology journals (e.g., Graybill, Varjas, Meyers, & Watson, 2009; Kit, Garces-Bacsal, & Burgetova, 2015; Barnett, 2012) and to examine the practice of school psychology for dissertation research (e.g., Mewborn, 2006; Newman, 2009). Grounded theory is a methodology that aims to develop an understanding of phenomena “from concepts derived, developed, and integrated based on actual data” (Corbin & Strauss, 2015, p. 6). As the name of the methodology suggests, the conclusions produced by the present research are “grounded” in the data rather than *a priori* hypotheses. This aspect of the methodology left open the possibility that a new, unique perspective on the school psychologist shortage might emerge after many years of conjecture.

A key technique used in grounded theory methodology is the practice of performing constant comparisons. Constant comparisons involve the data being broken down into smaller, manageable units and evaluated in relation to one another to see if they are conceptually the same (Corbin & Strauss, 2015). If so, they are grouped together under a conceptual label or coding. As is expected when making constant comparisons, the researcher analyzed the data as it was being collected, with insights informing

subsequent data collection. In this way, “research analysis and data collection are interrelated” (Corbin & Strauss, 2015, p. 7), as the researcher was able to ask additional questions during subsequent interviews in order to explore a particular relationship and test hypotheses.

The tendency for data collection to evolve as it progresses also explains grounded theorists’ openness to the manner in which that data is collected. While the interview was the primary means of collecting data for the present research, grounded theory methods are flexible in that they allow for data to be gathered through a variety of means (Corbin & Strauss, 2015). Several interviewees shared documents with the researcher to further illustrate points or as resources with more specific data than they knew offhand. The flexibility in being able to use multiple data sources was also conducive to the present research for practical reasons; follow-up questions could be asked via phone or email, which better accommodated individuals’ schedules.

Participant Pool

Though there are differing theories on how to select participants when conducting qualitative research, they generally involve purposeful sampling (Coyne, 1997). This means that “the sample is always intentionally selected according to the needs of the study” (Coyne, 1997, p. 629). This method has its limits (Shenton, 2003), such as a lack of generalizability, but in cases where the target population is such a small proportion of the overall population, as was the case here, purposeful sampling may be used (Berg, 1998).

In order to gain a well-rounded understanding of the shortage’s impact, the sample in the present research consisted of key stakeholders in the field within a mid-

Atlantic state. To ensure maximum variation of the data, stakeholders were selected based on their roles in the field and the nature of the organization which they represent. The researcher specifically sought out individuals who served in their role capacity for an extended period of time so that they could speak to longer-term trends. He focused on three groups of individuals within the state who were believed to hold a professional interest in the nature of school psychology employment. The first group was comprised of the directors of psychological services in the state's school districts. These individuals have vested interests in keeping their schools properly staffed and must navigate the employment market every time that they need to hire a new employee. The second group was made up of university trainers at school psychology graduate programs in the state, as they supply the field with new school psychologists. These individuals were sought out specifically to provide insights into the factors that determine a program's entry cohort sizes and overall enrollment. Finally, the third group of individuals with special knowledge of school psychology employment consisted of those professionals who have unique positions that allow them to offer state-level perspectives of the field, either as a part of the state government or a professional group.

Qualitative research guidelines generally do not specify a number of participants that should be included. Charmaz (2014) recommended organizing one's study so that a range of participant views and actions are detailed. The researcher should seek to attain theoretical saturation, the point at which collecting further data will not yield any more useful information. With that end in mind, participants were invited with a mind towards professional diversity, in terms of their professional roles as well as the organizations into which they could provide insight. Regarding university trainers and those with a state-

level perspective, the pool of potential participants was very limited and all of the most relevant individuals meeting the criteria were invited to participate in either a pilot or official interview.

There were more options with regard to the pool of present and recent district directors of school psychology. In order to ensure that responses to interview questions would address trends over time, the researcher avoided recruiting individuals he knew to be new to their positions. As was described in the literature review, the practice of school psychology varies based on the demands of the geographic setting. The researcher therefore attempted to balance interviewees from urban, suburban, and rural districts in order to ensure that a diversity of experiences were represented. There is a limited number of districts that could truly be considered urban within the state, so there was little decision-making in terms of which to draw from. While there are many more suburban districts present, many did not respond to requests to participate in the pilot interview process (described in greater detail below) which further limited the pool of potential participants. Rural districts are far more plentiful in the state, so the researcher sought to recruit individuals from different geographic areas of the state who could potentially speak to the practices of their entire region, including neighboring districts. Rural districts do not, however, typically have a school psychologist in a standalone role of director of psychological services. Participants who were knowledgeable of the psychological needs within their district and who played a key role in hiring school psychologists were therefore recruited instead.

Pilot Interviews

Prior to conducting the research as described here, three pilot interviews were proposed, each with an individual who might otherwise meet the criteria for selection as a participant (i.e., individuals at the state, district, and university levels). The purpose of these pilot interviews was to test the interview questions and get feedback, as these individuals could offer insights into the participant experience that might otherwise have been overlooked during the planning phase.

Pilot interviews were conducted in January 2017, first with a university trainer and then a state-level representative who had recently also served as a district director. Neither interviewee suggested changes be made to the interview format or questions. The researcher then set out to recruit a third interviewee who would represent the district-level perspective. He reached out to three separate individuals, making multiple attempts via both phone and email over several weeks, but did not receive any response from them. Following consultation with his research adviser, he decided to begin formal data collection without conducting a third formal pilot interview. This decision was made for several reasons. First, the sets of interview questions covered the same topics with only slight variations based on stakeholder role and neither pilot interviewee had voiced any concerns about them. Furthermore, the second pilot interview was with an individual who had recent experience at the district level and spoke from that perspective at length, even though he was nominally a state-level representative for the purposes of the pilot. Third, it was decided that the first official interview with a district-level stakeholder could include a feedback session afterwards like those that took place after the pilot interviews. There were far more district-level interviewees available, so if the feedback called for

significant changes to be made then additional participants would be recruited.

Ultimately, the first district-level interviewee was as supportive of the questions and format as the pilot interviewees and no significant changes were made to the process as a result of that feedback. As a result, the format and procedures used in the pilot interviews were carried through into the formal interview process without any substantial alterations.

Recruitment and Participant Profiles

Once the researcher had identified potential participants, he called each of them to inform them about the study and what their participation would entail. When individuals did not answer their phones, he provided the information in the voicemail and informed them that he would also send an email with the relevant information (see Appendix B). In several cases, he interacted with potential recruits in the course of other business and discussed the research with them in person, sharing the full details later via email. Three district directors who were contacted to participate in a pilot interview did not respond to any of the researcher's attempts. During recruitment for the official interviews, however, all contacted individuals consented to be interviewed, although one individual who was to provide an additional state-level perspective needed to withdraw beforehand due to personal reasons.

Saturation was achieved simply enough with regard to the university and state-level participants; with the exception of the individual who needed to withdraw, all potential members of the participant pool were included either in a pilot or official interview. Similarly, urban and suburban district directors within the state were well-represented. While only two representatives of the many rural districts were formally interviewed, those interviewees were asked to describe the experience of their

neighboring districts and their greater geographic areas. Thus, there was much broader representation of the rural experience as a result.

Altogether, ten participants were included in the current study: two each from the state-level, university, and school district (urban, suburban, and rural) groups. All interviewees were given the opportunity to select an alias for reporting purposes. For those who declined to select their own, the researcher randomly assigned them each a name corresponding to their gender from a list of the 100 most-popular baby names from 2016 (“Most Popular Baby Names,” 2017). Interviews were conducted from January through May 2017.

Table 2 describes each interviewee by professional role and, in the case of the district directors, a description of the psychologist-to-student ratio in their district. Although exact ratios were calculated based on published enrollment data and interviewee-reported staffing levels, broad ranges are provided to increase confidentiality. For the purposes of Table 2 and all subsequent descriptions, a “low” ratio signifies less than 1,000 students per school psychologist, an “average” ratio signifies 1,000-1,500 students per psychologist, and a “high” ratio signifies a district with more than 1,500 students per psychologist. It should be noted that while the national average is 1:1,383, this is still double the recommended ratio of 1:500-700 for delivering comprehensive services (NASP, 2010). Among the six district directors interviewed for this study, each range was represented by two interviewees.

Table 2
Participant Roles

Participant	Professional Role	Psychologist-to-Student Ratio	Interview Length
Abigail	District Director - Urban	Low	57min
Camilla	State-Level Representative	N/A	1hr, 02min & 21 min
Chloe	District Director - Suburban	Low	1hr, 4min
Evelyn	University Trainer	N/A	34min
Hannah	District Director - Rural	Average	44min
Kia	University Trainer	N/A	1hr, 3min
Noah	District Director - Urban	Average	1hr, 6min
Olivia	District Director - Rural	High	42min
Riley	District Director - Suburban	High	59min
Victoria	State-Level Representative	N/A	1hr, 22min

Note. Ratio ranges are based on the most recently published enrollment data and interviewee-reported staffing levels.

The participants with a perspective across the entire state were Camilla and Victoria. Camilla has many years of experience leading and representing interest groups both within the state and the multi-state region. She currently serves as a professional association representative. Victoria has served in the state government for three years representing school psychology needs. Both were employed as practitioners within the state for about two decades prior to their current positions. Evelyn and Kia provided perspective on the experience of university trainers of school psychologists. Both of their schools are public universities and each individual served as director of their program for over a decade.

Among the district directors, Noah and Abigail have experience in urban districts, though they manage staffs with drastically different ratios. Noah's district ratio is in line with the national average, while Abigail's district has a low ratio that is approximately half that of Noah's. A similar dichotomy is present between the school systems overseen by the suburban district directors, Chloe and Riley. Although their districts have similar

levels of student enrollments, Chloe's low ratio is almost half that of Riley's high ratio due to the number of school psychologists employed in each. It should be noted that the researcher is employed as a school psychologist in Chloe's district and many interviewees spoke about their district in relation to Chloe's, perhaps as a result of the researcher's known position there.

Interviewees speaking about rural districts included Hannah and Olivia, the former representing a district with an average ratio and the latter representing one with a high ratio. Hannah was the only interviewee who was not a school psychologist by training, but she was able to speak to the topic of a shortage because she supervised and hired her district's psychological staff. Olivia also held a unique position in contrast to the other interviewees, as she did not supervise the school psychologists in the same way the other interviewees did. She did serve, however, as the lead school psychologist for her district. In that regard, she played a key role in hiring new psychologists and consulting with colleagues on matters specific to the profession.

Procedure

Interview questions were initially developed with a clear focus on the research questions. After receiving feedback from the dissertation committee, these were revised in order to gather more objective data about the interviewee's view of the school psychologist role and how staffing levels relate to the role. Participants were asked how they expected their needs might change in the near future and how a school psychologist shortage might impact those needs. Interviewees furthermore shared their thoughts on who the key stakeholders would be in addressing a shortage, the role of interest groups, as well as any laws, policies, or procedures that could be addressed or enacted to create a

beneficial outcome. Although most questions were universal across participants, slight variations were made to address specific issues affecting certain stakeholders, resulting in three sets of interview questions. These questions are listed in Appendices C, D, and E. As both the interviews and the data-collection process progressed, questions became more focused in order to clarify understanding, to fill in gaps that existed in the data, and to explore hypotheses. Specific topics that had achieved saturation through previous interviews were emphasized less so that more time and attention could be devoted to topics that still needed exploration.

Participants were interviewed face-to-face in order to build rapport and ensure that nonverbal cues were appropriately captured. A second phone interview was also conducted with one participant, Camilla, because she wanted to share relevant information she had collected the year prior but did not have on hand during the in-person interview. Prior to the beginning of each interview, the scope of the research, potential benefits and risks, and limits to confidentiality among other topics were formally reviewed via an informed consent form (see Appendix F). All interviewees signed the form acknowledging their consent to participate. The interviews were audio recorded with a digital audio recorder and the researcher's cell phone (with internet disabled) as a backup recorder. Once the file was uploaded to the researcher's password-protected computer and found to be of acceptable quality, the audio files were deleted from the devices.

Software Selection and Transcription

There are numerous software programs that aid in conducting qualitative research and published research has used them since 1980 (Berg, 1998). After reviewing the

features of several such programs, the researcher decided to use NVivo 11 to organize the various components and processes required of qualitative research. Originally, the researcher also had proposed using speech-to-text software to produce a rough transcription of each interview before personally revising them for errors. All available services, however, required that the files be uploaded to an online platform for conversion into text. Because he could not be confident in the security of such third parties, he instead transcribed all audio files directly into NVivo 11 from scratch.

Data Analysis

The essential component of data analysis in qualitative research is a constant questioning of the data. Throughout this process, the researcher asked the basics of “who, what, when, where, how, and with what consequences” (Corbin & Strauss, 2015, p. 92) and questioned what participants meant by their words. He also periodically reviewed the four types of questions recommended by Corbin and Strauss (2015) in order to consider the data in different ways: (a) sensitizing questions, which attune the researcher to what the data means; (b) theoretical questions, which help make connections between concepts; (c) practical questions, which direct the researcher to consider what gaps still exist in his data and what information must still be gathered; and (d) guiding questions, which guide the data collection and analysis processes. The researcher was mindful of these types of questions during the data collection and analysis phases and made an effort to review them periodically to ensure the research was being conducted at an appropriately high level.

Memos and Visual Diagrams

The researcher also used NVivo when writing memos throughout the data collection and analysis stages. Memos summarize the researcher's thoughts and understanding of the data being collected and analyzed (Corbin & Strauss, 2015) and helped the researcher crystallize his conceptualization of the information while also serving to guide his next steps in the research process. Memos served as an opportunity for the researcher to review both the content of the data and the process of interpreting it with a mind towards how that might have an impact on the ultimate conclusions. Corbin and Strauss (2015) recommended that summary memos be written periodically. In the present research, memos were written in NVivo following interviews, while transcribing, and while coding the data. These summary memos were useful in clarifying the relationships among different concepts both at the time and upon later review.

Coding

The NVivo software also served as the means by which the transcribed interviews were coded, the formal means of analyzing data in qualitative research. The first type of coding was open coding, in which the researcher provided a label for each unit of data that simultaneously categorized and summarized it (Charmaz, 2014). These labels can be interpretive (Charmaz, 2014), utilizing either *in vivo* terminology that the participant would use him- or herself or the researcher's own sociological constructs (Berg, 1998). In the present study, the researcher sometimes used *in vivo* terminology, but generally preferred established terms. During open coding, it is important for the researcher not to become too bogged down by obstacles, but rather to focus on beginning a wide inquiry of the data (Berg, 1998). Per Charmaz (2014), the researcher sought to keep it a simple,

direct, and spontaneous process in which he kept an open mind. He used finer-grained labels during this initial process with the understanding that it would be easier to combine overly specific categories later on than it would be to separate overly broad ones.

Per Charmaz (2014), open coding was followed by a process called focused coding in which the researcher consolidated duplicates and further distilled the open codes down into the most significant and/or frequent codes. In essence, he aimed to “clean up” the data and made sure codes were mutually exclusive of each other to the greatest extent possible. He then created diagrams in NVivo to organize how the different data and themes were interrelated. In this way, the codes were visually apparent in their relationship to those surrounding them. For the final step of data analysis, the researcher sorted and reviewed all of the previous work he had done, including all memos and diagrams, in order to develop an overarching understanding of the data (Corbin & Strauss, 2015). He checked for gaps in logic and sought to acknowledge the limiting factors in the study for the final conclusions.

Trustworthiness

In the same way that results obtained through quantitative methods must meet validity expectations, qualitative results must similarly demonstrate that they are trustworthy. Guba (as cited in Shenton, 2003) delineated four criteria to determine the trustworthiness of qualitative research: credibility, transferability, dependability, and confirmability. These four concepts are comparable to the constructs in quantitative research of internal validity, generalizability, reliability, and objectivity, respectively.

Credibility was accomplished by using established methodology that was well-suited for the research questions and reflecting often on the research as it progressed in

order to monitor the researcher's developing constructions (Shenton, 2003; Morrow, 2005). This was accomplished by adhering to grounded theory methodology during analysis, specifically the steps described above as recommended by experts like Charmaz (2014) and Corbin and Strauss (2015). Thick description of the data being analyzed (i.e., putting data in greater context) in the following chapter also serves to ensure that the researcher interpreted the data properly, as it opens him up to the reader's own interpretation of the information (Ponterotto, 2006; Morrow, 2005; Morse, 2015).

Member checks, which entail the researcher returning to interviewees with data (e.g., transcripts, codes, emerging interpretations) to see if their experiences are being accurately represented, also increase credibility (Shenton, 2003; Buchbinder, 2011). Guba described member checks as the most important strategy for supporting a study's credibility (Shenton, 2003; Buchbinder, 2011). Morse (2015) warned, however, that member checking of aggregate and synthesized data is problematic because it represents more than one individual's perspective. In the present research, participants were emailed portions of this text containing their words and the researcher's explanation thereof in order to ensure that their meaning was being properly represented. Keeping Morse's warning in mind, however, it was only used to examine data specific to that participant.

Transferability, or generalizability, was increased by placing few restrictions on the type of people contributing data, collecting a suitable amount of data, and culling participants from an adequate number of organizations, with the rationales for these decisions clearly described (Shenton, 2003; Morrow, 2005). Dependability is more difficult to ensure in qualitative research given that it often investigates quickly-changing phenomena. Shenton (2003) recommended that the processes be described in great detail,

as has been done in this chapter, “thereby enabling a future researcher to repeat the work, if not necessarily to gain the same results” (p. 71). The practice of thick description should aid in this regard. Finally, confirmability (similar to objectivity) has been maximized throughout this process by the researcher relying heavily on objective data and reporting as thoroughly as possible his own predispositions (Morrow, 2005; Shenton, 2003).

Chapter 4: Results

The purpose of this chapter is to describe the findings from the present research into the expected shortage of school psychologists within the mid-Atlantic state in question. As described in the previous section, a variety of stakeholders were interviewed about their experiences and perspectives. Their responses to those questions were then transcribed, organized, coded, and will now be described below. Themes and subthemes that emerged from the interviews have been categorized into Table 3 below as they are relevant to each research question.

Table 3
Research Questions and Associated Themes

<u>Research Question</u>	<u>Associated Theme(s)</u>
1. How are different stakeholders anticipating/experiencing the upcoming/ongoing shortage of school psychologists?	<ul style="list-style-type: none"> a. Mismatch Between Ideal and Actual Role <ul style="list-style-type: none"> i. Preference for a Broad Role ii. Demands of Special Education Eligibility Process b. Desire for More School Psychologists c. Retention d. Recruitment <ul style="list-style-type: none"> i. Midyear Vacancies ii. Use of Contracted Psychologists e. Shortage Perceptions
1a. How do these experiences differ by professional role?	<ul style="list-style-type: none"> a. Trainers Compared to Non-Trainers
1b. How do these experiences differ by geographic setting?	<ul style="list-style-type: none"> a. Stark Differences Within Settings b. Issues Specific to Rural Settings
2. What factors (policy or other) are impacting the supply and demand of school psychologists?	<ul style="list-style-type: none"> a. Desire for More Graduate Students <ul style="list-style-type: none"> i. Graduate Program Constraints b. District Budgetary Constraints
2a. What is being done (or could be done) to mitigate the effects of the school psychologist shortage?	<ul style="list-style-type: none"> a. Potential Changes to Graduate Training Models b. Advocacy and Collaboration with School Districts c. Collaboration with Interest Groups d. Potential Changes to Laws and Policies

Shortage Experiences

In this section, the first research question will be explored, namely, “How are different stakeholders anticipating/experiencing the upcoming/ongoing shortage of school psychologists?” This question will be examined in the context of how stakeholders might have disparate experiences based on their professional role as well as the function of the organization in which they serve. A second context that will be investigated will be that of how geographic setting has an impact on the shortage issue, namely whether it is manifesting differently in urban, suburban, and rural locales.

Mismatch Between Ideal and Actual School Psychologist Role

Preference for a broad role. The first theme that emerged from the participant interviews was that there was often a mismatch between their ideal views of what a school psychologist should do and what they tended to do in reality. There was universal agreement among the participants that school psychologists ought to have a broad role that addresses a variety of concerns within public education. Several interviewees referenced the historical expansion of the role over time from one that traditionally focused primarily on special education assessments to the current one exemplified by the NASP Practice Model (NASP, 2010).

The NASP Practice Model outlines the ten domains of service that a school psychologist could potentially provide and often serves as a source to guide the design of graduate training programs. Multiple interviewees reported that they evaluate their staff members using the Practice Model framework for guidance. Those who did not explicitly cite the NASP Practice Model often listed a litany of skills that align with it. Camilla, a state-level stakeholder, provided a summary view of school psychology practice across

the state that was representative of the way many other interviewees described the many tasks subsumed within school psychology practice there:

I believe that over the years that we have really expanded the role and see ourselves as mental health and behavioral health providers doing counseling, doing consultation, doing school improvement efforts, school wide practices, things like PBIS--Positive Behavior Interventions and Support--doing data review with principals...along with assessment and intervention, academic intervention.

There are school psychologists across the state that do all of those things.

The Practice Model is so central to the conceptualization of school psychology practice in the state that there is currently a push to codify its components into state law. Camilla noted that current state regulations include “a description for school psychological services and what that means and what it is. And we have drafted, pretty much taken the Practice Model and put it into a [legal] document.”

Olivia, a rural district director, shed some insight on why there is now a widespread desire among practitioners for a broad role. She offered, “I don't think there's anybody who says, ‘I don't want to test.’ Or ‘I don't want to do this.’ I think people just want more time to do what we're all trained to do.” Her statement points out that changes in school psychology *training* over the years have been a driving force in shaping school psychology *practice*. Olivia believes that individuals are not necessarily averse to the former way of doing things, but rather want to be able to use all of the skills they have—the skills often developed in graduate school at the behest of NASP—in order to do their jobs most effectively.

While there was this notion of an obligation to realize one's professional

potential, interviewees repeatedly cited real, specific needs in their schools that could be addressed by school psychologists if they were given the opportunity to do so. Both university-level stakeholders, for instance, highlighted the school psychologist's role as a consultant as being central to the profession. Evelyn gave the example of classroom management as an area that teachers are often lacking in training. School psychologists can consult with them to improve their skills while also making it easier to discern which students require more targeted interventions:

Once we can assist our colleagues in managing regular behavior problems, then we train school psychologists to deal with children who might need small group or individual [interventions].

Kia, the other university-level stakeholder, even emphasized consultation as a feature of her training program that distinguishes it from similar psychology programs in the same academic department.

Another specific need that many of the interviewees brought up was the mental health needs of their students, particularly in the context of the broader community. At the state level, Victoria has seen an increased need for these kinds of services based on the shifting needs of children:

There is a huge change in demographics in [the state] in terms of students and how students are presenting in schools and the kinds of issues that they're coming with to school. For example we see more and more very young children having significant mental health issues and concerns.

Noah, Riley, Hannah, Olivia, and Chloe all independently observed that their districts have experienced an increase in the mental health needs of their students in recent years,

particularly with regard to anxiety. Riley had her staff members track all of their non-assessment activities for a period of time several years ago. She reported, “When I look at the data, psychologists address issues of student anxiety by providing individual and group therapy, parent training, and professional learning for teachers more frequently than other student issues.”

Demands of the special education eligibility process. While there was widespread agreement that a broad role was desired, the process of assessing students to determine eligibility for special education was cited as a primary obstacle to achieving it, though the degree to which that process impacted daily practice varied between districts. When Victoria, one of the state-level interviewees, indicated her preference for school psychologists to fulfill the NASP Practice Model, she also noted the reality of the field:

In our state it doesn't play out that way, right? And it typically plays out that... a large part of our role and our time ends up being focused on assessing students or doing reevaluations, initial evaluations, and that is an important part of our role.

This sentiment was shared by Noah, who faces that very challenge in his school district. Despite the fact that he and his colleagues attempt to embody the NASP Practice Model, he related that that is often not possible, saying, “The reality is most of the time my school psychologists are probably attending meetings and testing students. Unfortunately, special education timelines take precedence over everything else.”

Two district directors used hard numbers to illustrate this phenomenon. Noah shared that his staff members were averaging about twice as many assessments per person as a neighboring school district, with some individual psychologists completing triple that amount. Riley cited data that she had collected four years ago about the way

her staff members spent their time which revealed that “going to IEP meetings, testing, writing reports, and then sharing those reports” was occupying “75-80% of their time.” She expressed that the testing requirements limit her team’s ability to demonstrate the full breadth of their capabilities:

The gap [between the ideal and actual role] is in the need for assessments for special ed eligibility, which tends to then consume a large portion of [psychologists’] time. So they are all those things that I listed and they have the ability to be all those things that I listed. They don't always have the time to be all of those things.

There are various reasons that special education testing consumes so much of a school psychologist’s time. Interviewees in both urban and rural locations noted an increase in the presence of lawyers and advocates at IEP meetings, resulting in districts taking a defensive position and being more likely to test students in order to avoid a costly legal fight later. Noah highlighted one trend in particular that was contributing to an increase in referrals leading to full comprehensive evaluations in his district:

We're being forced more and more to do testing, sometimes when we would not have done it before. When parents bring in advocates and lawyers and threaten due process hearings, we are going to wind up testing the student regardless of what the data shows.

Another reason that the special education process is now consuming more of school psychologists’ time is the increasing complexity of the assessments themselves over the years. Chloe observed:

The cognitive tools that we have available to us are much more complex. There

are a lot more rating scales, there's a lot more rating scales measuring things that didn't exist, such as executive functioning, such as autism. You know autism wasn't even part of the world when I started.... Before, most of my assessments might have been just looking at whether or not the student had specific learning disabilities. Now I might be looking at two or three disabilities at the same time.

For many school psychologists, their assessment process is sacrosanct, and they will not cut corners even when overwhelmed with responsibilities. When Noah spoke about the high volume of assessments some of his staff members have, the researcher asked him whether he had noticed if their reports had become less complex as a result. He responded that this was not the case. Instead, the determining factor had more to do with personal preference:

It's really up to the individual school psychologist. I have some people who are going to do very comprehensive assessments regardless of the reason for referral....Some school psychologists write 20 page reports and I have a few that will write 4 page reports. However, most of my people do very thorough evaluations.

There is also an indirect impact the special education eligibility process has on the work school psychologists do. On the surface, they are unable to carry out many of the functions within a broad role simply because they do not have enough time to carry out those functions. In some cases, however, interviewees indicated that the amount of time consumed by testing requirements changes the way practitioners approach other obligations. Hannah illustrated this impact when discussing the way her staff members have had to approach a greater frequency of mental health issues in recent years:

We are definitely seeing an increase here in [this district] of students with mental health needs, which then ultimately results in behavioral challenges in the school setting.... We're again being reactive to the behavior and not really being able to get to the root and provide some of those other preventative services.

In this case, Hannah and her colleagues are forced to address the surface level manifestation of the problem (the behavioral challenges) rather than address the underlying cause itself. Chloe warned about this precise outcome if her staff ratio continued to increase, saying:

We'll see kids with behaviors [caused by anxiety], but if we don't really truly study it, we won't know the root causes of those behaviors, so we might be treating the wrong thing. We might not be getting them the right support. And then we will have an increase in behavioral challenges.

Preventative actions would be able to nip those issues in the bud, but instead they develop into problems that might be much more difficult to remedy because the attempted intervention exacerbated the situation.

Sometimes the reasons for overlooking prevention have more to do with the expectations of the school psychologist's direct supervisor. With the exception of Hannah, all of the district-level interviewees had backgrounds in school psychology and therefore understood the value of these proactive interventions firsthand. In many of the smaller school districts (like Hannah's), however, school psychologists are supervised by individuals with training in different fields. Evelyn, one of the trainers, noted that psychological services in the target state could be funded through the office of student/pupil services, through the office of special education, or through both. She

questioned whether the source of that funding had an impact on the work that an individual practitioner engages in:

If your salary is funded by the special education budget and a parent asks that their child be tested for special education rather than first go through a process of early intervention, that will impact your actions; you are more likely to complete the evaluation if that is what the Office of Special Education wants, rather than advocate for early intervention.

Along these same lines, Victoria, the state government employee, spoke to the challenge this dynamic by presenting an example of a practitioner who wants a positive performance evaluation from a special education supervisor:

If [my supervisor is] looking at how many assessments I'm able to do, when really I'm thinking some of my skills need to be used more in prevention and early intervention, well, what's going to weigh more with that person? Probably the number of assessments.

Desire for More School Psychologists

It is clear that the interviewees have ambitious goals for what school psychologists can do, and ought to be doing, to meet the needs of students. There was agreement among study participants that a poor psychologist-to-student ratio necessarily results in a narrowing of services that interfered with practitioners' ability to exercise the full gamut of their training. When they are able to address areas beyond special education testing, they are sometimes limited in the way in which they can do so, resulting in less effective interventions.

All of the district-level participants in this study indicated that immediate

demands were in some way impacting their staff members' ability to perform more preferred aspects of their jobs, but the degree of that impact varied substantially. When Chloe was asked if her ideal view of the school psychologist role matched what her staff were actually doing in her suburban school district, she said that what they were doing was "pretty close to ideal." By contrast, when Riley, the other stakeholder from a suburban school district, answered the same question, she tersely responded, "No." Her staff members, who spend three-quarters of their time attending IEP meetings, testing, and writing reports, were not embodying her ideal of the school psychologist role. Her explanation for the mismatch pointed squarely at how thinly the school psychologists in the district were spread across schools:

They do all of [the different responsibilities] but they don't do a lot of that.

Because they can't, because most of them have three schools. And it could be two high schools. So their ratio could be as high as one to 2,800.

Olivia echoed Riley's sentiments when describing her own staff's desire to conduct more proactive services in her rural district. She indicated that they wanted to more closely monitor interventions carried out by other staff and provide more direct services. In order to do that properly, however, they feel more school psychologists are needed. Olivia said, "I think what people would really like is for more staff—more generalist staff—so everybody could do everything with more fidelity."

Several interviewees directly attributed the role differences between locations to the psychologist-to-student ratio in each, with better ratios typically being associated with a broader range of responsibilities, while higher ratios were associated primarily with special education responsibilities. Hannah spoke about the way that her district's school

psychologists were being forced to address their students' needs in a non-preferred manner because their ratio did not allow for more preventative work to be implemented:

It becomes very difficult at times when we are...much over the recommended ratio....Trying to do some more proactive things becomes a little more difficult cause they give in to that '[meet as a] team, test, write report' model.

Even Chloe, who said her staff members' roles were "pretty close to ideal," has seen special education obligations creeping in on their preferred work and attributes this change to a slowly increasing psychologist-to-student ratio:

Staff are finding that less and less of their time is spent on consultation, which is the part they love, and more so on some of the... 'umbrella of special ed responsibilities.' Whether that's sitting in team meetings or whether that's doing an assessment.

An additional impact of having staff members spread thin is that individuals must take on increasing numbers of school buildings. One of the more surprising revelations was when Riley cited more data from her recent study on how her staff members were using their time. She reported, "I found that they were actually spending more time driving to schools or between their schools and office than they were spending in direct support of students."

Interviewees universally saw a need for more school psychologists to alleviate the pressures they were facing. When discussing their staffing levels, nearly all of them cited the NASP recommended ratio of one school psychologist providing comprehensive and preventative services for every 500-700 students, though when they did so, it generally came with caveats. Interviewees who were in districts that either met the

recommendation or were close to it felt it was too simplistic to consider the staffing process through simple mathematics. Both state-level interviewees noted that there are considerably different needs in different parts of the state, in terms of both student and staffing needs.

Abigail's district was a prime example of the inadequacy of the psychologist-to-student ratio for addressing needs. Camilla pointed out that Abigail's urban district "has an excellent ratio, but their need is really high. So they're still stressed....But [by contrast] there are some systems that employ one school psychologist for every two thousand, three thousand kids. And that's way off." Abigail admitted during her interview that her district's ratio "is better than any district I know of in the country." Despite this recognition, in the very next sentence she seemed to justify that ratio. She noted that she attended a presentation from a NASP representative "in which it said if [school psychologists] do full service like my staff does [the ratio] should be one to 550," which would be even better than her best-in-the-country ratio.

Chloe also has a low ratio, but grapples with how well that represents her staff and the work required in each school. She explained the challenge she faces in her suburban district:

As a whole, I should be striving for that 500-750 capacity. But what it does, it's shortsighted when you're actually talking about specific schools because schools don't fit themselves in that box. None of our high schools are going to be stopping at the 750 [student] mark, they're double that. So the challenge is while the ratio is there, it's really hard to implement.

It is worth emphasizing again that the staffing challenges that Chloe is describing

are not happening in a district that is severely understaffed. Quite the contrary, hers is a district with one of the *best* ratios in the state. Indeed, she admitted, “I cannot imagine how challenging that must feel for school districts that are in the 1,000-2,000 range.” Noah, who had previously worked in Chloe’s district, juxtaposed the different staffing models she is able to employ compared to those that he must use in his urban district:

Well how many schools do [Chloe’s school psychologists] have? One, two? My people have three or four....We have high schools that are as large as 2,500 students or more....I should have two school psychologists to handle a high school that big. I don't. So what impacts us is that we have very high ratios and multiple schools and we just can't provide as much direct service as we would like to.

Thus, while every district-level stakeholder indicated that they would ideally like an increase in their staff numbers, the wish list looked different based on current levels. Paradoxically, the ratio seemed to be more relevant to those individuals whose districts were in the vicinity of the recommended rate than those whose districts were much further away. Chloe noted that, while she discusses the ratio when speaking about the needs of her own staff, in other districts the recommendation is less effective because the goal is so far away that it is essentially unattainable. She said, “I’m not sure it’s useful for them at all because they probably feel like they’re fighting an uphill battle in being able to do that.”

Compare again Abigail and Noah, who both represent urban districts, but with very different ratios currently in place. When Abigail was asked what her ideal number of staff would be, she indicated that she would only like another coordinator to assist her

with overseeing her robust staff. When Noah was asked the same question, however, he began with a much larger number:

I'd like to have another 30 [psychologists. Abigail's district] has [30,000 fewer] students and they have [70 more] psychologists. So ideally, I would like 20 more positions. I would settle for 10 more. I could reduce assignments with an extra 10 positions.

Like Noah, interviewees in districts with ratios much higher than the recommendation tended to let on that it would be unrealistic to expect their districts to meet that standard. Instead, they used it to illustrate to stakeholders within their district how far they were from the national standard, as Riley has:

I put it out there. "This is what the national association says. This is what I think [our district] needs and the students could benefit and here is why." I have never asked for a 1 to 700 [ratio]. It's just not going to happen.

The NASP recommended ratio is so far away from their current staffing levels that the adjustment would require drastic increases in the number of school psychologists on staff. Olivia, for instance, stated that her rural district's staff would need to roughly triple in order fall within the ratio. Instead, it was more common for interviewees to frame their ideal number of staff members in the context of how many schools each individual would have to serve. Hannah, Olivia, and Riley all specifically voiced a desire for their psychologists to each have no more than two schools. Riley said, "If we ever got down to one psychologist to two schools, that would make such a difference for people. Such a difference." Several indicated that, however, the specific sizes and needs of each school would often require even more psychological support. This was particularly the case for

high schools, as has already been illustrated in previous quotes, since they naturally have larger student populations to begin with and often special programs or community needs in addition.

Retention. Most of the participants in the present research indicated that retaining employees has not been a significant concern. During the second interview with Camilla (which focused on the results of a survey she had conducted with many stakeholders the year before), she noted that a slight majority of the eight respondents' school systems had not had an issue filling positions due to people leaving the state or the profession. Interviewees who were asked about their own experiences generally did not speak of retention issues in the context of individuals leaving the profession, with the exception of retirement. Even then, they never implied that the rate of retirements was unusually high or unmanageable. Instead, they expressed that it was uncommon for staff members to leave a district once they had begun working there. Chloe stated that her ability to retain employees was a point of pride for her. Abigail noted that she recently had two staff members leave midyear, but that it was "very rare" and one actually should not have been allowed to leave because of the stipulations in her contract.

Although limited social opportunities might logically impact the ability of rural areas to attract school psychologists, the two interviewees from rural districts expressed different opinions on this issue. Hannah stated that in her district they "try to equip [the stereotypic young, single, female hire] with a guy. Get them married off and then they tend to stay." By contrast, when asked about staff members leaving for more social opportunities elsewhere, Olivia said, "We have not had that. People tend to stay."

While no one else seemed to take it to the lengths that she has, Hannah was not

alone in being mindful of her employees' social and emotional needs. Noah described the lengths that he and his colleagues go to support their employees' professional needs:

I think what [we] do to make people want to stay here is we try to build up a family atmosphere. We don't micromanage people and we have an open-door policy....So what we try to do is build an atmosphere where people feel like they're valued and that supervisors are supportive.

Many other interviewees cited reasons they believed their employees stayed with their districts, which were varied. Abigail and Riley also referenced the support their employees receive from leadership, while Hannah highlighted her district's strong benefits package and the higher compensation that comes with 12-month positions. As a result, even in the face of significant stressors, many school psychologists remain in their current assignments. For instance, when discussing her district's ratio and the demands that are placed on her staff members, Riley commented, "I'm surprised people haven't left." Furthermore, despite the matchmaking that Hannah has utilized to retain employees, similar lengths were not required in the other rural district represented by the interviewees. Olivia shared that staff members tended to leave her district for more prosaic reasons:

[They] move because they're moving away with their family for military or whatever. We've occasionally had somebody go to one of the other counties. Pay's a little higher. School assignments [are] smaller. But that hasn't happened often. We generally have pretty good retention rates of people.

This of course has not been a universal experience. Noah, in particular, has struggled with how to retain staff in his urban district:

Well the problem is, how do I keep psychologists if my staff are feeling overwhelmed or frustrated? If they can go to [a nearby district] and get more money with a smaller case load? I've lost psychologists last year to [two neighboring districts].

He elaborated that individuals leave “mostly for salary or geography; they want to be closer to home.” In the past, however, these factors were less of an issue because of the nature of the larger job market:

At one point [Chloe’s district] really wasn't much competition because they never had many positions open. But in the last couple of years, they have had more positions open, so they are now competition for us. Again, this goes back to the shortage of school psychologists out there.

Despite these concerns and increased rates of staff leaving in recent years, Noah indicated that the absolute rate of school psychologists leaving his district is still fairly low. Immediately after describing the worries he had about competing districts drawing staff members away, he noted:

We don't have a large turnover here.... Last year I couldn't even give all my interns a position because we didn't have openings. I don't predict a high turnover this year again.

Recruitment. While retention issues seemed to be mostly non-existent, interviewees did note difficulties with regard to recruiting individuals to fill open positions. Camilla noted that about half of the respondents to her survey the previous year expressed difficulty in this area. This is not to say the interviewees did not cite various ways that the state appeals to applicants. Camilla and Chloe both noted that there are

multiple metro areas with a variety of industries that significant others can find work in. Olivia and Riley illustrated this when speaking of how specific staff members' spouses were connected with military and they came to their districts after being assigned there. Camilla opined that the state "is set up very well to attract a variety of people.... You can go anywhere quickly and work in a totally different environment." Evelyn spoke of geography as well as the professional perks available:

I think [the state] has a fabulous school system, we're doing really creative things with school psychology, pay is decent, we have the mountains and the ocean....

It's a really diverse state. I mean [one district] has hundreds of languages spoken.

Although applications were still coming in from a broad geographic area (the larger districts in particular still reported many inquiries from out of state), multiple individuals noted that the absolute number they had been receiving was lower than in years past. Chloe stated:

It is getting harder to recruit 'cause there's not as many out there. I'm finding I'm not having as many people apply, I'm not having as many people be able to participate in interviews. I just think that the graduate programs are churning them out as fast as they can, but I'm not finding as many applicants as I used to get [twelve, fifteen years ago]. We're finding that both for new hires and for interns.

Noah echoed these comments while also describing the difficulty he was having filling a position in the middle of a school year:

I don't have as many applications today coming in when I advertise, even for internships. I don't have the applications flooding in like I used to. I've had an ad posted on the NASP website for over a month now. Two years ago I would have

dozens of applicants....To date I haven't gotten any.

Others spoke about their own ongoing challenges; as these interviews were conducted in the spring, many individuals were in the process of seeking individuals to hire for the next school year. Hannah shared that she has had ongoing challenges attracting a variety of applicants to her rural district:

I currently have two vacancies for the upcoming school year posted. It's probably been posted about a month and to date I have no applicants. I've had two [vacancies] in the previous two years....And I would say in both of those times, I had at most four applicants.

Olivia shared that she was able to fill one position for the upcoming year, but only had two applications for the remaining two openings. While that would cover her need, she was also aware that the hiring process requires interest from both parties, pointing out, "We might like you, you might not like us. You may want to be some place else." Olivia noted that it was not unusual for the hiring process in her district to be so precarious:

This is a military community, so occasionally you have people moving in. Two times miraculously we have had a military-connected school psych drop from the air when we needed the person. Because of that component, we do have some movement, some transition in the [district]....This is what we do. Fingers crossed.

Midyear openings. A particular difficulty that was echoed throughout the interviews was in recruiting individuals to fill openings that occur midyear. Camilla explained a key reason for why this is the case:

When you are under teacher contract [in this state] you are not allowed to leave midyear to go work in another district. If you do, first of all the district is not

allowed to accept you, but if you are to leave midyear you are at risk of having problems with your renewal of your certification because you violated your contract.

This necessarily creates a limited pool of school psychologists to draw from when trying to fill an opening, as Camilla further described:

So when we have positions open up in the middle of the year, you're pulling from out of state primarily or someone who's been on leave or unemployed or whatever. And there's not a whole lot of school psychologists sitting around looking for a job....Where do you just pull a school psychologist out of the air?

The above statements from Noah and Hannah that they had not received any applications in over a month for an opening has already illustrated the challenge inherent in attracting applicants. Even short-term help can be difficult to come by. Noah related the issues he has had finding substitutes who can cover for school psychologists who go out on leaves of absence:

We can't attract subs. [Chloe's district] has some subs [and pays] \$300 a day or something like that.... I can only pay them \$175 a day. So why would someone come work for me when they can go to [a neighboring district] for \$300 a day?

Noah and Chloe indicated that they sometimes relied on interns to fill midyear openings, though they were limited in the extent to which they could rely on them due to their need for supervision. Noah also shared that he would give school psychologists extra assignments to cover for psychologists on leave:

Nobody likes it, but I can't give a fourth school to somebody. School psychologists covering schools with [regional emotional disability (ED)]

programs tend to have only one school, so I can give them another school to cover in an emergency. So instead counseling cases may have to be put on hold in the ED programs. What am I going to do? I got to cover the schools.

In other cases, interviewees anticipate openings occurring throughout the year and have systems in place to provide coverage when that inevitably happens. Abigail, for instance, has teams dedicated to assisting with counseling and testing services that have been tasked with covering essential services in schools when a school psychologist goes on leave for a length of time:

Right now, I have two openings that we backfilled with counseling and testing team members. But there's no one actually in those buildings daily, which is never ideal since you can't monitor what's going on. It creates more testing because people that understand why you don't test that kid aren't sitting at the table.

Use of contracted psychologists. One resource that school districts have to fill open positions are agencies that specialize in providing school psychologists on a contract basis. Abigail has frequently had to use contract agencies to fill her openings due to a relatively high annual staff turnover (she estimates 8-12 openings need to be filled each year) and a late hiring date. The late hiring date puts her at a disadvantage because by the point she can make job offers many candidates have already accepted positions elsewhere. Abigail explained that the agencies seek out graduates from highly saturated areas where jobs are harder to find and then contract them out to districts that have trouble attracting individuals. The agencies “go to the schools and they get the names of all the graduate students. And then they solicit them and they guarantee them a job somewhere. It may be in Timbuktu, but you're guaranteed a job.” Abigail noted that the

agencies' reliability in referring candidates is valuable and estimated that each year she fills two of her 8-12 openings with contract psychologists:

They always find people. Some not so good, some really good. But you don't have to take them. We interview them just as if we were interviewing someone for our own staff because they are going to be our own staff.

Although the use of contract psychologists was not widespread, two other interviewees had used them and one of the state-level interviewees also spoke about the practice. They indicated certain advantages to filling openings in this manner. Camilla shared that she has seen districts around the country resort to contract psychologists to complete testing when they could not hire their own full-time psychologists. A contract psychologist might have a shorter contract than is standard for district employees and the district would not have to provide benefits because those are covered by the agency. Riley indicated that she uses contract psychologists to relieve her staff members when their testing obligations become overwhelming. She also wants her staff to make time each year for something they are passionate about and views contractors as an option for ensuring that they have time to pursue those projects:

What I say to them every year [is]..., "You need to find something that you love and you have to carve out some time. And if that means you give some assessments away to contractors...you have to do that."

The drawbacks to using contract psychologists, however, often outweigh the benefits. Despite the potential cost savings that such arrangements could provide in theory, the interviewees in this study indicated that contract psychologists were in practice far more expensive than a regular staff member. Hannah illustrated how much

costlier it was to contract a psychologist when she described an experience several years ago when she was unable to fill a position. She began by comparing the expense of a contract psychologist to the salary she would provide a veteran direct-hire, who would be placed no higher than the tenth step of a salary scale:

It's probably anywhere between a \$50,000 and \$75,000 difference between a contract service provider and what we're paying salary-wise at a ten-year level....

We had to contract for a school psych vacancy two years ago and I only contracted for a 10-month position [compared to direct-hires who are 12-month positions], and that was probably about \$110,000.

Riley also spoke of the expense of using contractors, although she uses them in a very different manner. Rather than use them to fill full-time vacancies, she uses them to relieve the testing burden on overwhelmed staff members and to complete bilingual assessments. She explained how the funding worked for this type of model:

It's a line item in my budget. It's \$30,000. I'm already way over that [in April]. It can't get you much, particularly if you're doing bilinguals. So right now I'm paying almost a thousand dollars per bilingual assessment. And so that just goes.

Financial considerations are not the only factors that must be weighed when contracting psychologists through an agency. Abigail shared that her district works hard to train contract psychologists, who are typically early in their career, and that process requires substantial resources. Her district policy is to “have mentors for every single employee who's a first or second year employee. So [when] you've got new contractors every year, you've always got to have mentors for them.” Furthermore, there is no guarantee that they will remain once their obligation with the agency is fulfilled, although

many will be hired and stay with the district. In the worst-case-scenario, she said, “If you have a contractor, you're building capacity for two years and they're gone.”

Shortage perceptions. One would think that based on the interviewees’ universal opinion that there is a need for more school psychologists in their districts (or, in the case of the state-level stakeholders, throughout the state) coupled with the challenges that come with recruiting psychologists midyear that they would also be of the uniform mindset that there is a shortage of school psychologists. Some of them did hold this opinion and used the evidence already cited, like the difficulty filling positions that open in the middle of the year and the need to use contract services, to back their claims.

Several interviewees, however, felt that there was not a shortage. Five of the eight respondents to Camilla’s survey the year before had indicated that they did not think there were an insufficient number of school psychologists in the state to fill current positions. In fact, two respondents felt that there were not enough open positions in the state, suggesting a *surplus* of school psychologists. Camilla shared her own experience supervising an intern several years ago who ended up having to seek a job out of state:

There was nothing here...If the shortages were so bad here like in some states, it's not shown by the interns who are trying to find jobs....They go to find jobs and sometimes they're stressed out because they're not finding open positions.

Victoria felt there was more nuance to the situation, stating that “as a state we don't have a shortage. But there actually are shortages depending on where you live in the state, if that makes sense.” Thus, if Camilla’s intern was primarily interested in finding employment in a certain geographic area, she might have gotten the impression that the entire state was flush with school psychologists when really that might have been

representative of only a particular region.

Abigail, who frequently uses contract psychologists to fill openings in her district, questioned whether those contract agencies were part of the problem, saying, “I think there is a shortage. Because it is getting harder and harder [to hire for open positions], but I wonder how much of it's harder because of these [contract] agencies....They are so effective in recruiting.” From her perspective, a big obstacle is convincing new graduates to apply to school districts directly rather than sign on with agencies:

How do we get the [graduate] schools to [encourage their graduates to] contact the school districts first? I know there's a lot of people from New York who can't find jobs and then they go to the agency.

The implication here is that in the past graduates would have been more likely to look around the country themselves for openings like Camilla's intern had. Now many of them are likely to sign on with an agency who will do the searching for them, creating the impression that there is a shortage. Abigail thinks, however, that there is just a middle man playing a much larger role in connecting graduates to openings than it had in the past. Despite her wish that students were more proactive in seeking out opportunities, Abigail acknowledged that searching for a job can be an intimidating process for someone eager to begin their career:

When you're young and you're afraid you're not going to be employed, then you [think], "Hey, a job in Duluth, Minnesota? Sounds wonderful, I'll take it."

When considering the question of a shortage, most of the district-level interviewees drew on their recent history of successfully filling open positions. Olivia, who had spoken about crossing her fingers that her current search for applicants worked

out, drew on her experience to express confidence that her current search would be successful as well:

Probably from the past five years we have had more applicants than we've had positions. And applicants who are qualified. Positions where I wished we had had more openings because there were several people who would be great.

Riley also drew from recent experiences she had when hiring candidates. For instance, two years ago she was told by two employees at the end of the summer that they were retiring, which meant she did not have much time to fill the openings. Despite this, she reported:

I had quite a few candidates that were good candidates. I didn't struggle filling those positions and I didn't fill those positions with people that I wish I didn't have to [hire].

In fact, like Olivia, she expressed regret that she could not have hired more of them:

I don't think I feel a shortage because I just don't have the openings. When we hired the [new positions we received] three or four years ago, we had great candidates. I loved who we ended up with.

This point is an important one that echoed through many of the interviews, namely that the primary obstacle the district directors are coming up against is not in every case a shortage of available psychologists, although in some cases that is true. Instead, their primary obstacle to providing the type of psychological services that they envision is a lack of staff positions. When these individuals say they have not felt the effects of a shortage, that statement must be considered within the context that they are already operating with far fewer psychologists on staff than they would like. Noah

illustrated how the issue of a shortage is obscured by the constraints on staff size:

I like the NASP ratio. However, if the school board approved 20 more positions tomorrow, I probably couldn't fill them because of the shortage. Where am I going to get the 20 psychologists from?

Differences by Professional Role

Trainers compared to non-trainers. Although there were three types of professionals interviewed for this research, their experiences essentially coalesced into two groups: trainers and non-trainers. Despite the fact that all of the interviewees who had been trained as school psychologists (i.e., everyone except Hannah) had served in that capacity in a school system in the past, their current responsibilities resulted in their attention being divided into these two distinct areas. Both the district-level and state-level interviewees are focused on supporting practitioners to carry out their professional responsibilities. They do this either through direct supervision or through representation in government or a professional association. The state-level interviewees simply had positions that made them mindful of issues across the state rather than in one specific area. (Of course, the district-level interviewees were also knowledgeable of issues beyond their jurisdiction, but this was often through less systematic methods.) The trainers, by contrast, were focused on preparing graduate students to carry out the full range of responsibilities that a practitioner might be expected to carry out in their professional careers.

The trainers, Kia and Evelyn, were asked about the job market for their program graduates. They indicated that, both currently and historically, their students always have been successful in securing jobs directly out of the program. Kia responded, “I think if

they want [to work as a practitioner], they can get [a position],” while Evelyn shared, “We really have had a hundred percent employment rate the very first year [after graduating] for as long as I’ve been here.” Both interviewees indicated that individuals usually stay within the state. If not, most stay on the East Coast of the United States unless they are originally from a different region and want to return home. That said, many students who come from afar often settle in the target state despite that fact. Evelyn said, “If they’re from here, they tend to stay here and then when they come here from other places they tend to stay, which is awkward because there’s not that many jobs” to accommodate all of them.

Perhaps owing to the universal embrace of the NASP Practice Model in these universities and school districts, both Evelyn and Kia indicated that they have received positive feedback from district directors about their graduates’ skills. While a broad role is a preferred ideal in the minds of district directors, it is a necessity among trainers who must prepare students to work in a variety of settings across which the school psychologist role is not uniform. Both trainers cited a desire to teach students a broad set of skills that would set them up well to work in districts with different emphases. As Kia pointed out, “Different systems may have a slightly different focus....So I guess to somebody [our students] won’t be a match, but I think what we try to do is give the students the core skills.” In her university’s training program, they furthermore encourage students to develop specific skills that are of interest to them and potentially employers as well. Kia said that she and her colleagues emphasize this point to the students from the time that they enter their program:

You're going to have to sell yourself....So look ahead, look at the school systems that you might be interested in going to if you want to stay in this area or even abroad. See what their focus is and we'll [work together] so that you have maybe additional training, support, [and] knowledge in that particular area.

Kia shared that the collaboration with school districts has been so positive that one school district near her university has partnered with her program to provide her students with more insights into how the work plays out in the real world:

With this one particular school system, they came to us and they said, "We're going to work with you, work with your students." And not that necessarily they place all of our students, but they come into our classes and they say, "Okay, this is what you talk about, but this is what really happens."

Only one example was given in either interview of a district recently providing negative feedback to a program. Evelyn indicated that a district had wanted her to allow interns from her program to take on more assessments than the program typically allows. She did not, however, acquiesce to the request that her interns be allowed to test as many students as the district was requesting so that the broad model could remain intact, explaining, "We teach testing as the final last thing you would do once you've ruled out all other hypotheses for why a child is struggling."

Differences by Geographic Setting

Stark differences within settings. It was difficult to attribute different perspectives to geographic setting during the present research. Individual interviewees also had trouble finding patterns in this regard. When considering how school psychology practice looks across the state, Camilla struggled to tease apart differences between

settings while also acknowledging that the various communities are impacted by similar factors:

What's happening as far as services in the inner city is going to be a little bit different than what's happening in [more rural areas]. Although, there are mental health needs everywhere you go and it doesn't mean that disabilities, for example, aren't occurring in every one of those places I just named. Just the general population, the issues that they're dealing with are just different. It doesn't mean that poverty doesn't exist everywhere and doesn't affect kids.

Even though Camilla herself spoke of challenges certain areas have in recruiting school psychologists, the results of her survey the previous year surrounding the shortage were less supportive of this view. Whenever the researcher asked if she noticed any trends with regard to who had responded in a certain way to her survey, she shared that there were no obvious trends in responses between geographic settings.

While there were sometimes considerable differences between districts in their experience and perspective on a possible shortage, typically these differences were not primarily a result of their geographic settings. In fact, some of the starkest contrasts were between districts in the same setting. There were issues that the interviewees from rural districts cited that will be explored in greater depth below, but on the whole it was difficult to attribute specific experiences to specific settings.

A first example of the contrasts within settings were Abigail's and Noah's dramatically different experiences staffing their urban districts. As Noah described, Abigail's district has fewer students but 70 more school psychologists, meaning her staff members have to cover far fewer schools and are able to offer a far broader range of

services. The manner in which they gain, retain, and lose staff positions also contrasts dramatically. While Noah has fought with human resources to simply maintain the number of school psychologists he has on staff, Abigail's district automatically provides funding for enough positions to meet student needs each year. As Abigail explained, historically they have funded a position for every 850 students:

If we were to get 2,000 more students in the [district] next year, they would [provide for more school psychologists]. Every 850 of them we get another position.

Thus, while most interviewees spent a considerable amount of time discussing the prospect of a school psychologist shortage and how districts would cope, for Abigail it was a moot point to consider because the 1:850 ratio is so deeply entrenched in her district. It was therefore unlikely in the foreseeable future that her district would resort to many of the tactics that other district supervisors suggested as probable outcomes. She said, "Even if you tried to thin the staff across more [schools], once they hit 850 kids you can't do much more."

A similar dichotomy existed between the interviewees from suburban districts. While Chloe indicated that the staff members in her schools embody a role that is "pretty close to ideal," Riley shared that her staff members spend approximately three quarters of their time involved in the special education eligibility process. As with the urban districts, the discrepancy can be partially explained by the way the districts handle changes in their staffing needs over time. Riley indicated that she has repeatedly used data from the past 12 years to show to her superiors the need for more school psychology positions:

Although the number of schools and population is [increasing over time], the

number of psychologists is [flat]. So I've shared that with the board, I've shared it with the superintendent, I've shared it with my director, I've shared it with the executive director. And it always comes down to a funding issue. And so we've had a maintenance of effort budget for seven years.

By contrast, Chloe's system has established a staffing model that, while not as automatic as in Abigail's district, has helped her continue growing the size of her staff as the district has grown as well:

We have established in our district [that] every time a new building opens, then I automatically get an amount of psychologists....It's known that a psychologist needs to be included, just like a school counselor needs to be included or school nurse needs to be included. It took some time to get into that rhythm, but we are certainly there now.

Automatic staffing increases are not, of course, the sole reason for disparities between employment and perspectives on the shortage in school districts. When discussing budgetary issues, Riley noted that the members of her district's community and its county government have not always valued education spending the way Chloe's have:

We have had a group of county executives who did not want to fund education. That's changed a little bit....And we also don't have the community support of education that [Chloe's district] has.

Despite a recent change in county executives, however, there are still financial realities that must be navigated. Riley explicitly cited that as a reason why her district faces different challenges compared to Chloe's:

But still there's just not tons of money. So there's still choices of what we're going to spend our money on. And we don't have the same tax revenue that [Chloe's local government] has.

A lack of outside resources in rural areas. Although there was great variance in the experiences of district directors within geographic settings, the interviewees from rural districts noted a unique challenge that is worth highlighting, specifically with regard to providing mental health services to students. When discussing outside resources, interviewees indicated that school personnel could not necessarily rely on them to help support their students. Victoria discussed a needs assessment she conducted with directors of student services throughout the state in which a substantial number of respondents indicated a desire to handle more mental health issues in-house:

I would say about a third of the respondents said, "Well one of the things we need is we need more school psychologists, we need more school counselors. We need folks who are trained in schools to support students who have mental health concerns. We don't always want to feel like we have to go to community agencies or outside agencies."

Many interviewees across all settings said they viewed school psychologists' mental health role as particularly significant for students in their districts because schools are an essential resource for the community and this was especially true in rural settings. For Hannah and Olivia, this was because their rural communities had limited outside resources for mental health, so that even when families sought help for their children, it was not always available or convenient. Victoria, a state-level stakeholder, had witnessed this phenomenon in her position and gave an example to illustrate it:

Some of our systems I've been in, there are no services available for kids. If we assess a kid and we determine that he needed outside counseling, the closest place for him he could probably get that might be an hour and a half drive.... And some people the closest drive they have to a psychiatrist is two and a half, three hours. The issue of services being physically located further away is then exacerbated by limited means to get there. Olivia noted that in her community, "We don't have tremendous infrastructure in terms of transportation."

Alternatively, a student might have a mental health professional nearby, but has to wait significant lengths of time to see them. Olivia noted, "People will wait 6 to 9 months for a private therapist for children. In a rural area that's definitely a tough thing." In communities like these, the public school system is their only resource and families are dependent on them to assist their children. As Olivia described it, "school is the one-stop shop for a lot of our families....For some of our kids, what they get in school is what they get in terms of mental health support." Her district even has a program that provides short-term counseling services to families of public school students at night during the school year and during summer days. When Hannah was asked directly if she felt an onus to provide more services in the schools because they are so hard to find in the community, she responded with a succinct, "Yes."

Victoria and Olivia both noted that some schools bring in outside providers to provide mental health services to students. According to Victoria, though, these are often lacking because of the limited amount of time they are able to invest:

Even when schools bring in mental health providers, typically those folks are only there maybe a day a week, or a few hours a week....It goes beyond having a good

relationship with the student and their family. You have to have a relationship with a school if you want to see long term change.

Olivia, meanwhile, highlighted that the outside service providers working in her district serve very few students:

We have a couple of schools, Title One schools, that bring in a community counselor for some school-based mental health service for selected students who meet eligibility requirements. [It's a] very small number [of students who are eligible].

Factors Impacting Supply and Demand of School Psychologists

In this section, the second research question will be addressed, that being “What factors (policy or other) are impacting the supply and demand of school psychologists?” Once issues related to supply and demand have been explored, the topic of potential changes that could be made to alleviate a shortage will also be explored.

Desire for More Graduate Students

A recurrent observation during the interviews was that the graduate programs were the key factors in alleviating a shortage, as they are the suppliers to the field of new school psychologists. Abigail noted, “I don't think we can advocate to stop the shortage because the shortage is really how many people get in to graduate schools.” Supervisors could devise ways to lure practitioners to their district versus another, but in order to mitigate a shortage in the entire field, the supply of graduates would need to increase. Olivia pointed out, “The shortage is a human resource. There have to be people coming out of grad school programs to [reduce ratios].” Both trainers agreed, with Kia saying, “We all need to work in tandem together to see if we could put more school psychologists

out there and promote that field.”

Multiple interviewees spoke about the need to promote the field better in order to attract more individuals to graduate schools. When the trainers, themselves, were asked about attracting applicants, however, neither indicated any concerns in this area. Kia said she usually has “a good pool” of candidates and is regularly fielding inquiries from individuals interested in her program. Evelyn also demonstrated that her program does not want for students due to a lack of interest, stating, “This year we have 80 applicants and we'll pick fourteen from them. We usually hover around 60 to 70 [applicants].” She did, however, recognize that her university’s program was not necessarily representative of all training programs throughout the country. Evelyn noted that there are many schools that struggle to draw qualified students, which she attributed to their geographic location within the country. She hinted that there ought to be a means of matching surplus applicants to one program with other programs that might have available slots:

I think mostly it's where they're located because they're fabulous faculty. They can't attract students so their programs are small. But when you can attract them, when we're turning away 80 percent of our applicants, they need a place to go.

Another popular topic was the notion of increasing the number of students trained through the programs that are currently in place. Victoria, one of the state-level interviewees, saw room to grow within the state’s training programs:

Our programs are very small. I mean when I went to [my graduate school], there were maybe five people that year and they might have slightly more or less, but it's about that much. Even like [Kia’s university] who does it at three years at the specialist level or [Evelyn’s], those classes are small.

Noah recognized that graduate programs needed to be mindful of the ratio between trainers and trainees, but also suggested that the current ratio could be increased:

I know that [a nearby program] gets far more applications for their programs than they accept. So I think one solution is for them to accept more students....I know probably one faculty can't handle ten [doctoral-level] students. But I'm one person and I supervise 50 psychologists....I think they could increase those ratios and accept a few more students.

Several people cited one program in the state, the program Victoria attended, as a particularly good opportunity to increase the number of school psychologist trainees. This is because it currently only has a doctoral-level program, having discontinued its specialist-level program years ago. Abigail felt that restoring a specialist-level program at that university was the best way to expand the supply of graduates in the state in a cost-effective way. She pointed out that doctoral-level programs not only produce small numbers of graduates, but in her experience those graduates are less inclined to work as school-based practitioners:

We really train our doctoral people to want to be professors and not practitioners.

So there's some schools that they only have the doctoral, but by turning out lots and lots of doctoral-level [graduates] we're not turning that into more positions...

It's very rare for me to be able to get a doctoral level practitioner. Because most of them want to go work in universities.

A few people also spoke of the possibility that an additional program could be opened within the state, including both trainers. Camilla shared that on her survey, two of the eight respondents “specifically said there were not enough programs” in the state,

with one commenting that dozens of school districts had to compete for graduates from only a few local schools. Two interviewees even named specific universities that would lend themselves well to a school psychology training program: one that had a master's-level program in the past and another that trains clinical psychologists who often do part of their training in their local school district.

Graduate program constraints. There are, of course, constraints that make it difficult for many of these proposals to be put in effect. For instance, it would be difficult to create a new program without a university being internally motivated to do so, especially because the costs of a school psychology program can be great. Kia spoke about her own struggles to keep her program running, commenting “I think it's a challenge sometimes because school psychology programs are expensive.” Camilla, a state-wide representative of a professional association, noted that she and her colleagues in that organization had discussed the need to increase the number of graduates, but program expenses limit that. She related that individuals running school psychology training programs recognize they're “not a huge money maker for the university.”

Even if a university wanted to start a new program, however, it would have to be geographically distant from the current ones so as not to draw complaints from those universities. Abigail also cited this as a reason why a nearby university might not have a school psychology program:

They can't put in school psych because [Evelyn's program is] just up the road [from them]. So then we don't get more people. So it becomes a turf issue at the university level and that's part of the problem.

Evelyn explained, “Anybody can complain to [State] Higher Ed Commission, if someone

is encroaching” on another university’s geographic area. She wondered if that was why the university that formerly had a master’s-level program shut that program down entirely rather than turn it into a specialist-level one. An objection would not necessarily come from the training program itself, meaning Evelyn could not even rule out that members of her own university had exercised that option in the past. Abigail ultimately felt it would be up to the universities to accept a new program in the state if one were warranted. She reasoned, “We can write articles, we could talk till we’re blue in the face to legislators, but that’s not going to change it. The universities have to be the one willing to do it, fight for it.”

Although a common suggestion was to increase cohort sizes, the trainers indicated that this would be practically difficult for reasons beyond financial costs. Indeed, increasing cohort sizes could help alleviate that monetary burden; Noah pointed this out when he said, “I don’t know why the university would mind. It’s more dollars from tuition.” Primarily, the trainers were concerned with the quality of the education that they would be able to provide if enrollments increased. Evelyn reflected on programs around the country with twice as many students per cohort as hers and questioned, “How are you training thirty people well? You’re probably not.” Both she and Kia indicated that they would like their cohorts to be about 10 students each. Kia said she believes that size is ideal because the program is “very intense, time consuming, [and] it’s an expensive program.” Evelyn and Kia also cited the difficulty that comes with finding enough adequate field placements for their students. Evelyn said, “if I ever had to do more, it just wouldn’t be possible to get those kind of quality placements.” Kia, meanwhile, noted that the various programs in her area were all vying for the same spots, saying “We’ve got

competing programs across the area.”

Despite their agreement on the ideal cohort size, outside forces make it difficult for them to maintain that level of enrollment, though for substantially different reasons. For Evelyn, a shift to 10-person cohorts would mean a decrease in size from her current cohorts of 14-15 students. Current university policies on class size, however, essentially force her to maintain the larger size in case some students drop out of the program, as there would no longer be enough students to meet the required minimum. Evelyn has also experimented in the past with breaking cohorts into two sections, but was displeased with the outcome because she found that it fundamentally changes the nature of field experiences:

People learn from each other and once you're in practicum, [with class sizes of] ten to twelve we cover much more territory than if we had four or five. We have people usually in five or six different [districts], so that really enriches their experience, hearing what other people are dealing with.

Thus, it would not be feasible in her program to simply add a few more students to each cohort.

There was disagreement over whether or not additional faculty would help manage more students. Abigail, one of the district directors from an urban district, suggested that universities advocate for more faculty members, stating, “You need more staff if you're going to have more students.” Kia agreed, saying, “We need room for more trainers in universities... I'm hoping that we can make a pitch to the administration and perhaps we could get a couple more faculty [in our program].” Evelyn, however, felt that this tactic would again prove more difficult in practice than in theory. In order to

maintain the program dynamics at their optimal level, she suggested that the only way to increase her program's current size without changing its entire training model would be to duplicate it altogether:

We could lobby for three more faculty members so we could have two programs running at once. Unless you had two complete cohorts, you'd lose the model....

We can't put out more than 14 or 15 and keep up with the quality.

For Kia, increasing her enrollment is already a challenge in the current environment. A cohort of 10 students is always her aim, but the accepted students' financial needs typically result in fewer enrolling. She indicated that three students who had been accepted the previous year and wanted to enroll were ultimately unable to pay for it. When asked if that was unusual, Kia responded that it was quite the opposite. In fact, she has come to expect it:

We've sort of projected the ten [students when creating a cohort] and somehow we always get back to seven or eight because we lose one. Because either they can't come in or they need to work. Or another program has picked them up and been able to support them at least with a graduate assistantship.

Financial needs are indeed paramount for Kia's students, though she was not the only one to recognize the hardships many graduate students face when deciding to study school psychology. Noah summarized, "The reality is, to be a school psychologist requires several years of commitment. So it's not like just getting a 30 hour master's degree. It's almost like two master's [degrees]....It's expensive and it's time consuming." Victoria noted that to practice school psychology, an individual must invest between seven and nine years of time and money into education beyond high school.

The financial difficulties at Kia’s university are exacerbated by a limited pool of graduate assistantships that are often easier to come by at other schools. She noted that “if we only have about 30 [assistantships for the entire university], then you look at all the programs, [for our] graduate programs there are only a few.” The nature of school psychology training requiring a specialist degree has also resulted in challenges competing for those few assistantships, as Kia described:

[A] specialist program is kind of unusual. You know, you have a master's program or you have a doctoral program, but specialist is a little different. So we often get lumped in [with master’s programs]. I've heard the question asked before upstairs, "Do master's level students get graduate assistantships?...Doctoral students do get it....Not quite sure about master's students."

District Budgetary Constraints

Unsurprisingly, the reason cited unanimously by interviewees for why they were unable to staff as many psychologists as they would like was their school district’s budget. Increasing budgets would have the effect of increasing demand for school psychologists and therefore worsen a shortage situation at the national level, though doing so might attract more individuals to the state and the specific districts in question, thereby alleviating local needs.

As Noah pointed out, school district budgets are limited by the fact that they have few funding sources, saying, “Remember public schools only have basically one funding source and that's through the local governments. We can't hold bake sales and raise two billion dollars.” Chloe’s district has experienced significant population growth in the time she has worked there, which has expanded the tax base. This is perhaps a best-case

scenario for a school district, but she also pointed out that a growing community requires components beyond education that must also vie for tax dollars, including the police force, libraries, and infrastructure. By contrast, in communities with little growth or relatively smaller populations of school-aged children, the public school system might be lower on the list of priorities when allocating funding. Victoria noted that there were entire districts in the state that are considered retirement communities and, as a result, have disproportionately high rates of childless households. According to Riley, individuals there don't believe they would receive any direct benefit from increasing funding for education. As a result, "They're not contributing anything to the community without seeing the larger picture of, 'Oh my, yes there are [benefits to funding education].'"

The end result is that budgets can remain stagnant for long periods despite increasing needs. Hannah and Riley volunteered that their school districts had operated with budgets at 'maintenance of effort' levels for many years, meaning that their funding each year from state and local government had been exactly the same as during the previous one. This is the bare minimum a school system is allowed to include in their budget in order to demonstrate that they are not neglecting their students' educations during hard times. Without increases in funding, it is difficult for additional school psychologist positions to be added. As Riley put it, "If you want to increase something you have to decrease something. So what are we going to get rid of to hire psychologists?" As a result of these stagnant budgets, in her and other districts every line item in the budget is closely monitored and scrutinized for its value.

Many interviewees indicated that the budgetary pressures that psychological staffs

must contend with are not due to stakeholders' lack of appreciation. Indeed, they shared that many of the decision-makers value the work school psychologists do, but the budget requires difficult decisions to be made. Olivia stated, "There's value associated with our position, but it is a budget item. That's the bottom line. I don't think it's a lack of acceptance of our work or feeling that our work is not important or we're not valuable."

Noah shared that the sentiments in his district were similar:

It's not that they don't want more psychologists. The problem is the funding for it.

"Do I add a psychologist's position? Or do I put another teacher in the classroom and reduce ratios there?" So it's just that class sizes are going to get addressed first.

Noah was not the only individual who felt that teaching positions were prioritized over those of school psychologists. In fact, nearly every interviewee believed psychologists were differentially impacted by funding cuts, though not all of them had personally witnessed it in their own district or career. There were a variety of thoughts, however, on why they believed this to be the case. One reason was that school psychologists tend to be paid more than staff in other positions. As Chloe reasoned, "I think from a budgetary perspective, they can get one and a half teachers for one school psychologist." Riley also noted that many of a school psychologist's duties can be fulfilled by other professions, saying, "It's much cheaper to hire a school therapist, a behavior specialist, than to hire a psychologist."

Victoria agreed with this theory while adding that the role of classroom teachers is often valued more highly:

When funds are cut for schools, unfortunately school psychologists are more

likely to be cut first. Number one, because of the expense of school psychologists. And because of the priorities, typically, of systems who may see classroom-based teachers as more of a priority than school psychologists.

Camilla theorized that the preference for instructional staff is a result of districts paring back when funds are hard to come by to only cover the bare, legal requirements:

It's a basic fact of, "We have X amount of bodies in a school and we can't have over X amount of kids in one classroom with that one person and we have to prioritize there first. And it's nice to have somebody to help us with mental health, but it's not required. What is required is to make sure we get the testing done in the time that the federal guidelines say that we need to get it done in, so we have to have that.

Hannah seemed to agree, noting that even other non-instructional staff might rank above school psychologists because they work with students on an ongoing basis:

Speech or OT...are providing more direct services. So for that population, if I don't have a service provider, I'm owing compensatory services. Whereas the school psychologist, not so much. There's not as much direct service impact if I don't have that staff.

In contrast, Olivia opined that the preference for adding teachers was due to the fact that most people understand their role and understand that extra teachers benefit students. Conversely, they are less likely to be familiar with the role of school psychologists and how they would have an impact:

It's hard to quantify what a school psychologist does. And if you're [deciding], "We only have this much money. We can have a teacher or we can have this

person who works with [only] a certain small group of children," the teacher wins. And some of that is recognition of what a position can be. What we are. The general public, if you ask, would not be able to give you a great definition of what a school psychologist can or should do.

Evelyn seemed to agree with this point, noting that school superintendents "don't understand how we contribute to instruction and how mental health needs of children are a prerequisite to responding to instruction."

A few of the district-level interviewees reported that positions had been cut in the last recession and were able to speak to how a shortage might be handled and affect services. In Hannah's district, a small rural school system, the superintendent contacted her when a position needed to be cut and they were able to fund it through an alternate source. Hannah reported, "She came to me first to ask me [if I could] pick it up elsewhere before she cut it. Because I think if I said no, then they would have looked elsewhere." By contrast, in Noah's urban district, the largest school system among those interviewed for this project, the process is much less transparent and collaborative:

We don't even know who makes that decision [to cut positions]. It's not like people come to us and say, "Well, we have to cut your budget, what would you like us to cut?" Or "How many positions?"...They just start chopping away. I don't even know who those people are who make that decision.

None of the interviewees reported individuals being forced out of their jobs; rather, positions were cut through natural attrition, which would replicate a shortage situation. Noah lost 15 school psychologist positions over a four year period about a decade ago and he described the way that had affected his staff members' workloads:

[It] went from most of the psychologists having no more than two schools. Most school psychologists had to pick up a third school. That resulted in them having to reduce the amount of time that they had to spend in [each school]. I have two psychologists [now] who have four schools.

Noah also provided a memorandum he had co-written with a colleague in 2015 to advocate for school psychologist positions within his district. In it, he noted that referrals for testing had remained stable since the number of positions had been cut (meaning each remaining individual was responsible for more cases), resulting in reductions to other areas of practice. The memo reads, in part:

[Since 2009, there has been] an approximate 25% decline in direct services to students, such as counseling services, as well as other services to students and schools (i.e., consultation, development of 504 plans, development of FBA/BIPs and the number of in-services given).

Olivia shared that her district has had to get by at times with fewer staff, during which times the team has had to strategically decide which responsibilities they would have to sacrifice in order to get by. She gave the example of when a psychologist was forced to resign her position suddenly due to an immigration issue and the rest of her small staff had to rally together to cover that colleague's three schools:

It certainly had an impact on workload and there are times when we've said, "Okay we can't do this [service]," or, "We can't do that, we have to limit this." Not systemically and not for long periods of time, but in those moments of crises. I can't do counseling groups if I'm picking up an extra school.

Ways to Mitigate the Effects of a School Psychologist Shortage

Changes to the graduate training model. Several interviewees suggested that training programs could adopt alternative, flexible models that would make it easier for graduate students to meet their degree requirements. Given the financial cost of attending graduate school, one suggestion was to allow part-time enrollment or to schedule courses in such a way that students could hold a job while in the program. Noah pointed out it is much easier for a teacher to change careers and become a school counselor because those classes are often held in the evening. Camilla also spoke to the way the field is negatively impacted by the difficulty teachers have in becoming school psychologists:

I've had some people who were teachers who wanted to go into school psychology but couldn't because they couldn't afford to give up teaching for two years to do that, or three years. A lot of times they can take course work the first year and not be affected, but some of them have families. And teachers are great people to come in to school psychology as a profession.

Kia is mindful of her students' financial needs and therefore tries to bear that in mind when scheduling classes, despite still being a full-time program. For instance, most courses are held during the fall and spring terms, both so that financial aid will apply and so students can earn money during the summer and winter terms. The program is also one that currently allows students to work part-time while enrolled. This arrangement shows how such a model plays out:

We tell [applicants during interviews and again, if admitted to the program] that whatever they were doing full-time has to drop to probably no more than 20 hours. Most of our classes are in the evening, but not all of them. [That's] on

purpose because school psychologists work in schools and we need to send them [into schools].

Evelyn noted that when she began at her program, it too allowed students to work part-time, which informed her decision to no longer allow that practice, saying, “If you have work demands and grad school demands, your work demands are going to come first. And the grad school's going to fall to the wayside.” Indeed, Kia indicated that this is true in her program today. Her full-time program unofficially becomes part-time for certain students simply in order to support them in finishing their degrees. She noted, “Some students will start off [as students] full-time and they say, ‘Look I need to work.’ So instead of it being a three-year program, it's a four-year program.”

Evelyn spoke of the possibility of universities collaborating together to offer something akin to distance learning without sacrificing too much of the conventional model currently in place. She shared, “One of my colleagues is looking into having a satellite program. So they would still get a [degree through our program], but it would be a satellite [in a rural part of the state].” This would make it easier for students in a part of the state without a training program to earn a degree. It would also avoid many of the problems she comes across when considering other alternative models, like part-time programs and online courses. With regard to those online models, Evelyn opined:

I just don't believe that that's good training....[How do] you train someone to be a good mental health professional online? And...you don't learn from other people. When we Skype in our interns to our seminars, those discussions, they're just not as rich as we're having right here [compared to] when that person's on a screen.

Advocacy and collaboration within school districts. As stated earlier, when

district-level interviewees were asked about ways to mitigate a shortage, they often spoke in terms of how they would address a need for more psychologists in their specific district rather than the field as whole. In fact, all ten interviewees said that district employees like superintendents and school board members were important stakeholders for alleviating and addressing a shortage. In this way, they viewed a shortage the way NASP currently does: as a lack of psychologists within their district (and only their district), which was limiting their ability to provide a broad range of services to their students. Camilla opined that the districts who will fare best in the event of a shortage “will be the districts who give the best ratio. They will fill all their positions.” Indeed, Chloe said that she thought the broad role her staff members have is her “biggest selling point.” Victoria has also noticed new graduates place a greater emphasis on their professional role when seeking jobs compared to when she entered the field fifteen years ago:

I used to hear when I came out, "I just want to get a job." Now I hear students saying more and more, "I want to get a job doing this or focusing on that in the field." And I think that is driving a lot of where they end up looking for jobs.

The primary task that most interviewees cited when discussing their advocacy for adequate staffing of school psychologists was to increase district-level decision makers' awareness of the profession and how school psychologists are valuable to the entire organization. Kia explained her rationale for this approach, saying, “I think understanding the role of school psychologists and what they can do in schools,...once they realize that, perhaps [administrators and superintendents] may be more [willing] to open up positions for a school psychologist.” Evelyn saw this process as being significant for ensuring that

school psychologists are viewed as essential and distinct from other roles. She shared, “I think the superintendents, school boards, are just really key in understanding our role, that we're not fluff. You know, we're not ancillary, we're right in there on ground zero.” Most importantly, according to Victoria, such efforts are effective. “When I have seen strong advocacy, I'm more likely to have seen an increase in role,” she reported.

There were several ways interviewees try to increase awareness of the breadth of the school psychologist role with these individuals. The most commonly reported method was through formal presentations to boards of education, usually with the aid of other individuals who could speak to the impact school psychologists have on children's education. Riley explained, “Whenever I speak to the board I always have a principal or I always have a parent. And they're singing the praises of the school psychologist and how it helped their family. Cause parents are so powerful.” Chloe agreed, stating, “When I've had to do some recruitment efforts, my absolute best sellers are parents.” Evelyn described why it is so effective to have non-psychologists advocate on school psychologists' behalf:

It's those individual cases. You know, "My child was seen as a bad child and then the school psychologist helped me understand and develop strategies and now he's [improved]." We need to do a lot more of having parents partner with us, because that's who school boards listen to. You know, directors are always seen as, "Oh, of course you want more staff." Parents are really key.

Kia noted that parents have greater influence over school districts than its employees do. When discussing how school psychologists could make the community more aware of the work they do, she suggested, “Just getting a better understanding of what school

psychologists can do might put--I hate to say 'pressure'--but...[community members] can advocate [for] better school systems and certainly with their legislators.”

Victoria noted that teachers and building-level administrators are also effective advocates because they work closely together with school psychologists and can speak to the work they do. She noted that administrators have a special perspective on how school psychologists affect children’s education:

They see the overall impact of what's going on in our schools. They may not know what [school psychologists are] doing day to day, but many times they know what the impact on schoolwide programming might be if certain people weren't in place.

Another effective way of selling one’s message is to cultivate close personal relationships with stakeholders, recognize their concerns, and show how school psychologists could address those concerns. Chloe said a key part of the process is “figuring out how to navigate your message and where you would do that and knowing who are the right people to talk to.” Abigail gave an example of this when she described five years of fruitless advocating for her school psychologists to take on a different role. After the head of special education encouraged her to “stop complaining” and instead change the role herself, she took a different approach by considering her superior’s priorities, which led to great success:

That's how I created [an innovative program]....We brought that in to six schools to start; we're now in 33 schools. And principals are actually calling and asking if their school could have it.

She and Olivia also reported being very mindful of the needs of administrative

employees, which often meant providing professional development to groups, as means of demonstrating the school psychologist's skill set beyond testing. She commented, "That says, 'Hey, school psychologists can do other things.'... As [psychologists] have stepped out of their role a little bit...it's enabled people to see us as having [a broader] role."

Riley provided an example from several years ago of how such advocacy can result in positive results. For her, years of presentations to the board about her district's needs and the school psychologist role led to "a budding understanding by the board and the superintendent of the mental health needs and what a psychologist does." When she invited the board president to shadow a school psychologist for a day, it was such a success that the board president then advocated to the entire board for school psychologists and Riley was granted nearly a 20% increase in her staff for the following year.

Role of interest groups. When the interviewees were asked which groups were important stakeholders to address and potentially alleviate a shortage, there was a variety of responses in addition to those already described (e.g., parents and district-level decision makers). For instance, Chloe suggested school psychologists could partner with a professional association for special educators or formal parent groups (rather than recruiting individuals for one-time events) in effecting change. She noted that the two groups complement each other well, saying, "It's not uncommon for families of students with IEPs to be very supportive of school psychologists. One's good at the content, one's good at advocacy. They can get together to support some of that." Victoria shared that she presents regularly to special education advocacy groups and suggested that they could

help advance school psychology causes due to their enthusiasm:

I do think special education advocates are also good stakeholders for us. I do think they know about our job and I do think they know about our roles and the importance of our roles....They're very passionate stakeholders.

For the most part, however, the interest groups that were emphasized were the state professional associations for school psychologists and NASP. Riley provided a nice framework for these organizations' responsibilities when she said, "I see their role as education, advocacy, and lobbying." While she herself described 'education' as entailing the creation and sharing of resources that practitioners could use in their work, many others spoke of NASP's role in increasing awareness of the field as a whole. Hannah was one who emphasized their role in advertising the field, saying, "For the different interest groups, it's about finding ways to creatively recruit people who want to go into that for employment.... Getting that interest in school psychology at that high school level to then go in to college, et cetera." Several individuals also spoke positively about a scholarship fund for minority graduate students that the state association contributes to annually which provides a small number of graduate students with funds to support their education. Olivia, meanwhile, suggested that the state association could reduce the impact of a shortage by approaching graduate students and advertising the state as a good place to work, either as a whole or by targeting specific school districts that struggle to fill openings.

The interviewees also believed that these interest groups should more broadly advocate for the field. Evelyn noted that NASP has a strong history of advocating for changes, which has largely defined the profession as it is today:

If NASP didn't have this idea that there's this certain profession with parameters and coursework and experiences that you need, we really would have more of an expert model, a clinical orientation in the schools, rather than school psychologist. Interviewees pointed out that the professional associations bring people together in order to better coordinate their efforts. Kia opined, "I think they're huge, they're vital. They bring folks together in various forums to talk about the role, to discuss changes in the field." Camilla noted that the state association allows for a representative from each of the area universities to sit on its board and thereby be closely involved in their work. Victoria, who works within the state government, stated that she finds NASP is helpful in informing ways that she can best work with the training programs and school district supervisors:

NASP is a great friend to [my government office]....They also have a lot of information about that big picture....[They provide guidance on] how to form better relationships with our programs....It helps really to help clarify that picture. "Okay what is the role of our university programs? What's the role of the state? What's the role of the local [district]?" So it kind of really helps us to develop that picture. So yeah, I think NASP is critical.

Kia spoke approvingly of the interactions these three groups have, describing it as a "collaborative effort and I think this is a great experience here." This is key because interviewees were largely skeptical that non-psychologist stakeholders in alleviating a shortage (e.g., superintendents, boards of education, community members) are aware of the possibility of such a shortage. By contrast, they generally believed that the school psychologist interest groups could work together to effect change if need be.

The final role of interest groups, as per Riley's framework, is lobbying, which can be conceptualized as advocacy specifically with regard to legislation and public policy. As with other groups, a key priority is to increase legislators' understanding of who school psychologists are and the work that they do. Beyond that, the state association has not specifically targeted a potential shortage with that group yet. Camilla explained, "We haven't talked about the shortages with them because we really haven't had a [statewide] issue to discuss that. That hasn't been a priority for us to discuss." The association has, however, consistently sought support of the broad school psychologist role. As an example of these efforts, numerous interviewees cited an annual event it holds in the state capital during the legislative session in which members meet with legislators. Camilla, for one, is deeply involved in the association's efforts to influence the political process. She explained her rationale for school psychologists being involved in the process thus:

I think the more we can be tied to legislators and helping them with what they're trying to do to help their people, their constituents, the better off we are. We've done a pretty good job of that. We do have legislators who know us by name, who ask us for our opinion and that hopefully will trickle down and start to impact the local [districts].

While most discussed what the state association is doing now, Victoria also touched on how it would react in a shortage situation. She predicted that school districts would narrow the school psychologist role to what is federally mandated (i.e., the steps required in the special education eligibility process), but that the state association would "fight that tooth and nail."

When specific pieces of legislation are in development, the state association

attempts to insert itself into the process to ensure that school psychologists' interests are best represented. Camilla said that whenever a task force is created, the organization does its best to make sure a school psychologist is included for that purpose:

Our presence there can help to impact not only people's views...of school psychologists and what we do, but [we can also share] our views based on professional practice and what we study. And it helps inform [legislators] and they come back later and ask us again for our opinion.

Victoria shared that she takes a similar tack in her position within the government:

When we get legislation that comes in, we always make sure we talk about teams and...is the school psychologist a member of those teams?... I think probably one of the ways that I try to use my position is always an advocate for school psychologists cause I know how we are trained and I know what we are capable of.

Potential changes to laws and policies. Beyond the changes to training programs already discussed, the interviewees had few suggestions for laws or policies that could be changed or enacted that would either prevent or alleviate a school psychologist shortage. Passing comments were made about changing the requirements and timelines mandated by IDEA, though this was not discussed seriously or in detail. The most plausible idea to be posited by multiple individuals was to provide some form of financial incentive to draw more people to the field. When speaking to this point, Noah and Abigail both referenced teacher shortages in the past and how they were resolved. Noah seemed to believe that shortages were natural occurrences from time to time, though he still suggested that changes could be made to reduce their impact:

It's very cyclical. We've had teacher shortages too. It goes around, and then we have a surplus....I assume at some point the cycle will shift back again. But for now the only thing is, you have to improve the incentives and improve the training programs to produce more product.

Hannah also considered the way teachers have been drawn to their profession when discussing ways to attract individuals to the field of school psychology. She noted that in some cases, the critical shortage designation made certain professionals eligible for financial incentives:

I know special education teachers have been found now to be of an official critical shortage area in [the state] in several of the counties. So that then enables those teachers working in those jurisdictions to have some sort of loan forgiveness easement....That may be then something [that could be done for school psychologists].

Most of the legislative and policy changes discussed by the interviewees were instead focused on ways of ensuring that a broad practice model be adopted across more school districts. As has been stated already, this might instead exacerbate a shortage if school districts feel they need to hire more staff members to meet new requirements.

Victoria and Camilla, the two interviewees speaking from a state-level perspective, both brought up an ongoing attempt to formally insert the components of the NASP Practice Model into the state regulations about what school psychology practice should entail.

Victoria explained that a goal of doing so was “making people more aware when they look in regulations of what the expectations should be from school psychologists.”

Of note, the draft of the proposal that was provided by Victoria ended with

language recommending a psychologist-to-student ratio of 1:500-700 students. Victoria acknowledged that people were divided on including that language:

Some people think, "Well, if we change the regulation...we will get more school psychologists hired." Some people feel, "Well, we put the ratio in and some people don't feel like they can have the resource for that," then they just go on to something else. But I do think it's a good thing to put it in there, because I do think it's important for people [to have a point of reference].

Olivia also spoke about codifying the NASP recommended ratio, though she did so with the awareness that mandating a specific ratio would create a ripple effect of additional problems:

If [the state] legislature said, "School psychs, the ratio will be no more than one to a thousand" ...then that would certainly impact budgets. Would there be bodies to come and fill the [positions]?... Would it impact budget? Absolutely. That kind of a legislation could impact budget and what an individual [district] is going to do.

With regard to potential policy changes that could be made, no themes emerged from the few suggestions interviewees made. In the course of the interviews, however, it became clear that individual districts had developed alternative models to alleviate the impact of a staff member leaving their position either temporarily or permanently.

Abigail (who has a very large staff) has teams of psychologists whose responsibilities include picking up either testing or counseling cases to assist colleagues. While this keeps the district in compliance, it is not a system without flaws. Abigail noted that the teams cannot completely replace an in-house school psychologist, explaining, "What [the team members] don't do is go to all the IEP meetings or those kinds of things. The downside is

more kids get referred for testing.” Noah similarly adjusts school psychologists’ assignments so that they will be able to fill in elsewhere as the need arises. He said, “Sometimes I will give one less school to a couple of school psychologists in the beginning of the year and use them as ‘swings’ to cover another school when needed.”

In describing the model used in her suburban district, Riley noted that most of her school psychologists are separated into four field offices, groups of five or six staff members who all work out of the same location. The key benefit to this model is that each field office has a dedicated secretary who handles many aspects of the school psychologist role that do not require clinical expertise, such as sending out rating scales, monitoring their completion, corresponding with parents and case managers, and otherwise keeping the psychologists organized. Riley spoke of the way this model helps to reduce the burdens her staff feel. She said, “I think that secretarial support has been tremendous. It's a tremendous offset for, ‘Yeah, you've got three schools, but you've got a secretary doing all of this.’”

Finally, Hannah shared that her rural district collaborates with a group of other nearby districts to share staff members in support professions:

Up until recently we were a five [district] consortium looking at related services for occupational therapy and physical therapy, audiology, vision teacher, hearing teacher. [One district] dropped out two years ago, but the remaining four we still have a consortium to help be able to build that capacity to provide those services. Although school psychologists are not currently a part of this system, it would lend itself well to their inclusion in the future if warranted.

Chapter 5: Discussion

Thus far, this research has shown through grounded theory methodology how a group of stakeholders have experienced and anticipated a school psychologist shortage within their state. Their statements yielded a collection of themes and subthemes summarizing their perspectives on school psychology practice, the dynamic forces impacting staffing in the school districts, and potential changes that could be made to alleviate a shortage's impact on the work that school psychologists do. This chapter aims to analyze those themes in order to answer the research questions that have guided this research from the beginning. It will also address the limitations of this research and offer suggestions for how the findings might be useful going forward.

Overall Shortage Experiences

The first research question that will be discussed is, "How are different stakeholders anticipating/experiencing the upcoming/ongoing shortage of school psychologists?"

Although participants sometimes voiced that a shortage existed in the state, their reports included little evidence of vacant positions to support this claim. Only two of the district-level interviewees, Hannah and Olivia, shared that they were recently unable to fill positions by the beginning of a school year and this was a one-time occurrence for both of them. (Of note, Hannah and Olivia were the two representatives of rural school districts.) A third, Abigail, indicated that she regularly had to rely on contract school psychologists to fill positions, but this is a normal part of her hiring process owing to her having a very large staff and late date that she can begin making offers of employment. As a result, there ordinarily is no gap in school coverage in her district. In each case,

these three directors were able to either hire contract psychologists or independently fill the position soon after the beginning of the year, meaning other practitioners served in their typical roles and school buildings were not neglected. All other district directors indicated that they were able to fill their school psychologist positions at the start of each school year.

The lack of vacant positions could potentially be explained in a shortage scenario if districts were decreasing the size of their psychological staffs, but this was not the case, either. Only Noah and Olivia reported losing positions over the past ten years, and in Olivia's case she had since regained those positions and then some. All other district directors reported that their staffs have been increasing in size over time. Some interviewees even spoke of being unable to hire interns or high-quality applicants that they wish they had positions for, which further suggests a lack of a school psychologist shortage in the state.

Despite the fact that there was limited evidence to support the existence of a traditional shortage in the state at the time of the interviews, several themes emerged regarding the way individuals were experiencing school psychology practice and other related staffing issues. These themes frame the way they view the needs of the field now and in the future.

NASP Influence on Perceptions

Something that became immediately apparent when conducting these interviews was that NASP's influence on the practice of school psychology within this state is far-reaching. Its positions frame the opinions of individual school psychologists regardless of whether they are affiliated with a public school system, university, or another associated

organization. Each interview was couched in the view that school psychologists ought to have a very broad role, typically one in line with the NASP Practice Model. This was evident through their in-depth descriptions of the wide variety of responsibilities they believe school psychologists should take on. It was also evident by what the interviewees did not say when asked about potential changes (either proactive or reactive) that could occur in the event of a shortage. Specifically, at no point did an interviewee consider the prospect of a narrower role being an acceptable outcome.

Impact on training and practice standards. Much of the tension that exists in the mismatch between interviewees' ideal and actual roles for school psychologists is due to their inability to fully implement the NASP Practice Model that they endorse. NASP's influence over the field, however, is not merely limited to a document on a website. It exerts its influence through other means, the first of which is its approval process for graduate training programs. Olivia's comment that "I think people just want more time to do what we're all trained to do" is telling because it emphasizes that practitioners want their work to reflect their training. In fact, recent research has found that the most preferred professional activities among school psychologists who were highly knowledgeable of the NASP Practice Model are activities that are emphasized within that model (Bahr, Leduc, Hild, Davis, Summers, & McNeal, 2017). Given that 75% of all specialist-level training programs in the United States are NASP-approved (Gadke, 2017), as are all of the programs within the targeted state in the present research, a substantial proportion of school psychologists enter the field with a conceptualization of the field that has been curated by NASP.

This conceptualization is further reinforced if the practitioner decides to become a nationally certified school psychologist (NCSP). The criteria for the NCSP are more easily fulfilled when graduating from a NASP-approved program (NASP, 2018f), meaning that once individuals are trained within the NASP framework it is easy for them to stay within it throughout their careers. All of the training programs within the target state are NASP-approved and the NCSP qualifies practitioners for state certification as well. In order to maintain the NCSP credential he or she must then participate in continuing professional development—at least part of which must be through NASP- or APA-approved providers (NASP, 2018f)—which continues NASP’s influence for as long as the individual remains an NCSP.

NASP ratio used to frame staffing needs. Nearly all of the interviewees were aware of the NASP recommended ratio of one psychologist for every 500 to 700 students when providing comprehensive services (NASP, 2010) and used it to their advantage when advocating for more positions in the districts. Efforts were even being made to include it in state guidelines as a reference point for those unfamiliar with the field. The ratio is considered such an integral consideration for staffing needs that Abigail’s district assesses theirs annually and automatically maintains a ratio that is slightly above the recommended range to best support the increased needs that its students often have.

The interviewees used the NASP recommendation differently based on their district’s current ratio. Those with high ratios often used the figure to illustrate the service discrepancy they were managing. By contrast, those with low ratios analyzed the needs of individual psychologists or groups of students to justify even lower ratios. This is in line with NASP’s guidance that high-needs students might require ratios better than one

psychologist to every 500-700 students. Thus, every district was able to use the NASP recommended ratio to their advantage, regardless of their current level.

Districts Strained, But Managing

Assessment process becoming more onerous. As previously described, instead of outright gaps in coverage manifesting, more peripheral strains on school psychology practice were noted. One area that was cited as requiring more attention in recent years was the special education eligibility process. A couple of interviewees noted an increase in the involvement of advocates and attorneys in the process and posited that this led to more referrals requiring a formal assessment rather than being addressed through other means. The actual impact of this development on each individual school psychologist, however, is probably negligible as the influence of advocates is unlikely to result in more than a couple of extra assessments each year in even the most affected school.

A more valid reason for the eligibility process being more burdensome might be Chloe's observation that assessments have become more complex over time. More special education classifications are being considered, more instruments are used, and the nature of those instruments have changed as well (Kamphaus, Petoskey, & Rowe, 2000). As Chloe pointed out, there is now a heightened awareness of conditions that were previously less prominent, such as autism and executive function challenges (Hertz-Picciotto & Delwiche, 2009). Psychologists also seek information from more places compared to years past and assessments increasingly seek data from variables in the classroom and at home (Fagan, 2003). Additionally, these assessment tools are in a period of transition, as administration is increasingly integrating computer technologies, which present additional challenges (Pade, 2016). As Chloe summarized, all of these

factors result in more demands on time and a greater variety of skills being required of school psychologists.

Despite these demands on time, school psychologists are often loath to make substantial changes to how they conduct their psychological assessments. Noah noted that his staff members have not changed the way they write their reports, with some continuing to write 20-page reports despite their ratios increasing. Previous research has revealed that many practitioners preferred to compensate for new demands associated with the testing process by writing their reports outside of contract hours rather than compromise in other areas of their practice (Hughes, 2014).

Mental health needs are difficult to address. Most of the interviewees shared that they have experienced an increase in the mental health needs of their students, especially with regard to anxiety. The assertion that anxiety plays an outsized role in children's mental health is backed by historical data indicating that anxiety disorders are the most widely experienced mental health disorder by the time children leave school (Merikangas et al., 2010). It is not readily apparent, however, why this perceived increase was such a common experience. One possibility could be an endemic, societal shift that is having a negative impact on children's mental health. For example, recent research has linked decreased psychological wellness with the rise in prevalence of smart phones (Twenge, Martin, & Campbell, 2018).

Regardless of the reason, the interviewees indicated that establishing proper mental health interventions requires time and effort that is often unavailable in the current environment. These practices are likely to become even more scarce if ratios increase. Combining these challenges with the increasing obligations that come with special

education testing, the result is that mental health issues are marginalized and sometimes addressed inefficiently. Hannah illustrated this phenomenon when she said her staff members have to be reactive to behaviors rather than address the root of the problem.

Several school districts have supplemented their in-house mental health interventionists with individuals and groups from the community who provide services in the school. This is a model that could be utilized in more locales should a shortage arise, but in Victoria's experience, such a model is an insufficient replacement for a school psychologist. They tend to have limited hours and understanding of the continuum of services available through the school system. Compared to a practitioner from an outside agency with a more clinical background, school psychologists are more familiar with education laws that must be navigated in day-to-day practice (Bocanegra et al., 2017).

Increasing ratios. Multiple interviewees stated that the growth in the school psychologist staff was not keeping pace with the growth in student enrollments, meaning their ratios have been ticking upwards. Previous research (e.g., Smith, 1984; Curtis et al., 2002) and interviewee statements indicate that higher ratios result in a more constrained role that increasingly focuses on special education eligibility. This stands to reason since IDEA requires that the assessment process be completed within a certain timeframe. To stay in compliance with federal law, a school psychologist must sometimes sacrifice more preferred tasks (e.g., consultation or direct service) in order to meet those deadlines.

While the reported increases in psychologist-to-student ratios are surely unwelcomed, they should be put into context. Four of the districts represented in this research had an average psychologist-to-student ratio below the national average of 1:1,383 (NASP, 2010) and no district had a ratio above 1:2,000, although individual

psychologists within them might. Merely two decades ago, however, a national survey of NASP members found that the median ratio was 1:1,700 (Hosp & Reschly, 2002). Not only is this rate bettered by five of the six districts discussed in this research, but the two districts classified as having a ‘low’ ratio now assign *half* as many students to each psychologist as a typical district did at the turn of the millennium. Thus, by current and historical standards, the interviewees’ districts are still staffed relatively well.

This perspective seems to be key in understanding the concerns about a shortage and the disconnect between shortage perceptions and the actual evidence from the target state. Even before vacant positions would go unfilled, members of the field are apprehensive about any regression in ratio, as that would fundamentally jeopardize the broad school psychologist role that they have been fighting for decades to achieve. The fact that many districts still do not have school psychologists embodying that broad role perhaps justifies their concerns over such a regression. Yet, even taking into consideration recent trends in testing complexity, mental health needs, and technological changes, the field could in all likelihood manage with higher ratios. Indeed, many of today’s practitioners began their careers when ratios were much higher. It is unclear why or when the definition of a shortage transformed from “a supply-demand gap” (Fagan, 1988, p.453) into “an insufficient number of positions to meet the needs of students” (NASP, 2016, p. 1), but the latter allows for the term to be applied in many more cases and, as such, is more useful politically.

Retention has not been an issue. The primary impetus for the decades-long talk of a potential school psychologist shortage was that the baby boomers who entered the field en masse in the 1970s were expected to retire. When asked about retention issues as

well as positions that have opened up in recent years, only two interviewees even mentioned the word 'retirement' when discussing their recent history and those were only discussed because their staff members left at inconvenient times of the year. (Noah spoke of a year he had to replace a sizeable portion of his staff, but it was over a decade ago.) The fact that interviewees were asked to discuss recent trends in their staffing and none brought up a sudden spate of openings suggests that the rate of retirements has not been out of the ordinary in this state.

Instead of focusing on retirements when discussing staff retention, their attentions were geared more towards preventing staff members from leaving for other districts. The district directors in this study often spoke of the efforts they made to support their staff members in their work. For instance, Noah spoke of his district's open-door policy and tendency to avoid micromanagement. Riley sets aside money in her budget for staff members to utilize a contract psychologist for testing when they want to devote extra time to a special project. Other districts have opportunities for their psychologists to serve on teams emphasizing specific skills (e.g., testing, counseling, crisis intervention), as in Abigail's and Chloe's.

Perhaps due in part to these efforts, the actual practice of school psychologists leaving one district for another was reported to be rare. Some remarked that their staff members were working under less-than-ideal conditions, but factors like those cited above as well as strong leadership and collegial support kept them in place. Only Noah said he was recently struggling with his employees leaving for other districts. He stated that two staff members left the previous year for neighboring districts, though this should be considered in the context that there are nearly 100 school psychologists on his staff.

Even this rate of departures, however, was a newer phenomenon for him, as in the past there were fewer openings nearby that would lure his staff members away. It is therefore possible that if a shortage were to manifest, retention could become a bigger factor in districts with less appealing working conditions, as Noah described his to have.

Fewer applicants in large districts. District directors indicated that they benefit from their state appealing to potential applicants in a number of ways. Several indicated that they have been the beneficiaries of school psychologists' spouses relocating to the state for professional reasons, as it offers access to multiple metropolitan areas with a variety of industries. Professionally, school psychologists benefit from the opportunity to work in a state where education is funded better than most (U.S. Census Bureau, 2017), salaries are higher than in other parts of the country (Walcott et al., 2016), and the psychologist-to-student ratio is sometimes substantially better than the national average, as illustrated by two of the ratios in districts represented in this research.

Despite these advantages, and although positions are not going unfilled at the start of each school year, some interviewees cited a potentially ominous development. Namely, the larger districts reported a decline in applications for open positions and internships, suggesting that there might be fewer individuals looking for work compared to years past. This has occurred even though the number of training program graduates remains strong (Gadke et al., 2017) and there have been no significant changes to enrollment at training programs within the state. The smaller district directors, however, were content with the number of applicants they had been receiving. Even though Hannah and Olivia had not received any applications for openings that were posted at the time of their interviews, when hiring they were satisfied with much fewer applications

compared to the larger districts. Olivia, for instance, was happy to have received more applicants than she had positions during a recent round of hiring.

A more widespread analysis of hiring trends would be necessary to examine why the larger districts are experiencing fewer applicants. There were two suggestions from interviewees for why this might be, with conflicting implications for whether or not a shortage is on the horizon. One possibility that could portend a future shortage is that there might currently be more open positions in other areas of the country. If that is the case, then applicants could concentrate their efforts on a smaller pool of potential districts and forego applications to jobs that are less desirable to them. Given that school psychology programs are disproportionately clustered in certain areas of the country (according to the NASP website, nearly 40% of school psychology programs are within three states: California, New York, and Texas; NASP, 2018c), and that students often seek employment near to where they trained, school districts beyond those states (including those in this research) would be at a geographic disadvantage.

An alternate explanation for the decline in applications is Abigail's suggestion that new program graduates are increasingly signing on with contract agencies rather than applying directly to school districts for jobs. Although specific data for school psychology contracting could not be found, temporary employment of all kinds has increased since the end of the most recent economic recession (American Staffing Association, 2017) and the rate of individuals in education who held a primary job through a contract firm has risen exponentially since 2005 (Katz & Kreuger, 2016). It is not implausible to think that graduates of school psychology training programs who are coming of age during the so-called 'gig economy' would also be a part of this overall

trend. Thus, the recent drop in applications cited by several interviewees might be explained (at least partially) not as evidence of a school psychologist shortage, but rather a fundamental change in how some individuals go about seeking employment.

If there is, indeed, a trend in school psychologists increasingly using contract agencies to find employment, this does not necessarily belie the existence of a shortage. A reliance on contract agencies might indicate that job-seekers have surveyed the employment landscape, are anxious about their job prospects, and are willing to sacrifice some autonomy for a guaranteed position. The university-level interviewees in this research reported that their graduates, both currently and historically, have had good job prospects. Students graduating from places where there are many school psychology programs, however, might perceive the national market differently based on their local conditions. Indeed, New York has been described as having an *insufficient* supply of jobs for new graduates (Bocanegra et al., 2017). Only additional research into these contract agencies and the individuals who work for them would be able to determine which interpretation is more accurate.

Trainer Versus Non-Trainer Views

The initial research question contained two sub-topics, the first of which was, “How do these experiences differ by professional role?” There were three types of roles interviewed for this study: individuals at the state-, district-, and training-levels. On many topics, they all agreed, such as the role of NASP and the NASP Practice Model in guiding their philosophies of the field, but in one particular way there was a divide. As the Results section noted, the two interviewees at the state level, Camilla and Victoria, spent most of their careers as practitioners. Furthermore, their current positions largely focus on

the efforts of school psychologists working in public school districts. As a result, their experiences and viewpoints were closely aligned with those of the district-level interviewees, creating a dichotomy between that collective group and the training-level interviewees.

A key difference between these two groups was how the prospect of a shortage impacts their work. For the non-trainers, a shortage results in all of the complications described until this point: the potential for openings going unfilled, difficulty filling positions midyear, difficulty carrying out a broad role, and so forth. For the trainers, however, a shortage is a potential positive as it means their graduates are more highly sought-after. Essentially, a shortage of school psychologists creates a seller's market and the biggest producers are the training programs. Of course, neither Evelyn nor Kia expressed a desire for the field to experience a shortage and Kia was even reluctant to entertain the idea of one when asked about the potential ramifications.

Yet, they do have an interest in their students having positive outcomes upon graduation. They work with a specific aim to best prepare them for the job market by communicating with local district directors for feedback and encouraging students to develop their skill sets with specific destinations in mind. Both trainers reported that their students have always been able to find jobs, indicating their efforts have been successful. Kia and Evelyn noted that most of their graduates tend to stay local, meaning a statewide shortage would make it even easier for graduate students to find a position in their desired location. At one point, Evelyn noted that her graduates' preference to stay local could be problematic because "there's not that many jobs" in the state. Although many non-trainers interviewed for this research worried about being able to adequately staff

their schools (either currently, in the near future, or when mid-year openings manifested), this statement suggests that, as a trainer, Evelyn has a more conservative conceptualization of how many openings there are from year to year.

Perhaps more than any other group of individuals in the field, it is the trainers who embrace the NASP Practice Model the most in order to make their students marketable. Although Kia shared that her program encourages students to develop areas of expertise that might align with specific districts' models of school psychology practice, both her and Evelyn's programs are NASP-approved and therefore train their students to build competency in many skills. Kia correctly noted that districts focus on or naturally require different skillsets from their school psychologists. Since there is no way to guarantee ahead of time that a specific student will be hired by a specific district, however, it behooves the programs to provide their students with this broad training so that they can appeal to multiple employers.

Sometimes this adherence to broad training goals requires a long-term view. Evelyn intervened when one district sought for her students to take on significantly more testing cases, even though this might have been the best training for an individual if they later gained full-time employment there. For interns who would eventually be hired by districts with different models, however, such a singular emphasis on testing might have neglected the development of other areas that would prove necessary in their new placements. In this way, adherence to the NASP Practice Model in graduate training is more than a philosophical preference; it is a very practical way of ensuring a graduate has the best chance of being able to perform the role that is expected of them no matter what

that is. Based on the positive feedback that both Evelyn and Kia have received about their graduates, this approach is an effective one.

The conflicting viewpoints between trainers and non-trainers also extended to the topic of increasing graduate program capacities. The finer points of those proposals will be discussed below in the section on possible changes that could be made to combat a shortage. For now it is simply relevant to point out a fundamental difference of opinion between groups on how extensive changes to training programs ought to be in order to meet the perceived demand for more graduates. Trainers better understand the many obstacles in place that make enrollment expansion difficult and are therefore more resistant to the possibility. The disagreement also harkens back to the previously described discrepancy in their viewpoints on the shortage. For a district director, the prospect of a shortage might be enough reason to explore alternative training models because they want their schools to be adequately staffed. For a university trainer, however, it would not make sense to reinvent an entire program—especially a successful program—when the evidence for a shortage is nascent and its current graduates have no guarantee of securing a job in state.

Rural Versus Non-Rural District Factors

The next topic related to the first research question that will now be addressed is, “How do these shortage experiences differ by geographic setting?” By and large, the district-level interviewees revealed that their experiences have not been shaped primarily by their geographic setting. This aligns with research from the introduction of PL 94-142 that found no significant differences between the school psychologist’s role in those settings (Goldwasser et al., 1983). Within each of the three settings (i.e., urban, suburban,

rural) there were substantial differences in the psychologist-to-student ratio between districts and therefore the kinds of challenges that each was navigating. These intra-setting discrepancies seemed to be a product of years of divergent policy decisions that reflected local government's finances as well as the local population's values towards education.

Even though they are not currently experiencing a shortage any differently than the other geographic settings, there were several issues that were more specific to rural districts. The first issue that emerged from the interviews with rural district directors was that they receive far fewer applicants for open positions than districts in urban and suburban districts. On the one hand, this creates a thin margin for error, so if the number of applicants continues to decrease, they are likely to find themselves struggling to fill their positions. On the other hand, urban and suburban areas often have districts clustered together, meaning school psychologists who want to work in such a setting can often apply to multiple districts, especially if they live somewhere centrally located. By contrast, rural areas are often isolated and have more limited transportation, meaning there are fewer employers to consider. People who apply to work in a rural school district might be more deliberate in applying there, explaining how those districts have been able to fill positions despite the fact that they have barely received as many applications as they have openings. If a shortage were to emerge, the question will be whether this delicate balance will be disrupted.

Another issue that is particular to rural districts is that they do not necessarily have to fill openings often. As previously discussed, the interviewees reported that they experience few retention issues. The larger districts, however, still need to hire staff

members every year. This is because the odds of someone leaving increases with larger staff sizes and because student enrollment often grows between years at a rate that warrants additional staff positions. By contrast, the smaller rural districts might have very small staffs that rarely grow and experience an individual leaving only a couple times per decade. While a large district that hires annually will surely be affected by a shortage, the impact on a small district would be mediated by the timing of its openings. For instance, one small district might by chance have several openings when a shortage is severe, making it very difficult to fill them. By contrast, another might experience no staff turnover at all during that period and could pass through a shortage period completely unaffected by it because they never have to go through the hiring process.

Mental Health Services

Although this research suggested that the rural settings were not impacted by a shortage any differently than urban and suburban districts—and that a shortage would impact school psychologists' ability to provide mental health services across all settings—the interviewees' statements did suggest that children in rural communities might be worse off due to more systemic needs in those areas. They described significant barriers to accessing mental health services in rural settings, with families waiting over half a year and traveling hours to see a qualified provider. Hannah and Olivia, the two interviewees from rural districts, both noted that their residents were negatively impacted by a dearth of mental health professionals in the community that could support the work done in schools. Previous research has shown that school psychologists in rural settings often have concerns about the ability of their students to receive mental health services outside the school (Clopton & Knesting, 2006).

None of the other interviewees expressed a similar concern for their communities, which comes as no surprise given the differing prevalence of mental health providers between rural and non-rural jurisdictions. Data from the Centers for Disease Control and Prevention (CDC) indicates that while Riley's district is situated in an area that has over 30 psychologists for every 10,000 children below age 18 (the highest rate in the state), Hannah's district is in a county that has fewer than four. Indeed, the state's average rate in urban counties is over 20 psychologists per 10,000 children, while those in rural areas have fewer than eight (CDC, 2017a). This is particularly problematic because these areas do not necessarily have fewer needs. For example, the rate of mental, behavioral, and developmental disorders in children 2-8 years old is slightly higher in rural locales (18.6% of children) compared to urban ones (15.2%; CDC, 2017b).

Hannah and Olivia are acutely aware of the role their schools play in the mental health care of their community members. Olivia even noted a partnership between her schools and a community provider like one recommended by the CDC for supporting rural communities (CDC, 2017b). Her and Victoria's statements about the work these outside providers do in the schools, however, suggests that they are inadequate to fully address student needs because their hours are so limited. A school psychologist shortage could therefore disproportionately impact the mental health treatment and outcomes of students attending rural school districts. Were a shortage to have an impact on rural school psychologists, then a reduction in mental health services would seem a likely outcome as practitioners become responsible for even more students and schools. It would therefore be difficult for the limited resources in the surrounding community to compensate for such a reduction in services within the schools.

Factors Impacting Supply and Demand

The second research question for the present study was, “What factors (policy or other) are impacting the supply and demand of school psychologists?” This topic will now be discussed based on the themes identified in the Results section.

Supply

As described in the literature review, individuals can enter the field of school psychology either directly or by respecializing from a related field. Respecialization was not addressed in detail by the interviewees. The fact that it was overlooked might reflect the conclusion drawn in the literature review that the rate of respecialization is very low on an annual basis and so this possibility is less salient in their minds. Given their collective embrace of the NASP Practice Model, it might also reflect that they view themselves as being very distinct from the other disciplines. As Evelyn noted, a longtime goal of NASP has been to define school psychology as a distinct practice that is differentiated from those other forms of psychology. None of the participants brought up policy changes that are tangentially related to the topic either, such as the possibility of changing certification standards to ease entry into school psychology practice.

Discussions around increasing the number of individuals entering the field therefore centered on two components: (a) popularizing the field among high school and undergraduate students and (b) increasing the number of graduate students produced each year. These components align with current efforts throughout the field to increase supply (NASP, 2016; NASP, 2017c).

Interest in graduate programs is sufficient. Once again, the dichotomy between trainer and non-trainer viewpoints was apparent when discussing these topics. Non-

trainers focused on a perceived need to increase awareness of the field as a way to stymie a shortage. They viewed professional organizations as being important for advertising both the field and their state in order to attract more future school psychologists. The trainers, however, shared that they have never wanted for applicants, so a policy shift within these organizations to increase interest would address a non-existent need.

Indeed, Kia reported that her key obstacle to producing a steady volume of graduates is student finances rather than interest in the profession. Her program attracts many prospective students, but the financial cost forces some attrition. She indicated that graduate assistantships were difficult for her students to attain because of their limited number, but also because of their status as specialist-level students. Gadke's research (2017) indicates that only 12% of specialist-level school psychology students receive some sort of financial support, whereas 48% of doctoral-level students do. Based on Kia's description, there is no formal policy forbidding them from acquiring an assistantship and the challenge is rooted in a lack of clarity. It would, however, be to her and her students' advantage if the university formally clarified their eligibility for such positions.

Evelyn's program needs a campaign to promote school psychology training even less. Her program turns away so many qualified applicants that she proposed that a match system—perhaps like Canter (2006) suggested and like those used in predoctoral internship placements—could be instituted to ensure those individuals are able to train elsewhere. Although Evelyn stated that there are programs throughout the country failing to attract enough students, it is unclear how common this issue is. Gadke and colleagues (2017) reviewed data that there were graduate programs that received no applications

during the 2015-2016 academic year, but they did not report of how many this was true or if programs had chosen not to accept a cohort that year. NASP's new "Second Round Candidate Match" process (NASP, 2018d) is an optional program that to date only lists five participating programs. While this number might increase later into the recruitment cycle, it has not been widely advertised and it is unclear how aware eligible students would be of its existence.

Increasing the number of graduates. If the current training programs are filled with students and have an adequate number of applicants, then the interviewees' second topic, of increasing the number of graduate students produced each year, seems more relevant. This, too, can be separated into two different strategies: (a) increasing capacity at preexisting programs and (b) adding new programs. Both trainers indicated that they were happy with the size of their current cohorts and would be loath to increase them any further; Evelyn even stated her ideal size would be slightly smaller than the program currently enrolls. Their preference for cohorts of 10 are in line with the national average of 11 students in first year cohorts of specialist-level programs (Gadke et al., 2017).

According to Evelyn, crowding classrooms with more students would result in the learning dynamics changing, which was anticipated to result in negative outcomes. She suggested a parallel cohort would need to be created in order to preserve the integrity of the process, but this could be difficult to manage when the field is also struggling with a shortage of trainers (Clopton & Haselhuhn, 2009). Although distance learning is being explored more as a viable training option, its adoption would not necessarily allow for cohort sizes to be scaled up, either, as recommendations for that form of instruction state that class sizes should range from 12 to 16 students (NASP, 2017). Therefore, a distance

learning program would make most sense as a new endeavor rather than an add-on to a preexisting program. Additional practicum and internship site placements would also need to be secured for these added students, but this process is already challenging in some places with the current levels of school psychology graduate students (Castillo et al., 2014).

Several individuals spoke of the smaller number of students produced by an area program that only provides doctoral-level training. It was suggested that this program could be expanded to train as many students as the state's specialist-level programs are currently doing. Doctoral-level programs prepare their students for a broader range of career options, however, including work in academia that requires focused training on conducting research (NASP, 2017b). Overseeing research is a time-consuming process that often requires advisers to support and advocate for their advisees (Knox et al., 2006). As a result, the number of students each faculty member can effectively advise is constrained. Given that doctoral programs typically entail twice as many years of coursework compared to specialist programs (NASP, 2017b), and there are therefore twice as many cohorts active in a program at a given time, each faculty member can advise fewer students per cohort. Although no representatives from the doctoral program in question provided a formal interview for this research, it is likely that a key obstacle to increased cohort sizes would be the ability of their faculty to effectively advise the research of their student advisees.

The second strategy to increase the output of graduates, founding new training programs, is also filled with obstacles. Multiple individuals voiced the belief that there currently exists a policy within the state that gives universities with a school psychology

training program tremendous power to object to the creation of a new program at a nearby university. The fact that Evelyn was not even sure if her own university had ever taken advantage of that policy demonstrates how it is designed to protect a university's interests rather than the interests of a professional field; university leaders could potentially make decisions that directly conflict with the goals of the individuals within their school psychology program. Abigail's opinion that the creation of a new program within the state would require collaboration among the universities that currently have training programs seems all the more accurate when viewed in that context.

There is, however, perhaps a much more practical barrier to the creation of new school psychologist training programs. Multiple interviewees—Kia in particular—spoke of how expensive these programs are to run and how they do not earn much of a profit for their universities as a result. It is unlikely that an institution would be eager to begin a program with such a low return on investment unless there were a highly compelling reason to do so. A severe school psychologist shortage followed by targeted lobbying from stakeholders within the state might be such a compelling reason, but the environment as it is now does not seem to warrant the creation of any new programs in the foreseeable future.

Demand

District budgets are the primary obstacles to adding positions. Regarding demand, the district directors indicated a strong desire to increase the number of school psychologists in their organizations. Every single one of them indicated that they would want to hire more employees, if given the opportunity and the means. They also all indicated that district budgets were the primary obstacle to being able to do so. Budgets

are therefore the biggest constraint on the demand for more school psychologists increasing substantially over its current level.

None of the participants in this research has direct authority over the size of their staff, so they must work with other stakeholders to attain more positions or, in more difficult times, retain the positions they have. How this unfolds seems to depend largely on the culture of each organizations. The district-level interviewees were aware that their board and superintendent were stakeholders, but they had varying understanding of who else plays a role in budget decision-making. Hannah was able to work with the decision-makers in her small, rural district when budget cuts were necessary which allowed her to ensure funding for staff was found elsewhere, but Noah stated he had no idea who those decision-makers were in his large, urban district. He simply submits a request for the upcoming year and is informed later what has been retained in the final budget; there is no negotiating or collaboration in the process and therefore Noah has very little power to directly determine the size of his staff.

The fact of the matter simply is that there is a finite amount of money to fund a school system and difficult decisions often need to be made. This is apparent in the juxtaposition of the two suburban districts represented in this research. While Chloe has had historical success in advocating for more funding and has seen remarkable growth in her district's staff size over the years, Riley spent many years without an increase. The severity of the budgetary constraints varied considerably based on the county within which each district was housed. Some localities, like Chloe's and Abigail's, provided funding to increase the number of school psychologist positions on a regular basis, though in Chloe's case this did not necessarily match the rate of student enrollment

growth. By contrast, in several other jurisdictions they have had a maintenance of effort budget for many years. This has made the allocation of district funds a zero-sum game and the possibility of adding school psychology positions therefore highly unlikely.

Because education funding comes from residents' taxes, political forces necessarily play a role in the funding equation. School budgets are thus indirectly beholden to the values and opinions of elected officials and their constituents, which often prioritize other needs over education. Multiple interviewees noted that this is common in counties with many residents who do not have children in public schools. Even if everyone were in agreement that education should take priority, however, the realities of governance mean that a greater need in another area might draw funding away from the local public school system.

A similar negotiation of values and priorities takes place within a school system with the money it ultimately receives from the government. Interviewees were quick to point out that they did not feel that school psychologists were viewed negatively or as unimportant by district-level stakeholders. Nor did anyone indicate that the decision-makers in their district had philosophical differences for the role of school psychologist in areas like special education eligibility, consultation with teachers, or mental health support. Yet the participants in this study were almost universally of the opinion that school psychologists are differentially affected when funding is limited or reduced. This was true even if they had not experienced that themselves in their own district. Some interviewees felt that the policy-makers either prioritized classroom instruction or recognized that school psychologists could be spread more thinly.

A third reason for the differential impact of budget constraints on school

psychologists was a point that was alluded to by interviewees when discussing a variety of topics: policy-makers do not quite understand the full scope of what school psychologists can do. This is perhaps no great surprise when considering the influence of politicians and citizen constituents on the appropriation process, as they operate outside of the education system. However that may be, a level of ignorance also seems to be present among stakeholders within the school systems as well. Interviewees at both the district- and state-levels indicated that their most-preferred method of advocating for additional school psychologist positions is to make formal presentations to their boards of education and superintendents. During these presentations, they advertise what work they do, share their successes (especially with testimony from parents and administrators), and explain what else school psychologists could do with additional staff members. In this way, their advocacy approach is little different at the school-district level than it is in the state capital, where the state school psychologist association hosts a meet-and-greet with representatives every year.

Viewed through the framework of policy formation as a function of theory, practice, and politics (Kogan, 1985), these points demonstrate that school psychology advocates navigate all three factors. They attempt to influence policy makers by educating them on policy theory, namely the policy theory espoused by NASP and its practice model. Interviewees indicated that they use data to demonstrate how their current school psychology practices help policy-makers achieve their goals and how the provision of more positions would make those practices more widespread. Finally, the state professional association appeals directly to politicians in order to have an influence on the political process. The fact that many of the interviewees have met success by

taking this approach would suggest that these practices are effective.

What Can Be Done

The final question to be discussed is, “What is being done (or could be done) to mitigate the effects of the school psychologist shortage?” The participants indicated that there seemed to be no formal interventions currently in place to reduce the impact of a shortage in the state, though they praised the efforts of the professional associations to facilitate collaboration among stakeholders and advocate for changes unrelated to the shortage. Below, some of the interviewees’ suggested changes and the impediments to implementing those changes will be discussed.

Certain Obstacles are Inherent to the Profession

In conducting this research, interviewees brought up several challenges that they regularly come up against that are deeply engrained in the nature of school psychology. During ordinary times, they might have been mere inconveniences, but when considering a workforce shortage these challenges become much larger obstacles.

Difficulty managing midyear openings. One stressor that was cited by multiple interviewees is the difficulty that comes with filling a vacancy that occurs in the middle of a school year. It was unclear if this has been occurring more frequently than in years past, though their statements that retention has been strong would suggest that it is not the case. Three of the larger districts, represented by Abigail, Noah, and Chloe, make use of flexible assignments to cover schools as openings arise, while Noah and Chloe also shared that they make use of interns on a limited basis. The smaller districts also covered schools when a colleague left, though this seemed to occur more informally with teams rallying together to get the job done.

In most professions and fields of work, employees come and go with regularity, but the school year calendar creates a cycle in the field of education where most hiring takes place in the spring and summer for positions that will begin in the late summer or fall. Camilla and Abigail both pointed out that the state also forbids educators from transferring between districts in the middle of a school year under penalty of one's certification being pulled due to breach of contract. This benefits school districts in the sense that employees cannot leave a classroom of children in the middle of the year for a pay upgrade in a neighboring district. Yet when an opening does occur (often due to retirement or an extended leave), it is much more difficult to fill. As Camilla noted, a district would have to hire a school psychologist from out of state or hire someone who had been working in-state as a substitute to a full-time position. Because school districts in this state generally do not actively recruit school psychologists from other states, the most likely scenario for hiring a school psychologist from another state would be if that person were already moving to the state. That scenario is therefore one that is beyond their control.

The second possibility, of hiring a substitute as a full-time employee, is also difficult to carry out. As Camilla illustrated with the story about her former intern who left the state for want of a job, individuals who have difficulty finding full-time employment in one location tend to look elsewhere. Interviewees indicated that many individuals who choose to work as substitutes are doing so by choice because they have young children or they retired from full-time work but still want income. As Noah illustrated when describing the difficulty he has attracting substitutes, the nature of the field is such that those individuals can be selective in where and when they work.

Were a substitute interested in signing a contract for full-time work with a school district, they could presumably be just as selective in making that decision. This leaves certain districts more likely to be impacted by a midyear opening. For instance, because the school psychologist role in Noah's district entails, according to him, a less desirable set of responsibilities than in other districts, his district is more acutely sensitive to the hiring needs of his neighboring districts. While Noah's district might not be an individual's first choice, in an environment flush with school psychologists the neighboring districts' openings would eventually fill and anyone still looking for work would accept a less desirable position. With neighboring districts now having more openings, however, available school psychologists are drawn to their positions before his own because their school psychologists tend to earn more and have a broader role. In Noah's opinion, the increase in these desirable openings is a result of a shortage of school psychologists in the state.

Graduate training schedule. Interviewees pointed out that it might be necessary for the number of graduate students to increase in order to combat a shortage, but they also provided insights that the nature of the school psychology profession inherently creates barriers in the training of future practitioners. Multiple interviewees noted that the current graduate training model makes it difficult for individuals to study school psychology in any manner other than as a full-time student during standard business hours. Indeed, NASP requires that school psychologists receive a minimum of three years of full-time study (including internship) beyond the bachelor's degree (NASP, 2018a). Even beyond this rule it would be practically difficult to train outside of business hours because of the need for graduate students to have experience working with children in

school buildings during school hours. Graduate students participate in practicum experiences throughout their degree programs wherein they work under the tutelage of a practicing school psychologist and they must also participate in an internship of at least 1,200 hours in order to meet NASP guidelines (NASP, 2018a).

As Camilla noted, this is particularly difficult for individuals who already work in schools. This is because those are the individuals who are more likely to consider a career change into school psychology having become familiar with the work (NASP, 2016). The graduate training schedule and internship requirements would require them to forego part or all of their income for a prolonged period of time in order to receive the requisite training for a career in school psychology. For many people, this financial cost is a nonstarter.

Competition for staff between districts. Although a school psychologist shortage is a national issue, when asked about how they would react to a shortage in their state, the district directors tended to focus on how they would compete for the smaller pool of available psychologists rather than consider ways of combating the overall shortage. This stands to reason because their first obligation is to adequately staff their own schools. Furthermore, they realistically have much more influence over that process than they do over most supply-side processes, like how many graduate students are produced in a given year.

Standing firm that school psychologists should have a broad role seems like a way to exacerbate a shortage in one's district because that model necessarily requires more employees. Paradoxically, however, it might make a shortage easier for a district to navigate. As Camilla, Chloe, and Victoria all spoke to, prospective employees are more

attracted to jobs where they can exercise the full breadth of their training. Therefore, on the local level it might be in a district's interest to *increase* the size of its school psychologist staff in anticipation of a shortage rather than pare it back. Doing so could best position it for a future scenario when competition for available psychologists would be heightened. Thus, while one would expect demand to decline in a shortage as school districts recalibrated their staff size expectations, it might not decline as dramatically if any districts take this approach.

Reconceptualizing School Psychologist Training

Sacrificing training quality for increased enrollment. Many of the obstacles that have just been described could potentially be removed by changing training standards. None of the suggested changes that could be made to the training program model were absent of potential negative side effects. Part-time study would require students to divide their attention between work and school, which has been found to result in student attrition (Lahman et al., 2006). Allowing school-based employees to switch careers by taking courses part-time, as they might do to become a school counselor, would require a different conceptualization of practicum and internship assignments. (For instance, the accrediting body for school counseling programs requires internships of 600 hours [CACREP, 2016], which is half that required by NASP for school psychologists.) Distance learning is still unproven on a large scale with respect to its ability to train mental health practitioners, though this is an area of promise that will be explored more below. There are likely additional possibilities that were not even voiced by the interviewees in this research.

The elephant in the room in exploring such possible changes is that they would

almost necessarily result in lower training standards. The trainers interviewed for this research indicated that their graduates never had difficulty finding work. Meanwhile, all of the district-level interviewees indicated satisfaction with the quality of their applicants, most of whom are early in their career. Indeed, some indicated that they wish they had more openings so that they could hire more of them. These points suggest that the NASP training standards are effective in preparing graduate students for work in the field. To that point, when she discussed hiring contract school psychologists, Abigail noted that she only considers school psychologists who graduated from NASP-approved programs as a means of ensuring a higher quality candidate. Enacting the kinds of changes that would make it easier to begin a career in the field might result in a much poorer product leaving the training programs.

For now, it seems the shortage is not severe enough for NASP or trainers to entertain lowering that bar. At some point, however, the calculus might change where there are enough unfilled positions throughout the country to warrant less stringent standards. A lower-quality school psychologist in a school might one day be viewed as preferable to an overburdened higher-quality one. It would almost certainly be considered preferable to there being no psychologist in a school at all.

Exploring and expanding online graduate training. Skepticism among faculty members as to the effectiveness of distance learning remains an impediment to further growth of the supply of graduate students, particularly those at institutions with little online presence already (Allen et al., 2016). Evelyn seemed to be one of those skeptics, as she questioned how an online program could effectively train mental health professionals. Indeed, the students that finished the one-time school psychology program

described by Lahman et al. (2006) indicated that they were pleased with their outcomes, but the process was stressful and many students had dropped out as a result. Hendricker, Saeki, and Viola (as cited in NASP, 2017a) reported that many school psychology trainers share Evelyn's concerns about effective ways to providing training in assessment and counseling. They also question how to properly assess those skills in graduate students. The need for faculty to be trained themselves (NASP, 2017a) in order to learn a new way of teaching would not be a small undertaking.

There are, however, potential benefits for each party by employing this model. Individuals interested in the field but geographically distant from a training program will still be able to pursue a career as a school psychologist. Rural and smaller school districts that might have more difficulty attracting applicants to job openings (a possibility that could be exacerbated in a shortage) might welcome the opportunity to develop students earlier in their training in the hopes that they will be more inclined to work there upon graduation. This was the very rationale for the Lahman et al. (2006) program, whose graduates reported that they were happy to stay in the rural districts from which they were recruited. Additionally, training programs would be less constrained by the limited availability of training opportunities and qualified supervisors near their university.

Enacting a model akin to the counseling programs described by Sells et al. (2012) and Reicherzer et al. (2012) to train school psychologists would require significant coordination between the university, students, and their local school districts to facilitate training opportunities (NASP, 2017a). Such models in the counseling field, however, offer an opportunity to examine the relative strengths and weaknesses. Although the topic has been subject to debate within NASP as recently as 2015 (Dixon, 2018), NASP does

not preclude programs from using online methods (NASP, 2017a) and there is a growing chorus of voices that this methodology should be more seriously explored (e.g., Dixon, 2017; Moy et al., 2017).

There is potential for the kind of collaboration necessary to replicate the Sells and Reicherzer models in the target state given the reportedly good relationships among those parties. Indeed, Evelyn and Kia each spoke of projects at their university programs which could be expanded upon to include distance learning. Kia's program works with a local school district, while Evelyn cited a colleague within hers who is exploring the possibility of a satellite program in a rural area. Either of these partnerships could be built upon to create a distance learning program; Evelyn's proposed satellite program could partner with area school districts to ensure access to training in local schools and Kia's could add the online component.

Further Implications

Reconsideration of the School Psychologist Role

In addition to the topics explicitly discussed by the participants in this study, several other implications emerged from this research. Most of the suggested policy changes were focused on the supply side of the shortage equation, but there was little buy-in for changes on the demand side. Rather, district directors continue to advocate for increases in their school psychologist staffs. An alternate means of managing a shortage, however, would be to find ways to reduce the demand for school psychologists, but none of the interviewees offered much in the way of alternative conceptualizations of school psychology practice that might make a shortage easier to manage.

Although two individuals mentioned the legal requirements for the special education eligibility process as being obstacles to a broader role, neither of them suggested that changes be made to IDEA requirements. Nor did they suggest that their district adopt an alternate eligibility process that might make that aspect of the school psychologist job less onerous and time-consuming. For instance, IDEA allows for special education eligibility to take place through the RTI model for cases of specific learning disability. Although none of the interviewees' districts utilized RTI for special education eligibility, none of them suggested it be explored, either. This is despite the fact that some in the field have opined that such a system would require fewer school psychologists (Ball et al., 2011; Canter, 2006). Indeed, there is a body of literature that questions the validity of the more traditional testing models that the interviewees' districts are currently using, particularly with regard to their equitable identification of students across ethnic groups (Donovan & Cross, 2002).

The reluctance to switch to an RTI model might be influenced, in part, by the statewide regulation that RTI be implemented for eligibility purposes across all schools in any district that implements it. Although the state allows for an incremental rollout of the system, eventually all schools in a district would need to use RTI for specific learning disability identification once one of them does. Given that each school district within the target state encompasses an entire county or large city, in the largest districts this would require significant changes in practice (not only for school psychologists, but also general and special educators) at over a hundred schools. Such an undertaking might be perceived as too daunting when the law allows for a less disruptive, if flawed (Donovan & Cross, 2002; Reschly & Bergstrom, 2009), eligibility model.

In general, the participants devoted very little attention to the topic of school psychologists providing the kind of academic interventions that would be prominently used in RTI. It is unclear if this was because the interview questions simply did not encourage enough discourse on the topic for a theme to emerge or if it reflects a culture in the state that shies away from this practice. The fact that special educators in the state tend to complete academic achievement testing, rather than school psychologists doing so, might mean that the latter are less inclined, or feel less competent, to make academic intervention a more central part of their roles.

It is worth noting that the interviewees in this research had all been working in the field for an extended period of time. The nature of the participant selection process, in that individuals in positions of leadership for several years were sought after, necessarily meant that all of the interviewees had at least two decades of experience working in the field. This shared characteristic might be a factor in their shared views of what the field should or should not look like. Many alternative practices like RTI have been developed since their own graduate training, so they might be unfamiliar with them or less apt to consider them when discussing different practice models for school psychology.

There are few limits to how a school psychologist's role might differ from the one currently in place, so it would not be appropriate to expound on every change that could be made. If key adjustments were made in reducing the burden of the eligibility process, however, this would likely have positive implications for many other aspects of the school psychologist role as well. In general, the target state has a more traditional model of school psychology practice that should be reconsidered. There are serious doubts among experts in the field as to the appropriateness of certain psychological testing

methods to identify students with disabilities, particularly among minority children, in an equitable manner (Donovan & Cross, 2002). Multi-tiered models that focus on student performance in relation to the curriculum they are learning, such as RTI, could support students' academic success while simultaneously reducing the assessor role that many school psychologists have been trying to distance themselves from for generations.

NASP is an Essential Change Agent

Time and again, this research has demonstrated that NASP pervades all aspects of the school psychologist profession. For that reason, it could also be regarded as perhaps the most powerful force in effecting needed changes should a shortage manifest.

Practically, while NASP has little influence in the day-to-day operations of practitioners who are beholden to local, state, and national education laws and policies, the organization largely guides the field philosophically from career start to finish and is therefore a major stakeholder in combating a shortage. For instance, were NASP to make changes to their Practice Model, the requirements for graduate program approval, or the requirements for attaining the NCSP credential, it could have a dramatic impact on the perceptions and priorities of decision-makers like those interviewed for this research.

Although the influence of laws and educational policies cannot be discounted, the most expedient way of addressing a shortage might be to advocate for changes to NASP policies. At this time, it would seem inappropriate to abandon NASP's stances that have taken the field so far. In a desperate situation, however, the field would be best served by reexamining those policies rather than doggedly adhering to them out of a sense of duty or inertia.

Limitations

There are several limitations to the current research. The first is the fact that the shortage is a nationwide issue and this study only addresses the impact of a school psychologist shortage in a single state. The decision to focus on a specific state allowed for a deeper investigation, as the participants were all working within the same state system and could often directly compare their experiences to other participants. However, doing so sacrificed the ability to consider how various regions of the country might be differentially impacted or how the job search process might be changing. Although the interview questions attempted to account for this point by inquiring about where graduate students go on to seek employment and where applications for open positions come from, these lines of questioning only scratched the surface of the national dynamics.

Furthermore, the apparent fact that this state has not been impacted (thus far) by a shortage nearly as much as other states might have resulted in a more limited set of responses about possible changes that could be made. None of the interviewees had been unable to fill an open position for an extended period of time and many of them stated outright that they did not perceive a shortage in the state, meaning they were mostly speaking about a hypothetical situation. As necessity is said to be the mother of invention, it stands to reason that interviewees from a more severely affected state might have provided a greater diversity of answers or might have been advocating more forcefully for certain policy adjustments.

Efforts were made to cultivate an assortment of perspectives by interviewing individuals working in a variety of roles and from a variety of geographic settings. This was done in order to increase the transferability, or generalizability, of this research.

There are, however, many stakeholders who were not interviewed for this study that very easily could have provided valuable insights as well. Only one non-school psychologist, Hannah, was interviewed and her selection was a result of her district having a non-school psychologist supervise its psychological services staff. The participants in this research rightly recognized a spectrum of individuals who are important for navigating a school psychologist shortage, such as school board members, superintendents, administrators, parents, and so on; any of these individuals could have spoken to how the work of school psychologists affects them and what might change in a shortage situation.

The potential for researcher bias is also a limitation, as the researcher conducted all interviews and analyzed all data himself. This allowed for uniform methods to be used throughout the process, but necessarily introduced the potential confound that his own preconceptions and notions colored the ultimate findings. The researcher is a practicing school psychologist who completed his internship and is now employed in the state. This study was performed as a component of his enrollment in a NASP- and APA-accredited school psychology PhD training program. Efforts were taken to avoid such researcher bias by adhering to the methods outlined in the third chapter. The researcher utilized grounded theory methodology and followed the recommendations for trustworthy research as described by Shenton (2003). These recommendations included the use of member checks to ensure that the participants agreed with the manner in which their words were being described. When providing quotes, the researcher strove to strike an appropriate balance between conciseness and comprehensiveness in order to be direct while still meeting the standard for 'thick description' that would allow the reader to

understand the full context in which the words were spoken. Thus, if any bias is present, the reader is better able to draw his or her own conclusions from the data as described.

Conclusions and Implications for Future Research

This research has attempted to describe the experiences and perspectives of one state's stakeholders within the field of school psychology as they relate to a possible shortage therein. It found that, at the time these interviews were conducted, there was no shortage in the classical sense of positions going unfilled, though many perceived there to be. This was at least partially due to participants' convictions that more school psychologists were needed to adequately address the needs of their schools, a belief that seemed to stem directly from the conceptualization of the field that NASP has spent decades advocating to attain. Indeed, districts show signs of strain, both in absolute terms and in relation to recent years; ratios have increased, applications for open positions and internships have decreased, and student needs seem to be getting more complex. For that reason, district directors continue to advocate for more school psychologist positions on their staffs, as they have thus far been able to fill their open positions at the start of each academic year. Retention has largely been a non-issue and thus far the flow of new graduates and the occasional contract employee has been sufficient to meet their needs.

Two variables were examined more closely to determine their influence on interviewee responses: professional role and geographic setting. There were significant differences between the perspectives of trainers and non-trainers, primarily owing to the latter group having a limited understanding of the complexities that must be considered when training graduate students. As a result, many of the proposed solutions to a shortage that were proposed by non-trainers would be difficult to enact. Geographic setting was

found to be a less influential variable than psychologist-to-student ratio, as there were significant discrepancies within the same urban, suburban, or rural setting. Rural district directors revealed, however, that they are mindful of their community's reliance on the services provided by public schools, particularly when it comes to mental health.

There were several ideas for changes that could be made to stave off a school psychologist shortage, but the obstacles are large enough that the most effective would require difficult choices to be made. Current programs could produce more graduates, but they would be forced to use lower-quality or unproven training methods. The field could make do with fewer practitioners, but that would necessarily require the adoption of a narrower role that the field has been trying to do away with for nearly half a century. Some obstacles, like the challenge of filling open positions midyear, are simply inherent to the field of education. To enact most of these proposals would require a revolutionary change in values that seems unlikely to occur except in the most dire of circumstances. Based on the reports of these interviewees, the field is far from reaching that point.

There were certain topics that emerged in this project that could not be investigated further, as they were beyond the scope of this research. Future investigations could explore the growth of contract agencies in recent years and how graduate students approach the decision to sign on with such organizations rather than pursue employment independently. In particular, Abigail's hypothesis that these agencies are creating the false illusion of a shortage ought to be examined more closely. Another topic worth additional consideration is the view of academic interventions and RTI among school psychologists and other stakeholders in the state. Very little was said about this topic

despite widespread endorsement for a broader school psychologist role. It would be meaningful to explore whether there is a systemic reason for this.

Perhaps the most fundamental area for future research would be to clarify the assumptions used for many years in research that projected a shortage in the first place. A great deal of effort has gone into creating projections as accurately as possible, but they ultimately rely on soft data, resulting in substantially different predictions between studies (Curtis, et al., 2004; Castillo et al., 2014). For instance, the rate of attrition, which is the largest outflow factor, is based upon the assumption that 5% of the field leaves each year for reasons other than retirement, but there has been no systematic investigation of the true rate. If the true rate were in fact 2.5%, there would be no projected shortage. Additional figures that could be calculated more accurately include actual (versus self-reported) psychologist-to-student ratio data, the percentage of doctoral students who already have specialist-level degrees, the rate of doctoral students who become practitioners versus academics, and the rate of respecializations.

What is most problematic with the extant research is the uncertainty over how many school psychologists there are altogether. One would think this would be a prerequisite to advocating that there are not enough school psychologists, but thus far it remains the subject of estimation. NASP's current public policy platform has called for the National Center for Education Statistics to adjust its methods so that school psychologists are reported individually rather than in combination with clinical and counseling psychologists (NASP, 2018b). At this time, however, no formal changes to data collection have been made. For as long as the field is concerned about a shortage, it

would benefit from a more robust means of determining its size, whether that happens through a federal agency or private research.

The present research necessarily provides a snapshot of a specific moment in time. One individual who asked the researcher about the study late into this process described the topic as “a moving target.” The interviews conducted for this study occurred in the spring of 2017 and member checks took place nearly a year later, in the first months of 2018. In communicating with the interviewees during the member checks, some provided the researcher with brief updates on their experiences in the intervening year. In general, the situation had not improved. While most participants shared during their interviews that they rarely experienced vacancies at the start of a school year, more than a dozen positions throughout the state were vacant at the start of the 2017-2018 school year. Some of those were later filled, but additional midyear retirements meant that the need for more school psychologists had not decreased substantially. Moreover, both large and small districts were affected. One small, rural county had four vacancies as of this writing, equivalent to about half their typical staff size. Meanwhile, one of the largest counties had over a dozen employees take leave this year without a single substitute to help cover their schools. Of three candidates running for a state-level position in a professional organization in early 2018, two highlighted a statewide school psychologist shortage as being a key challenge that they would work to address if elected.

It is difficult not to wonder how the interviewees would respond to the same questions if this research were to be conducted now. Future research should monitor the ongoing developments related to the school psychologist workforce, as each year brings a

new set of circumstances. Regardless, the hope is that this research helps guide the next steps.

Appendix A

Table A1.
Summary of Surveys

Authors (Year)	Year	Methods	Relevance to Study & Key Findings
Farling, W. H., & Hoedt, K. C. (1971).	1969-1970	Survey sent to all known school psychologists in the United States as identified by state departments of education, professional organizations, and university trainers. <i>Sample size: 9,432</i> <i>Response rate: 37%</i>	Provides an accurate record of the size of the school psychology workforce at that time (9,432 individuals). Respondents indicated that 21% were over age 50 and only 13% served fewer than 2,000 students.
Goldwasser, E., Meyers, J., Christenson, S., & Graden, J. (1983)	1979-1980	Investigated the impact of PL 94-142 on school psychology. Sent to school psychologists selected randomly from the NASP membership list. <i>Sample size: 2,500</i> <i>Response rate: 44%</i>	Demonstrates how legal policies influence school psychology practice. More time devoted to children with disabilities after the law. School psychologists serving more than 1,000 students less likely to perform duties beyond special education evaluation.
Kicklighter, R. H. & Baily-Richardson, B. (1984)	1980	Half of the school psychologists working in Georgia were surveyed about their time spent in various activities. <i>Sample size: 150</i> <i>Response rate: 75%</i>	Results indicated that psychologists spent an average of 11 hours on each assessment case, meaning a maximum of approximately 145 evaluations could be completed properly in one year. The authors calculated that 145 annual evaluations would be produced by a student population of 2,500 students.

Authors (Year)	Year	Methods	Relevance to Study & Key Findings
Smith, D. K. (1984)	1982	Survey sent to 15% of all known school psychologists in the United States as identified by state departments of education and professional organizations. <i>Sample size:</i> 1,982 <i>Response rate:</i> 49%	Average age 38.8, average pupils served 2,301. Fifty-four percent male, 16% doctoral level. Time spent in assessment 54%. Desire for significant increases in consultation and intervention, decrease in assessment. As ratios increased, time spent in assessment increased and time spent in intervention decreased.
Reschly, D. J., Genshaft, J., & Binder, M. S. (1987)	1985-1986	Surveys with overlapping questions sent to four groups: 10% of NASP member practitioners (<i>n</i> =605), all historical NASP leaders (<i>n</i> =139), and 25% of university faculty (<i>n</i> =154). <i>Sample size:</i> 898 <i>Response rate:</i> 83%	Survey responses were provided in ranges, resulting in estimated results. Practitioners: Median age about 38, 35-40% male, about 20% doctoral, ratio about 1:1,750, 80% of respondents spent over 50% of time in special education activities; Leadership: Age 39.5, 52% male, 56% doctoral; Faculty: Age 39.5, 74% male
Graden, J. L., & Curtis, M. J. (1991)	1990	Survey sent to 20% of NASP regular members, choosing every fifth person on the membership list by state. <i>Sample size:</i> 2,301 <i>Response rate:</i> 66%	73.5% of respondents between the ages of 31-50. Of all respondents, 35% were male, 28.1% doctoral. Median ratio was in 1:1,501-2000 range. 53.3% of time spent in special education activities, 9.3% in other assessments, 19.5% consultation, 9.5% counseling
Reschly, D. J., & Wilson, M. S. (1995)	1991-1992	Replication of Reschly et al. (1987). Surveys sent to randomly selected NASP members (<i>n</i> =1,360) and 25% of university faculty (<i>n</i> =198). <i>Sample size:</i> 1,558 <i>Response rate:</i> 80%	Practitioners: Average age 41.4, 35% male, 21% doctoral, median ratio 1:1,750, 55% time spent in assessment, direct intervention and consultation most preferred activities; Faculty: Age 47.9, 70% male, assessment, direct intervention, and consultation most preferred activities

Authors (Year)	Year	Methods	Relevance to Study & Key Findings
Hosp, J. L., & Reschly, D. J. (2002)	1997	Three surveys with overlapping questions sent to 1,423 practicing NASP members. <i>Sample size: 1,423</i> <i>Response rate: 74%</i>	Average age 47.2, 33.4% male, 27.9% doctoral, median ratio 1:1,700, 55% time spent in assessment, would prefer to spend more time in direct intervention, consultation, and research
Curtis, M. J., Lopez, A. D., Castillo, J. M., Batsche, G. M., Minch, D., & Smith, J. C. (2008)	2005	Survey sent to 20% of NASP members randomly selected by computer. <i>Sample size: 2,948</i> <i>Response rate: 59%</i>	Average age 46.2, 26% male, 32.4% doctoral, mean ratio 1:1,482
Curtis, M. J., Castillo, J. M., & Gelley, C. (2012)	2010	Paper and online survey sent to 20% of NASP regular members randomly selected by state using a computer. <i>Sample size: 2,885</i> <i>Response rate: 44%</i>	Average age 47.4, 23.4% male, 24.2% doctoral (but only 16.7% had doctorate in school psychology, specifically), mean ratio 1:1,383, 47% of time devoted to assessment
Walcott, C. M., Charvat, J., McNamara, K. M., & Hyson, D. M. (2016).	2015	Online survey sent to 20% of NASP regular and early career members by state. <i>Sample size: 2,654</i> <i>Response rate: 48%</i>	Average age 42.4, 16% male, 25% doctoral

Appendix B

Recruitment Script for Voicemail and Email

Hello (Name),

My name is Kevin Hughes and I am a school psychologist working on my PhD dissertation at the University of Maryland. I am calling to see if you would be interested in participating in an interview as part of my dissertation research. I am studying the projected shortage in school psychologists that has been expected for many years and what, if any, impact it is having (or will have) on practice and/or policy in this state. I have identified you as someone who would provide a valuable perspective on the topic given your professional role as a (director of psychological services/university trainer/state-level representative of school psychology/etc.).

I expect your participation would require a one-hour face-to-face interview on the topic, which would be audio-recorded for later analysis. The interview would be at a time and place of your convenience. Brief follow-up questions may be asked after the fact via phone or email in order to clarify information or discuss any relevant topics that might come up in subsequent interviews. I also plan on performing a “member check” during the data analysis process in order to ensure that I am accurately interpreting interviewees’ statements. The “member check” will simply be that I will send you my interpretation of the themes that emerged from your interview for your comment before I finalize the Results and Discussion sections of my dissertation.

If you decide to participate, all efforts will be made to keep your information confidential. Before any interview would begin, you would be supplied with detailed informed consent information approved by the University of Maryland Institutional Review Board. If you would like more information, I would be happy to provide it. Thank you.

Kevin Hughes
School Psychology PhD Student
University of Maryland, College Park

Appendix C

Interview Questions for District Directors

Thank you for agreeing to talk with me about current and future staffing of school psychologists. My first set of questions concerns specific issues and/or features of your school system with respect to the number of school psychologists as well as future staffing needs.

1. How do you view the role of the school psychologist in your district? What factors are specific to your district that impact this role?
 - a. (Probe for: What roles and responsibilities do they currently assume; why; what would be your ideal; why is that your ideal? What keeps the school psych from assuming the ideal role?)
2. How many psychologists are currently on your staff? What would be your ideal number of psychologists on staff?
 - a. (Probe for reasons: professional standards, demographic changes, etc.)
3. Has there been a change in the number of psychologists in recent years?
 - a. If so, what reasons have there been for the change?
 - b. Have the psychologists' roles or functions changed as a result of the staffing changes? How?
4. Do you anticipate any changes in your psychologist staffing level in the upcoming years? Why? (Probe for budgets for staffing, change in demographics, enrollments, etc.)
 - a. Do you believe budget issues differentially affect school psychologists?
5. What do you think might happen if the number of school psychologists on your staff declined significantly in the upcoming years? (Probe for increase or decrease in behavioral incidents, in referrals to special education, staff reactions, etc.)
 - a. Considering the characteristics of your district (as discussed earlier), do you think a decline in staff would have a unique impact on your district?
 - b. What factors have made or would make the shortage more difficult to manage in your district? Easier to manage? (Probe for preexisting staffing issues, special program dynamics, staff culture/expectations, etc.)
6. What skills and knowledge do your psychologists need and have they changed over the past several years? (Probe for bilingual, experience with diverse cultures, etc.)
 - a. Are you able to recruit or retain individuals with the needed skills? Why not? (Probe for: lack of retirement of previously trained school psychologists, lack of a pipeline from preparation programs)
7. Who are the key players or stakeholders in alleviating and addressing the potential shortage issue? Are they aware of the potential (or current) shortage? How do they interact and coordinate with others (or not)?

The following questions pertain to your perceptions of the role of NASP and other national, state, and local organizations and interest groups in alleviating shortages of school psychologists

8. How do you see the role of interest groups (e.g., national, state, and local professional organizations) in navigating the potential (or current) school psychologist shortage? Are these interest groups adequately prepared to advocate for changes that would address a shortage? What, if anything, have you seen them doing so far to advocate?
9. Many national leaders in school psychology, as well as NASP, have advocated for lower student to psychologist ratios. What is your view of this position with regard to the potential (or current) shortage?
10. NASP has also advocated for an expansion of the school psychologist role. What is your view of this position with regard to the potential (or current) shortage?
 - a. [If they agree with the expanded role:] How could an expanded role be accommodated without increasing the number of psychologists?
11. Are there any specific current laws, policies, or common practices in your school system that have an impact on school psychology staffing levels?
12. Are there policies or practices that could be enacted or changed that would mitigate a possible shortage? (Probe for: feasibility, cost, priority, etc.)

Appendix D

Interview Questions for State-Level Stakeholders

Thank you for agreeing to talk with me about current and future staffing of school psychologists. My first set of questions concerns specific issues and/or features of the state with respect to the number of school psychologists as well as future staffing needs.

1. How do you view the role of the school psychologist in this state? Do you perceive that school psychologists have different roles between regions (e.g., urban, suburban, rural)?
 - a. (Probe for: What roles and responsibilities do they currently assume; why; what would be your ideal; why is that your ideal? What keeps the school psych from assuming the ideal role?)
2. Do you believe there is an adequate number of school psychologists currently working in the state? How does your ideal number of psychologists compare to the current size of the workforce?
 - a. (Probe for reasons: professional standards, demographic changes, etc.)
3. Has there been a change in the number of school psychologists working in the state in recent years?
 - a. If so, what reasons have there been for the change?
 - b. Are you aware of any changes in the psychologists' roles or functions as a result of the changes?
4. Do you anticipate any changes in the number of school psychologists employed in state the upcoming years? (Probe for budgets for staffing, change in demographics, enrollments, etc.)
 - a. Do you believe budget issues differentially affect school psychologists?
5. What would happen if the number of school psychologists in the state declined significantly in the upcoming years? (Probe for increase or decrease in behavioral incidents, in referrals to special education, staff reactions, etc.)
 - a. Would you expect different districts to be impacted in different ways? If so, in what ways and why?
 - b. What factors have made or would make the shortage more or less difficult to manage in this state compared to others? (Probe for preexisting staffing issues, special program dynamics, staff culture/expectations, etc.)
6. What are the state's staffing needs with respect to certain skills or attributes? (Probe for bilingual, experience with diverse cultures, etc.) Are there state-level factors that impact the recruitment and retention of such school psychologists?
7. Who are the key players or stakeholders in alleviating and addressing the potential shortage issue? Are they aware of the potential (or current) shortage? How do they interact and coordinate with others (or not)?

The following questions pertain to your perceptions of the role of NASP and other national, state, and local organizations and interest groups in alleviating shortages of school psychologists

8. How do you see the role of interest groups (e.g., national, state, and local professional organizations) in navigating the potential (or current) school psychologist shortage? Are these interest groups adequately prepared to advocate for changes that would address a shortage? What, if anything, have you seen them doing so far to advocate?
9. Many national leaders in school psychology, as well as NASP, have advocated for lower student to psychologist ratios. What is your view of this position with regard to the potential (or current) shortage?
10. NASP has also advocated for an expansion of the school psychologist role. What is your view of this position with regard to the potential (or current) shortage?
 - a. [If they agree with the expanded role:] How could an expanded role be accommodated without increasing the number of psychologists?
11. Are there any specific current laws, policies, or common practices in the state (or specific regions) that have an impact on school psychology staffing levels?
12. Are there policies/practices in the state (or specific regions) that could be enacted or changed that would mitigate a possible shortage? (Probe for: feasibility, cost, priority, etc.)

Appendix E

Interview Questions for University Trainers

Thank you for agreeing to talk with me about current and future staffing of school psychologists. My first set of questions concerns specific issues and/or features of your training program and your alumni's work in the field.

1. How do you view the role of a school psychologist? How would you say your program views the role of the school psychologist?
 - a. [If multiple levels:] Do you have a different approach to training specialist- versus doctoral-level students?
2. How many students are currently in your program (by degree level)? What would be your ideal number of students?
3. What factors control the size of enrollment? What is the trend of enrollment in your program? (Probe for budget, faculty advisement/teaching loads, research requirements, availability of student work/funding, etc.)
 - a. [If multiple levels:] Has that been true for both specialist and doctoral students?
4. What do you expect the upcoming years' enrollment to be?
5. Has your program had any difficulty filling its available slots in recent years?
6. Does your program make any efforts to recruit students with certain desirable skills or attributes? (Probe for bilingual, experience with diverse cultures, etc.)
 - b. Have you noted any change in the ability to recruit or retain such students?
7. What has the job market been like for your program's graduates in recent years? How has it compared to years past? (Probe for budget issues, where geographically they are seeking jobs, what kinds of jobs, etc.)
 - a. [If multiple levels:] Have you noticed any differences based on graduates' degree level?
8. Have you received any feedback from district directors regarding their current or anticipated staffing needs?
9. Have you received any feedback from district directors about the role of the school psychologist and how well the program's trainees meet that role? (Probe for skills regarding assessment, consultation, direct services, etc.)
10. Who are the key players or stakeholders in alleviating and addressing the potential shortage issue? Are they aware of the potential (or current) shortage? How do they interact and coordinate with others (or not)?

The following questions pertain to your perceptions of the role of NASP and other national, state, and local organizations and interest groups in alleviating shortages of school psychologists

11. How do you see the role of interest groups (e.g., national, state, and local professional organizations) in navigating the potential (or current) school psychologist shortage? Are these interest groups adequately prepared to advocate

for changes that would address a shortage? What, if anything, have you seen them doing so far to advocate?

12. Many national leaders in school psychology, as well as NASP, have advocated for lower student to psychologist ratios. What is your view of this position with regard to the potential (or current) shortage?
13. NASP has also advocated for an expansion of the school psychologist role. What is your view of this position with regard to the potential (or current) shortage?
 - a. [If they agree with the expanded role:] How could an expanded role be accommodated without increasing the number of psychologists?
14. Are there any specific current laws, policies, or common practices in in this region that you believe impact graduates' decision or ability to seek employment here?
13. Are there policies or practices that could be either enacted or changed that would mitigate a possible personnel shortage? (Probe for: feasibility, cost, priority, etc.)
15. What role do you believe training programs have in addressing the workforce needs of the field?
 - a. What can the programs do within the bounds of NASP/APA standards?
 - b. Do you anticipate changes being made to your program as a result of a shortage of school psychologists?

Appendix F

Informed Consent for Interviewees

Project Title	Policy, Practice, and the School Psychologist Shortage: A Qualitative Study
Purpose of the Study	This research is being conducted by Kevin Hughes, a Ph.D. student at the University of Maryland, College Park, supervised by Dr. William Strein, associate professor emeritus. We are inviting you to participate in this research project because you are an individual with detailed knowledge of the school psychology workforce in this state. The purpose of this research project is to explore factors related the anticipated school psychologist shortage in order to understand how it may affect practice and what policy changes may be made to alleviate it.
Procedures	The procedures involve approximately a 60 minute interview asking for your perceptions and experiences related to the school psychology workforce in this state. The interview will focus on your perceptions of the current state of the workforce, current policies and practices that have an impact on the workforce, and how those policies and practices could be changed. (E.g., Are there policies/practices that could be enacted or changed that would mitigate a possible school psychologist shortage?) Your interview will be audio recorded, transcribed by the researcher, and analyzed to identify major themes across interviews. After the analysis, the recordings and associated transcripts will be deleted. Brief follow-up questions may be posed via phone or email to clarify responses or inquire about topics that emerged through subsequent interviews. During analysis, the investigator will share via email his understanding of some of your statements in order to ensure that he is accurately interpreting your intended meaning.
Potential Risks and Discomforts	There may be some risks from participating in this research study, specifically the potential for the loss of confidentiality due to the small pool of potential participants (see Confidentiality section, below).
Potential Benefits	There are no direct benefits from participating in this research. We hope that this review of school psychology in the state and any policy or practice changes proposed within it could provide guidance to those looking to support the field of school psychology.

<p>Confidentiality</p>	<p>Your interview will be audio recorded and subsequently transcribed by the researcher. Any potential loss of confidentiality will be minimized as follows. First, your name will not be used during the recording of the interview, nor will it be listed on the transcript of the interview, nor will your name appear anywhere in any publications based on this research. Likewise, you will be given an alias and described using only information that is essential to understanding your role (e.g., “a current or former director of psychological services in a rural district). Direct quotes will be carefully selected to avoid potentially identifying information, such as your place of employment. Second, no one other than the researcher and his advisor will ever access either the audio recording or the verbatim transcript. Third, the audio recordings and any written transcription of your interview will be stored on a password protected computer and deleted after completion of the research report. Because there will be only a small number of people interviewed, however, there is the potential for a loss of confidentiality in that it may be possible for someone reading the results to determine who the interviewee was.</p> <p>If we write a report or article about this research project, your identity will be protected to the maximum extent possible. Your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law.</p>
<p>Right to Withdraw and Questions</p>	<p>Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify. Your employment status will not be affected by your participation or non-participation in this study. If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the investigators:</p>

	Kevin Hughes 3214 Benjamin Building College Park, MD 20742 (516) 528-5754 kahughes@umd.edu	Dr. William Strein 1244 Benjamin Bldg. College Park, MD 20742 (301) 503-2389 strein@umd.edu
Participant Rights	<p>If you have questions about your rights as a research participant or wish to report a research-related injury, please contact:</p> <p>University of Maryland College Park Institutional Review Board Office 1204 Marie Mount Hall College Park, Maryland, 20742 E-mail: irb@umd.edu Telephone: 301-405-0678</p> <p>This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.</p>	
Statement of Consent	<p>Your signature indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study. You will receive a copy of this signed consent form.</p> <p>If you agree to participate, please sign your name below.</p>	
Signature and Date	NAME OF PARTICIPANT [Please Print]	
	SIGNATURE OF PARTICIPANT	
	DATE	

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