

7-23-2013

The Influence of Supervision on School Psychologists' Sense of Self-Efficacy

Lisa Weed Phifer

Indiana University of Pennsylvania

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THE INFLUENCE OF SUPERVISION ON SCHOOL PSYCHOLOGISTS' SENSE OF
SELF-EFFICACY

A Dissertation

Submitted to the School of Graduate Studies and Research

in Partial Fulfillment of the

Requirements for the Degree

Doctorate of Education

Lisa Weed Phifer

Indiana University of Pennsylvania

May 2013

Indiana University of Pennsylvania
School of Graduate Studies and Research
Department of Educational and School Psychology

We hereby approve the dissertation of

Lisa Weed Phifer

Candidate for the degree of Doctor of Education

Mark R. McGowan, Ph.D.
Assistant Professor, Advisor
Educational and School Psychology

Lynanne Black, Ph.D.
Associate Professor
Educational and School Psychology

Timothy J. Runge, Ph.D.
Assistant Professor
Educational and School Psychology

ACCEPTED

Timothy P. Mack, Ph.D.
Dean
School of Graduate Studies and Research

Title: The Influence of Supervision on School Psychologists' Sense of Self-Efficacy

Author: Lisa Weed Phifer

Dissertation Chair: Mark R. McGowan, Ph.D.

Dissertation Committee Members: Lynanne Black, Ph.D.
Timothy J. Runge, Ph.D.

The purpose of this study was to investigate the connections between supervision and school psychologists' self-efficacy. The sample consisted of 206 practicing school psychologists (168 females, 38 males). Participants completed a demographic survey and a measure of self-efficacy, Huber Scale of Self-Efficacy for School Psychologists. Among participants in the study, professional supervision was not as accessible to school psychologists as administrative supervision. Of those who receive professional supervision, frequency had a minimal influence on counseling and research self-efficacy. Professional experience also emerged as a predictor of self-efficacy, although the relationship was relatively small. Additional factors such as caseload, job diversity, and geographic work setting were inconclusive regarding their relationship with self-efficacy. Overall, the sample was experienced and demonstrated high levels of self-efficacy. The restricted range of experience and levels of self-efficacy was a limitation of the study. Trends in the data suggested that professional supervision is still not engaged in as frequently as administrative supervision. With limited opportunities to develop professional competencies within the daily work environment, school psychologists must reach out to other opportunities for enrichment. Future investigations should focus on the influence of professional development opportunities including supervision on self-efficacy among school psychologists with varying levels of experience.

ACKNOWLEDGEMENTS

I would like to thank Dr. Mark McGowan, my chair, for his guidance, patience, and expertise throughout the dissertation process. His high expectations challenged me to produce a piece of work that truly makes me proud. I am also grateful for the feedback and support from my committee members Dr. Timothy Runge and Dr. Lynanne Black.

This endeavor would not have been possible without the support of my family. Thank you to my parents, Tracy and Patti, who instilled in me the value of education and who pushed me to pursue my dreams. Most importantly, I am so appreciative of the support from my husband and daughter. Jeff, your endless love and encouragement kept me motivated throughout this journey. And to my daughter Genevieve, dream big, anything is possible!

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CHAPTER 1

INTRODUCTION

Over the last decade or more, the role of the school psychologist has broadened and shifted dramatically in response to increased accountability standards on educational systems. As outlined in the governing legislation, No Child Left Behind (2001), school systems are being held accountable for meeting state standards and utilizing outcome based assessments to demonstrate student growth. In an effort to adapt to current educational reform, the professional role of a school psychologist has evolved from the referral-test-place model to a more wide-ranging problem solving model. Within this model, school psychologists are required to utilize a broader set of professional skills. They are being called upon to provide consultation concerning instructional practices and interventions, direct service with students, data analysis, and progress monitoring, along with assessments and report writing (Reschly, 2008).

According to Fagan and Wise (2000), there are over 25,000 school psychologists in the United States, with approximately 76% being employed in public school settings. Historically, school psychologists have been capable of providing a variety of services within the school including but not limited to conducting assessments, interventions, consultation and counseling (National Association of School Psychologists, 2010a). Although current research suggests that school psychologists continue to spend the majority of their time professionally engaged in assessment related activities, some preliminary findings suggest that school psychologists would like to be more involved in other job roles such as consultation, intervention, and other problem solving related activities (Watkins, Crosby, & Pearson, 2001). It is important to note, however, that the

percentage of time engaged in different professional activities varies among school psychologists, which is attributable to factors such as their professional assignment, their job description, and their caseloads. For instance, school psychologists who serve a single school may have more opportunities to broaden and shape their professional role by becoming more immersed in the school culture. Interestingly, research exploring the relationship between job role and satisfaction has noted significant correlations between these variables. For instance, Proctor and Steadman (2003) found higher levels of job satisfaction and lower levels of burnout among psychologists who had smaller caseloads, greater role diversity, and were more integrated with school activities.

One potential factor hindering psychologists from engaging in a more diverse role in schools is the nationwide shortage of school psychologists. This trend has been attributed to a high number of school psychologists retiring and a limited number of qualified individuals to fill these roles (NASP, 2006). These trends are further magnified by studies suggesting that school psychologists, along with others in the special education field, have high levels of attrition in the first five years due in part to job stress and lack of adequate supervision (NASP, 2006; Prater, Harris, & Fisher, 2007). With the shortage of school psychologists, practitioners must provide services to a larger number of students. The National Association of School Psychologists (2010b) recommends that a psychologist's caseload be 1:1000 students. However, according a recent study (Curtis, Castillo, & Gelley, 2012), the mean ratio of school psychologist to students is 1:1383. Previous research indicates that school psychologists servicing high caseloads often conduct more evaluations (Curtis et al., 2002). With such large

caseloads, many school psychologists must split their time among cases leaving less time to engage in consultation, counseling, and other activities within the school.

When compared to special educators and related service specialists (i.e., speech and language pathologists), school psychologists are more likely to leave their position due to exhaustion, retirement, or transferring to another school or district (Prater et al., 2007). Factors contributing to burnout or mental exhaustion can influence a school psychologist's performance and retention. Proctor and Steadman (2003) found that school psychologists who serve a single school have higher levels of job satisfaction, lower rates of burnout, and perceive themselves as more effective than school psychologists serving multiple schools. School psychologists who service multiple schools have to travel greater distances between schools, have limited support services within the community, and have less time for service delivery (Clopton & Knesting, 2006).

Despite the frequent barriers experienced in the field, school psychologists are ethically obligated to seek out professional development opportunities to stay abreast of learning new skills and best practices. School psychologists reported that consultation and direct service are the two areas in which they have the greatest need for professional development (Fowler & Harrison, 2001). Consistent with ethical and professional guidelines, professional competencies can be strengthened by attending training workshops, consulting with peers, or seeking out supervision from professional colleagues with expertise in these areas of practice.

Several studies have given attention to the role of supervision in facilitating the development of professional skills (Cashwell & Dooley, 2001; Daniels & Larson, 2001;

Harvey & Pearrow, 2010). As a mechanism for engaging in professional development, supervision requires school psychologists to work with more experienced practitioners with the goal of enhancing abilities, building competencies, or applying ethical guidelines (NASP, 2004). Furthermore, McIntosh & Phillips (2000) the supervision that occurs between a school psychologist and supervisor is an ongoing process used for “sharing knowledge, assessing professional competencies, and providing feedback” (p. 33), that helps promote effective delivery of psychological services.

The nature of supervision frequently distinguishes between administrative and professional focuses. Supervisors who use administrative supervision are more likely to focus on specific aspects of the practitioner’s performance in relation to their job responsibilities. Administrative supervision can be provided by an administrator who may or may not have specific knowledge of school psychology. In contrast, professional supervision (also referred to as clinical supervision in the professional literature) promotes professional development in updating and learning new skills, and ensures that practitioners are meeting professional standards (NASP, 2011). This type of supervision must be conducted by an individual with knowledge and training in school psychology. Both types of supervision can be used to enhance professional performance among school psychologists.

Independent of the type of supervision, access to frequent supervision has been a continuous struggle among school psychologists for decades (Chafouleas, Clonan, & Vanauken, 2002; Fischetti & Crespi, 1999; Ross & Goh, 1993). To supplement supervision needs, school psychologists at times rely on peer consultation to stay abreast of current issues and receive advice on challenging cases. Peer consultation is

operationalized as an ongoing, voluntary process among groups of two or more school psychologists working in a collaborative manner to generate suggestions for difficult cases, discuss ethical dilemmas, or learn new material or skills. Although far less structured, peer consultation can be useful because there is no evaluative component so peers share their thoughts more freely and it usually occurs among groups of school psychologists with equal status (Harvey & Struzziero, 2008). In spite of receiving little attention in the professional literature, initial research has shown that peer consultation is an efficient means for school psychologists to develop competencies, especially for those who have limited access to other types of supervision (Zins & Murphy, 1996).

Research from related fields of psychology has shown that supervision experiences can have positive benefits on practitioners' beliefs concerning their perceived level of professional capability or self-efficacy (Cashwell & Dooley, 2001; Daniels & Larson, 2001). An individual's professional self-efficacy can influence the course of action individuals pursue, their future goal setting, and their outcome expectancies (Bandura, 2006). Supervision is uniquely well suited to fostering and shaping professional self-efficacy. Activities such as observation, practicing new skills and receiving performance feedback from supervisors can have some bearing on one's perception about their work abilities. Consistent with social cognitive theory (Bandura, 1977), when supervisees observe challenging tasks handled effectively, they are more likely to feel that they are capable of handling similar situations in the future (Barnes, 2004).

Bandura (1977) defined self-efficacy as one's beliefs in his or her abilities that influence thoughts and actions. More specifically, self-efficacy is "a differentiated set of

self-beliefs linked to realms of functioning” (Bandura, 2006, p. 307). Self-efficacy beliefs are shaped through reflection on past performance, future thoughts of success or failure, and the amount of anxiety a task produces. One’s perceived self-efficacy has been demonstrated to influence how an individual will attempt a task, the effort that will be put in to the task, and how long an individual will persist on the task. With this in mind, self-efficacy is a contributing factor that may influence how a school psychologist adapts to new roles and demands within the field.

Because it is not a global trait, self-efficacy should be examined within specific contexts such as vocational self-efficacy. Simply because an individual is self-efficacious in one domain or area of work, it does not stand that an individual will be as self-efficacious in another. Therefore, examining self-efficacy within the context of school psychology specific job roles such as assessment, intervention and counseling becomes necessary. When measuring self-efficacy, Bandura suggests a multi-domain approach that investigates various areas of functioning with a specific area. Preliminary research in the area of school psychologists’ self-efficacy has led to the development of a tailored scale titled the Huber Inventory of Self-Efficacy for School Psychologists (HIS-SP) (Huber, 2006). The scale measures a pattern of performance that reflects self-efficacy across several sub-domains related to the field. For the current study, the HIS-SP will be the instrument used to obtain information regarding self-efficacy specific to the field of school psychology.

Considering the diversified role of the contemporary school psychologist, it stands to reason that measuring self-efficacy within the domains of practice would provide feedback to practitioners and supervisors on specific needs to guide

supervision. However, with what is known about the inconsistencies in access to supervision, it is important to investigate what underlying variables may lead to differences among school psychologists. The proposed study will further explore the likely connections between supervision and school psychologists' self-efficacy beliefs concerning professional competencies.

The Problem

This study explored the relationship among types of supervision and the self-efficacy of school psychologists. Consistent with contemporary views of professional practice (NASP, 2010b), school psychologists are expected to provide an extensive array of services in the school setting often with limited supports systemically (Chafouleas et al., 2002, Fischetti & Crespi, 1999; Ross & Goh, 1993). Professional supervision represents a professionally-endorsed means to assist practitioners in adapting to changing professional roles as well as ensure that school psychologists are effectively providing services to students through these evolving service delivery paradigms. It also allows for feedback from a supervisor which has been shown to increase professional self-efficacy (Cashwell & Dooley, 2001; Daniels & Larson, 2001).

Despite empirical support indicating the positive relationship between supervision and professional self-efficacy, school psychologists nationwide are not provided with ready access to professional supervision. Access, type, and frequency in which supervision is received is often associated with underlying work-related factors such as the geographical location, number of school psychologists on staff, caseload, and who is designated as the supervisor. Given the opportunities for feedback, learning, and practice of new skills associated with professional supervision experiences (Cashwell &

Dooley, 2001; Daniels & Larson, 2001), it is reasonable to believe that school psychologists engaged in some form of supervision will experience similar benefits in terms of their self-efficacy. For those school psychologists with limited access to supervision, peer consultation may provide similar benefits to those offered by professional supervision (Mitchell, 2009). Given that school psychologists are likely receiving different forms of supervision, it will be important to distinguish between the various benefits associated with and among those variables. Consistent with empirical evidence from related fields of psychology, frequent supervision and peer support are expected to hold additional benefits for the practitioner in the form of increased job satisfaction as well as self-efficacy.

Research Questions

The research questions for this study seek to better understand the differences between school psychologists' access to supervision and levels of professional self-efficacy. The study will also examine if a school psychologists' professional experience and level of training are contributing factors in the relationship between supervision and self-efficacy. Finally, the study seeks to understand the relationship between supervision characteristics and specific job characteristics including his or her geographic work setting, access to peer consultation, professional role diversity, and school psychologist to student ratio.

1. What is the relationship between supervision characteristics and school psychologists' self-efficacy when controlling for training and experience?
2. Is there a significant difference in self-efficacy among school psychologists who receive different types of supervision?

3. Is there a significant difference in self-efficacy among school psychologists who receive supervision more frequently?
4. Is there a significant difference in self-efficacy among school psychologists who receive supervision in different formats?
5. What is the degree of influence of frequency of peer consultation on school psychologists' self-efficacy?
6. How does access to supervision and peer consultation vary across school psychologists working in different geographic settings?
7. To what degree does an individual's caseload and role diversity influence a school psychologist's self-efficacy?

Hypotheses

Seven hypotheses and their related variables, as shown in Table 1, were generated based on the review of findings from previous studies in the field of school psychology and other related fields. The hypotheses are stated below:

1. There will be a predictive relationship among supervision characteristics (frequency and format) and self-efficacy among school psychologists even when controlling for the level of training and professional experience. School psychologists with more experience and training will engage less frequently in supervision and have higher levels of self-efficacy than psychologists with less experience.
2. School psychologists who engage in professional supervision will demonstrate higher levels of self-efficacy compared to peers who do not engage in supervision. Current literature suggests that supervision is a necessary component of an effective support system for school psychologists which allows for feedback and professional

growth. However, school psychologists receive different types of supervision and often have limited access to it (Chafouleas et al., 2002; Fischetti & Crespi, 1999; Ross & Goh, 1993). Empirical evidence has shown that professional supervision can have a positive impact on counselors' and mental health professionals' beliefs in their own abilities (Cashwell & Dooley 2001; Mitchell, 2009).

3. School psychologists who receive supervision, administrative or professional, more frequently will demonstrate higher levels of self-efficacy than those who engage in supervision less often. It is hypothesized that school psychologists who receive administrative or professional supervision at a higher frequency will demonstrate higher levels of self-efficacy as measured by the HIS-SP. School psychologists, who receive frequent professional supervision, will have more opportunities to master new skills and receive feedback on their performance and in return, build self-efficacy in the various domains of practice (Barnes, 2004; Cashwell & Dooley, 2001; Daniels & Larson, 2001).
4. School psychologists who engage in group supervision will demonstrate higher levels of self-efficacy than peers who receive individual supervision. Research has shown that a flexible format of supervision including group supervision is favorable compared to the most commonly received, individual format (Milne & Oliver, 2000). However, further research indicating the influence of format of supervision on self-efficacy is less prevalent. It is believed that the group format may be more beneficial because it allows for shared experiences among professionals, opportunities to practice skills, and reduces feelings of isolation.

5. School psychologists who engage in peer consultation more often than their peers will have higher levels of self-efficacy.
6. Urban school psychologists will have greater access to professional supervision and peer consultation than rural school psychologists. Similar to other mental health professions, supervision for rural school psychologists can be less accessible due to staffing limitations, travel time, and higher case loads. Supervision has been suggested to be an effective strategy for retaining mental health practitioners who work in rural settings (Mitchell, 2009); therefore, it is important to expand upon this area of research as it applies to school psychologists. To further explore the influence of work geographic setting, data from suburban school psychologists will be collected to determine if differences exist among urban, suburban, and rural colleagues.
7. School psychologists serving the NASP recommended caseload or less will have greater role diversity and have higher ratings of self-efficacy than those with higher caseloads. Recent data suggests that school psychologists on average are serving more students than the NASP recommended caseload (Curtis, Castillo, & Gelley, 2012). When serving higher caseloads, practitioners are limited in the variety of services they can provide, most often conducting evaluations (Curtis et al., 2002). With less time available to engage in consultation, counseling, and other activities within the school, school psychologists have less time to build self-efficacy in these areas.

Table 1

Hypotheses and Variables of Current Study

Hypotheses	Variables
1. There will be a predictive relationship among supervision characteristics (frequency and format) and self-efficacy among school psychologists even when controlling for the level of training and professional experience.	Level of training, years of professional experience, Supervision type, regularity, format, overall self-efficacy score
2. School psychologists who engage in professional supervision will demonstrate higher levels of self-efficacy compared to peers who do not engage in supervision.	Type of supervision, scales of HIS-SP
3. School psychologists who receive supervision, administrative or professional, more frequently will demonstrate higher levels of self-efficacy than those who engage in supervision less often.	Frequency of administrative and professional supervision, scales of the HIS-SP
4. School psychologists who engage in group supervision will demonstrate higher levels of self-efficacy than peers who receive individual supervision.	Format of supervision, scales of HIS-SP
5. School psychologists who engage in peer consultation more often than their peers will have higher levels of self-efficacy.	Frequency of peer consultation, Overall HIS-SP
6. Urban school psychologists will have greater access to professional supervision and peer consultation than rural school psychologists.	Geographic work setting, type of supervision, frequency of supervision, and frequency of peer consultation
7. School psychologists serving the NASP recommended caseload or less will have greater role diversity and have higher ratings of self-efficacy than those with higher caseloads.	Caseload, role diversity, overall self-efficacy score

Problem Significance

It is important to investigate the differences between types of supervision and its influence on school psychologists' self-efficacy in various domains of school psychologists' professional role. There are also other contributing factors on self-efficacy including caseload, peer support, geographic work setting, and role diversity. Self-efficacy is being examined in this study because it is a dynamic construct that is shaped through experiences and feedback from the environment as well as an individual's perception of associated outcomes. It has been demonstrated to have a predictive influence on motivation and effort on future endeavors. Studies have consistently shown that different types of professional supervision allow opportunities for building self-efficacy (Larson & Daniels, 2001). It is believed that the results of the study will provide additional insight into the relationship of supervision to self-efficacy for school psychologists.

Definitions

1. *Administrative Supervision*: As defined by NASP (2004), administrative supervision addresses a psychologist's job responsibilities, performance, and outcomes.
2. *Counseling Skills*: Counseling Skills refers to a domain scale included in the Huber Inventory of Self-Efficacy for School Psychologists. It "measures how school psychologists can engage in individual and group counseling consisting of skills in crisis prevention, referral, relationship building, cultural diversity, play therapy, and the effects of medication on children" (Huber, 2006, p. 17).
3. *Huber Inventory of Self-Efficacy for School Psychologists (HIS-SP)*: Huber (2006) developed this scale to measure self-efficacy among school psychologists. The scale

provides an overall measure of school psychologists' self-efficacy and also five individual domain scales including: Intervention and Consultation Skills, Multidimensional Assessment Skills, Counseling Skills, Professional Interpersonal Skills, and Research Skills.

4. *Intervention and Consultation Skills*: Intervention and Consultation Skills refers to a domain scale included in the Huber Inventory of Self-Efficacy for School Psychologists. It “measures how school psychologists can utilize consultation and intervention skills involving problem-solving techniques such as observation, data collection, research, planning, implementation, and follow-up procedures” (Huber, 2006, p. 17).
5. *Multidimensional Assessment Skills*: Multidimensional Assessment Skills refers to a domain scale included in the Huber Inventory of Self-Efficacy for School Psychologists. It “measures the complex process of assessment involving administration and scoring of assessment instruments, as well as encompassing ethical and legal guidelines, interpretation skills, report writing, and assessment related decision-making” (Huber, 2006, p. 17).
6. *Peer Consultation*: Peer consultation refers to a voluntary, collaborative professional relationship among a small group of school psychologists in which there is sharing of suggestions for difficult cases or ethical dilemmas, practice new techniques and provide social support (Harvey & Struzziero, 2008).
7. *Professional Interpersonal Skills*: Professional Interpersonal Skills refers to a domain scale included in the Huber Inventory of Self-Efficacy for School Psychologists. It “measures how school psychologists engage in professional and positive interaction

skills involving interviewing, rapport building, collaboration, and cooperation” (Huber, 2006, p. 18).

8. *Professional School Psychologist*: School psychologists who have completed graduate training in school psychology and are working as a credentialed school psychologist.
9. *Professional Supervision*: As defined by NASP (2004), professional supervision addresses professional competencies, provides opportunities to update and improve skills and to ensure a practitioner’s performance is consistent with professional standards. Professional supervision is only provided by a licensed/certified school psychologist or an individual holding an equivalent title (e.g., school psychological service provider, school psychology specialist).
10. *Research Skills*: Research Skills refers to a domain scale included in the Huber Inventory of Self-Efficacy for School Psychologists. It “measures how school psychologists can understand statistics and research design to adequately conduct, convey and incorporate findings of research into their practice” (Huber, 2006, p. 18).
11. *Rural Region*: A rural region is an area outside an urban area with a population density of less than 500 residents per square mile (U.S. Census Bureau, 2000).
12. *School Psychologist Self-Efficacy*: School psychologist self-efficacy refers to “one’s beliefs or judgments about one’s capabilities to engage in the roles and functions related to the profession of school psychology” (Huber, 2006, p. 17).
13. *Self-Efficacy*: Self-efficacy refers to a “person’s beliefs about their capabilities to exercise control over events that affect their lives” (Bandura, 1989, p. 1175).

14. *Student Ratio*: Student ratio refers to the ratio of school psychologists to students served.
15. *Suburban Region*: A suburban region is an area outside a principal city and inside an urban area with a density of 500 people per square mile (U.S. Census Bureau, 2000).
16. *Supervision*: Supervision refers to "... an ongoing, positive, systematic, collaborative process between a school psychologist and school psychology supervisor that focuses on promoting professional growth and exemplary professional practice leading to improved performance of all concerned—school psychologist, supervisor, students, and the entire school community" National Association of School Psychologists' Supervision Workgroup (1998, p. 1).
17. *Urban Region*: An urban region refers to an area that includes a central city and the surrounding densely settled territory that together have a population of 50,000 or more and a population density generally exceeding 1,000 people per square mile (U.S. Census Bureau, 2000).

Assumptions

For the purpose of the study, a survey was used to collect data on participant demographics and self-efficacy ratings. The survey was administered electronically to all participants using Qualtrics survey software. Because a survey was used for data collection, it was assumed that participants were honest and accurate in their survey responses. All participants were made aware that all information collected will be anonymous, helping to reduce chances of responder bias. Participant data was identified using a random number that was assigned for data collection purposes only.

At the end of the survey, participants were provided a link to a separate survey if they chose to enter the drawing for a gift card. Information collected for the gift card drawing was not connected in any way to the participants' responses.

Limitations

There were some limiting factors within the present study that may impact the ability to generalize the results to other populations. The study investigated the relationship between school psychologists' feelings of self-efficacy and their access to supervision. Participants in this study were practicing school psychologists who were members of state organizations in Pennsylvania, Maryland, and Ohio. The sample was limited by the use of a convenience sample. To prevent over saturation of research requests, email addresses of state association members are not always accessible to the public. Therefore, participation was solicited through several methods depending upon the standards of the associations including direct email, posting of a link on member websites and social media pages, and recruiting potential participants through posts on a professional listserv. The posting of the survey link on member websites and social media pages allowed for a larger audience and it is possible that school psychologists, not necessarily association members or school psychologists from other states could have had access to the survey link. For example, the link was posted on the research opportunities website and social media page for the Association of School Psychologists of Pennsylvania; however, individuals do not have to be members or from Pennsylvania to access either site. The demographic questionnaire used in this study helped define the characteristics of the sample that was used in the study (e.g., years practicing, participation in NASP accredited graduate program, highest degree earned

etc.) and also served as a safeguard insuring the respondents are practicing school psychologists.

A second limitation of the study was related to inability to record a response rate for the survey. Survey studies typically report the response rate or the percentage of individuals who completed the survey. The survey was distributed using several methods including email, website posting, and social media. Given the variety of methods used to issue the survey, a response rate was not able to be calculated.

Finally, this study used self-report measures to collect demographic data and self-efficacy ratings. Relying on practitioners' self-report assumes that respondents will be truthful and able to accurately assess their supervision and abilities. Self-report measures are limited due to the impact of social desirability bias and participants misunderstanding questions. To reduce the impact of the social desirability bias, all participants were informed that all information will be anonymous and no personally identifiable information was obtained in the demographic questionnaire. Also, a pilot study was conducted for the demographic questionnaire to ensure that it was readable and easy to understand. With these safeguards in place, it is believed that the participants responded in a truthful and reliable manner. Further studies may look to validate if ratings of self-efficacy match performance; however, that is beyond the scope of the present study.

Summary

Supervision is an integral part of professional development for school psychologists. Research shows that there has been little increase in access to supervision for school psychologists since the 1980's (McIntosh & Phelps, 2000). As

the role of the school psychologist moves farther away from the traditional assessment-focused activities and more into a direct problem solving model, school psychologists are in even greater need of professional development opportunities to learn new skill sets and practice others. Professional supervision allows for school psychologists to receive feedback about their performance and develop self-efficacy or confidence in their abilities. This study aims to add to the empirical evidence concerning the influence of supervision on self-efficacy of school psychologists.

CHAPTER 2

LITERATURE REVIEW

Introduction

To adapt to the changes within the field of school psychology, practitioners must be flexible and willing to accept new roles within the school setting. With changing roles come new skills and techniques to learn. One's willingness to adapt can be influenced by personal beliefs about his or her ability to perform tasks successfully, which is consistent with the construct of self-efficacy. The primary focus of the present literature review is to further explore self-efficacy as well as the factors that shape its development. Additionally, the chapter will examine career-related self-efficacy as it pertains to the role and practice of school psychologists. Finally, the elements of work related supervision will be examined and how it can be used to increase self-efficacy among school psychologists.

Self-Efficacy

Bandura (1977) operationally defined self-efficacy as a cognitive process that reflects the individual's beliefs about their capabilities to perform in certain situations that subsequently serve to shape and guide the individual's behavior. Self-efficacy is a cognitive process that falls within the broader scope of social cognitive theory (SCT). SCT suggests that cognitive processes such as self-efficacy play an important role in learning new behaviors (Bandura, 1977). According to Bandura's (1977) construct of triadic reciprocal causation, behaviors are established through a shared interaction between behavior, environment, and personal factors (i.e. cognitive, affective and biological events). In this theoretical perspective, human functioning is viewed as

proactive and self-reflective. This is because individuals interpret the outcomes of their own behavior that impacts future functioning on related tasks (Pajeres, 2002). Bandura (1977) noted that behavior is developed through observation, modeling and the imitation of others. It is through observation that individuals can learn response patterns within specific situations. Response patterns are then reinforced and shaped through self-evaluation and performance feedback from others to make stimuli specific connections. Theoretically, self-efficacy is understood to be a key cognitive process involved within the self-evaluation process and helps determine future behavior.

Self-Efficacy and Cognition

Cognition and thought govern a person's ability to analyze information, form judgments, and interpret feedback of his or her own actions in order to predict future outcomes (Bandura, 1993). The cognitive process of self-efficacy allows for introspection of an individual's self-beliefs about individual ability and likelihood to perform a particular behavior in the future. One's self-efficacy beliefs can influence challenges a person pursues and their level of perseverance during difficult tasks (Bandura, 1977). Self-efficacy also helps regulate the processes of motivation. When individuals have strong levels of self-efficacy they adapt positive expectations for future behavior. These positive expectancy outcomes then activate an individual's drive, or motivation to persist and carry out the behavior.

Motivation can be activated in three different ways including causal attributions, outcome expectancies and cognized goals (Bandura, 1993). Self-efficacy activates motivation through causal attributions by allowing individuals to ascribe consequences of a particular behavior (success or failure) with effort exerted rather than as a reflection

of one's own ability. For example, an individual with a high level of self-efficacy may attribute failure during a task to the amount of effort they put in rather than attributing failure to poor skills or low ability.

Self-efficacy also activates motivation through outcome expectancies. Bandura (1977) determined that the strength of an individual's beliefs about his or her own effectiveness with challenging situations is driven by both efficacy and outcome expectancies. Within this framework, efficacy expectancy is understood to be "a conviction that one can successfully execute the behavior required to produce the outcomes" (p. 193). Outcome expectancy is understood to be "a person's estimate that a behavior will lead to certain outcomes" (p. 193). It is the interaction of both expectancies that determine an individual's motivation, effort and performance given a challenging situation. Positive expectancies lead to positive or higher levels of self-efficacy about future tasks at hand. Having strong, positive expectancies can influence an individual to envision positive future outcomes. With positive expectancies and higher levels of self-beliefs, individuals are more likely to use coping behaviors and persist longer in threatening situations (Bandura, 1977; Jex & Bliese, 1999).

Lastly, self-efficacy activates motivation through cognized goals. Setting personal goals allows for individuals to be challenged and obtain self-satisfaction when they are reached (Bandura, 1993). Self-satisfaction influences motivation and self-efficacy increasing the likelihood of the individual setting challenging goals and demonstrating perseverance in the future. For example, Bandura, Barbaranelli, Caprara, and Pastorelli (1996) found that individuals' self-efficacy impacted their ability to regulate their own learning and set high achievement goals. Students with lower self-

efficacy for academics experience greater anxiety responses. Personal beliefs about self-efficacy can impact whether a person is able to set challenging goals in the future.

Development of Self-Efficacy

As discussed previously, self-efficacy beliefs are formed through interactions between the individual and the environment (Bandura, 1977; Gecas, 1989).

Theoretically, there are four primary mechanisms through which self-efficacy beliefs are constructed. They include the following: mastery experiences, vicarious experiences, social persuasion, and emotional arousal. Subsequent research has suggested that not all of these hypothesized sources contribute equally to the development of self-efficacy.

Mastery experiences are a strong contributing source for building self-efficacy (Daniels & Larson, 2001; Gecas, 1989; Lent & Brown, 2006). Engaging in challenging experiences that lead to positive outcomes can help restructure an individual's self-efficacy beliefs. Success during the mastery experiences allows an individual to see their own ability to effect personal change (Bandura, 2006). Daniels and Larson (2001) found that self-efficacy increased when counselors engaged in successful role play experiences. A strong sense of self-efficacy is, therefore, developed by successfully tackling challenging experiences that require persistence and effort. Repetitive successes can build self-efficacy; whereas, repeated failures can create self-doubt. Through this dynamic process previous performance on tasks can mediate an individual's judgments and expectancies of future outcomes (Bandura, 1977).

Vicarious learning experiences can shape self-efficacy through the observation of others who are persisting in particular tasks. These experiences can be obtained by watching live models complete a task or through symbolic representations. By

observing others, deemed to be similar to the observer, complete challenging tasks successfully, efficacy and outcome expectancies are strengthened (Gecas, 1989). Romi and Meir (1995) found that self-efficacy among counselors increased more when they were exposed to participant modeling (i.e. demonstrations of counseling) compared to symbolic modeling (i.e. discussions of counseling situations). These findings highlight that by observing others succeed in difficult situations, observers can develop positive expectations or self-beliefs about their own performance abilities in similar situations.

The third source of self-efficacy is social or verbal persuasion. Positive reinforcement through suggestion, self-instruction, or social persuasion can help strengthen one's expectancies in specific situations. Research has shown that performance feedback can significantly increase an individual's self-efficacy (Daniels & Larson, 2001). Emotional arousal is the fourth source of self-efficacy. Tasks can invoke different levels of arousal within an individual. Consistent with the Yerkes-Dodson law, the strength of a stimulus can impact learning and task completion (Teigen, 1994). Moderate levels of stimulus strength create the fastest levels of learning. Applying these principles to self-efficacy, the arousal created by a task, whether challenging or easy, will be mediated by self-efficacy and beliefs and effort toward completing a task (Bandura, 1977, 1993).

Measurement of Self-Efficacy

Perceived self-efficacy is a determinant of an individual's intention to carry out a future behavior. Research has consistently demonstrated that individuals with high levels of self-efficacy believe they are capable of completing difficult tasks. These

individuals may view future tasks as something to be mastered and tend to persist in the completion of these tasks (Bandura, 1993; Barnes, 2004; Daniels & Larson, 2001; Larson & Daniels, 1998). Conversely, individuals with a lower sense of efficacy are more likely to have self-doubt and give up easily on difficult tasks (Bandura, 1977, 1993). The question arises as to how the construct of self-efficacy is measured.

According to Bandura (2006), judgments of capability that are matched to specific domains have the greatest prediction of behavioral outcomes. With self-efficacy being a domain-specific construct, it is no surprise that instruments that measure self-efficacy should be tailored to particular areas of functioning. Global or omnibus measures of self-efficacy provide limited information about how an individual may perceive their abilities in particular situations. For example one would expect that a successful high school English teacher would have high levels of self-efficacy within the context of teaching English; however, the same teacher may not have the same levels of self-efficacy for teaching Calculus. Therefore, self-efficacy scales are generally tailored to the specific domain of interest. Strong self-efficacy scales provide an analysis of individual beliefs that assess one's performance on a variety of levels within the context of a domain (Bandura, 2006).

According to Bandura (2006) self-efficacy scales should reflect different levels of task demands and circumstances within a domain. Scales based on the construct of self-efficacy contain questions that assess individuals across three dimensions: generality, strength and level. Generality refers to the degree to which an individual views themselves as self-efficacious across different types of activities within a domain. Strength refers to an individual's ability to persevere in challenging situations. Lastly,

level refers to the degree of difficulty of a particular task in which individuals' perceive capable of performing (Bandura, 2006). All three aspects must be considered when assessing an individual's self-efficacy.

Vocational Self-Efficacy

Vocational research has used specific instruments to examine the role of self-efficacy within different fields. Development of strong vocational self-efficacy may influence an individual's coping skills at work and allow them to view stressors as less threatening. Jex & Bliese (1999) found a positive relationship between self-efficacy and job satisfaction. Individuals with high levels of vocational self-efficacy were found to experience less psychological strain even when working more hours. Those with lower levels of self-efficacy displayed a more negative response to job related stressors.

Within the field of education and human service, a well-established body of work is available exploring the relationship of self-efficacy and professional performance in teaching and counseling. This body of research has consistently demonstrated that educational professionals with higher levels of self-efficacy feel their work is more meaningful, believe they can handle difficult situations, and feel they are able to better influence students' learning (Brady & Woolfson, 2008; Tschannen-Moran et al., 1998). Building upon the notion of context-specific self-efficacy, a detailed overview of teacher efficacy and counselor self-efficacy will be provided.

Teacher efficacy refers to "teachers' belief in his or her capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context" (Tschannen-Moran et al., 1998, p. 22). Consistent with social cognitive theory (Bandura, 1977), teacher efficacy is understood to be a dynamic and

multifaceted construct influenced by both internal and external factors (Guskey & Passaro, 1994). Internal factors are individual attributes that impact teaching and learning; whereas, external factors are related to the impact of environmental conditions on teaching and learning. These factors encompass variables such as socioeconomic status, family conditions, and education level.

Brady and Woolfson (2008) found that teachers with high efficacy were more competent and more readily accepted responsibility for student learning. Participants in the study who had more experience working with challenging students were more likely to attribute student failures to external classroom factors rather than internal factors. Teachers who saw a student's failure as an internal problem saw the problems as stable and not likely to change. Teachers who attributed a student's failures to external factors were more likely to find other ways to help the student as well as set higher goals for them.

Specific to the professional role of teachers, educators who encounter challenging students may show low instructional self-efficacy, have weaker commitment to teaching and spend less time on academic tasks. The impact of low self-efficacy can also have a disruptive impact on the classroom atmosphere and classroom management abilities (Bandura, 1993). Teachers with high levels of self-efficacy are more likely to work with challenging students and manage stressors by directing efforts to solve problems (Bandura, 1993). Wolters and Daugherty (2007) found that experienced teachers were more confident in their abilities to work with students and apply instructional practices than novice teachers.

Professional experience has been shown to positively influence self-efficacy among teachers. Klassen and Chiu (2010) found that teachers' self-efficacy increased from early career to mid-career before slightly declining. Results of this study showed that teachers who had greater workload stress had higher levels of class management self-efficacy compared to those with greater classroom stress who had lower levels of self-efficacy and lower levels of job satisfaction. Finally, those with greater classroom management and instructional strategies self-efficacy had greater levels of job satisfaction.

Similarly, drawing parallels with counseling psychologists, high levels of counseling self-efficacy (CSE) have been shown to positively influence an individual's job performance, persistence with difficult cases, as well as response to feedback provided in supervision (Daniels & Larson, 2001; Larson & Daniels 1998). Counseling self-efficacy is defined as "one's beliefs or judgments about her or his abilities to effectively counsel a client in the near future" (Larson & Daniels, 1998, p. 180). Counselors with high levels of CSE use more effective counseling skills, have stronger perseverance during difficult tasks, and effectively use feedback to guide their practice (Larson, 1998). Research has supported the use of clinical supervision as a method for increasing counselor self-efficacy (Cashwell & Dooley, 2001, Daniels & Larson, 2001). Given the similarity in professional roles and duties, it is reasonable to expect that school psychologists will demonstrate similar benefits from higher levels of professional self-efficacy as professionals who are educators or counselors.

School Psychology Self-Efficacy

Previous research has defined school psychology self-efficacy as “one’s beliefs or judgments about one’s capabilities to engage in the roles and functions related to the profession of school psychology” (Huber, 2006, p. 19). The role of the school psychologist requires professionals to possess a broad and diverse range of skill sets in order to provide effective services to meet the academic, social, behavioral, and emotional needs of all students. School psychologists use data-based decision-making in assessment and intervention practices, as well as consultation and collaborative skills to provide direct and indirect services to individual students, and they participate in school-wide initiatives that promote effective learning for all students (NASP, 2010b). According to Huber (2006), self-efficacy can be broken down into five factors including consultation skills, counseling skills, research skills, assessment skills, and intervention skills. To date, research concerning the self-efficacy of school psychologists has been limited to exploring the relationship between professional experience and training (Huber, 2006; Roth, 2006).

However, the relationship between school psychologist’s self-efficacy and supervision has yet to be addressed empirically. Empirical evidence is necessary to assist professional supervisors and training programs in developing strategies to facilitate higher levels of self-efficacy among practitioners. This is especially important as practitioners adapt to contemporary practices within the field (e.g., the problem solving process) (Harvey & Pearrow, 2010; Huber, 2006). As noted previously, theoretical understandings concerning self-efficacy suggest that it can be strengthened through various means such as mastery experiences, observational learning, social

influence, and emotional arousal. Therefore, it is expected that school psychologists' will build professional self-efficacy through supervisory experiences which allow for the successful execution of planned and sequenced experiences fostering skill development through observation and practice shaped by ongoing and individualized performance feedback.

Supervision

Supervision is a necessary form of professional development for school psychologists because it provides structured opportunities for skill maintenance and improvement, professional development, reduced job-related stress, increased self-reflection, and increased accountability (Harvey & Struzziero, 2008). As defined by the National Association of School Psychologists (2004), supervision refers to an ongoing interaction between a supervisor and supervisee in which one can receive performance feedback and develop new competencies. Supervision is further defined as:

An ongoing, positive, systematic, collaborative process between a school psychologist and school psychology supervisor that focuses on promoting professional growth, and exemplary professional practice leading to improved performance for all concerned – school psychologist, supervisor, students, and the entire school community (NASP, 2004, p. 1).

NASP recommends that all school psychologists receive supervision regardless of experience. However, research has shown that the frequency and type of supervision varies based on the nature of a practitioner's assignment, the number of school psychologists employed in a district, and the resources available to the practitioner (Chafouleas et al., 2002; Fischetti & Crespi, 1999).

Supervision provides structured opportunities for school psychologists to enhance their skills and practices. It is through supervision activities that more experienced practitioners can share professional knowledge, encourage goal setting, provide objective feedback, and provide constructive appraisal (McIntosh & Phelps, 2000). NASP recommends that school systems ensure that school psychologists have access to adequate levels of supervision depending on the developmental needs of the school psychologist (NASP, 2010b). However, consistent with NASP's professional ethics, it is the professional responsibility of the school psychologist to seek out supervision and continually develop their skills (NASP, 2000).

Types of Supervision

Consistent with recommendations of national professional organizations (American Psychological Association [APA], 2002; NASP, 2010a), ongoing supervision is necessary to promote professional growth and effective practices in the field of school psychology. School psychologists typically receive administrative or professional supervision or a combination of both (NASP, 2004). At times, school psychologists also engage in peer consultation as a means to supplement professional development.

The most commonly received type of supervision is administrative. Administrative supervision focuses on an individual's job performance, responsibilities, and job outcomes. This may entail observations, conferences, or job evaluation meetings to review performance. Because administrative supervision is not discipline specific, school administrators, regardless of their level of training or familiarity with the practice of school psychology, are most often responsible for evaluating a school psychologist's performance (Chafouleas et al., 2002). Administrative supervisors take

on a leadership role, delegate assignments and conduct personnel evaluations (Harvey & Struzziero, 2008). Chafouleas et al. (2002) found that school psychologists were moderately satisfied with the supervision they received; however, they were more satisfied when the supervision was conducted by a fellow school psychologist.

By contrast, the second type of supervision, professional supervision, is tailored to the needs of school psychologists and is provided by a more experienced school psychologist (NASP, 2004). This type of supervision typically focuses on profession specific roles by discussing cases, reviewing work samples, assisting in interpreting of data, learning techniques and skills, and debriefing in crisis situations (Harvey & Struzziero, 2008). In literature related to other mental health fields, professional supervision is also referred to as clinical supervision (Milne & Oliver, 2000; Mitchell, 2009). Professional or clinical supervision involves direct, face to face contact with a supervisor to help improve professional skills as a school psychologist (Ross & Goh, 1993). This type of supervision is typically conducted by a supervisor with experience, education, and advanced training in school psychology.

In supervision sessions, a variety of techniques may be used that include direct instruction, assigned readings, modeling, role-playing, observation, collaborative counseling, assessment and consultation, and reviewing audiotapes, psychological reports, or cases. Professional supervision provides school psychologists with an enhanced knowledge and skill set enabling them to tackle difficult situations as they arise or persevere through a difficult task because of the confidence instilled through that supervision process. In a study of school psychologist supervisors (Harvey & Pearrow, 2010), twenty percent of supervisors indicated that they provide professional

supervision, 42% provided administrative supervision only, and 37% provided a combination of both types. Although fewer supervisors provide professional supervision, a majority of supervisors see a high need for it.

Another means of fulfilling supervision needs is through peer consultation. School psychologists engage in consultation practices frequently in the school setting. Some use this same problem solving model as a way to meet professional development needs. In addition to receiving formal supervision, peer consultation provide colleagues a less formal means for sharing advice, guidance, and reduce stress and feelings of isolation (Harvey & Struzziero, 2008; Zins & Murphy, 1996). Peer consultation occurs when two or more school psychologists voluntarily meet to discuss difficult cases, review ethical standards, practice skills, or provide each other with peer support. It is a collaborative process that does not have an evaluative component like other types of supervision.

Although limited research is available regarding the benefits of peer consultation, an initial study found peer consultation to be effective in improving skills and knowledge and increasing job enthusiasm (Zins & Murphy, 1996). In comparison, research in the field of psychotherapy has suggested that peer consultation provides support to practitioners in a nonhierarchical fashion where practitioners can work together to solve problems and practice new skills (Truneckova, Viney, Maitland, & Seaborn, 2010). Peer consultation allows for practitioners to develop supportive relationships with others and potentially, positively influence professional well-being.

Frequency of Supervision

The frequency with which a school psychologist engages in supervision should be matched with the need and experience level of the psychologist. According to APA (2002) and NASP (2010a) guidelines, early career school psychologists and interns need more direct supervision than experienced psychologists, with two hours of supervision per week being typical. However, these professional guidelines continue to note that proficient psychologists continue to need supervision albeit less frequently (NASP, 2004). When taking on professional roles that involve new populations or duties for which they have limited experience or training, supervision is noted to be a critical component for competent practice. Coinciding with professional guidelines, ethical standards require school psychologists to be cognizant of limitations and seek ongoing professional development (NASP, 2010a; NASP, 2000).

Despite the recommendations from NASP regarding the importance of supervision, research has shown that there has been little improvement since the 1980s in increasing school psychologists' access to quality supervision (McIntosh & Phelps, 2000). Funding, educational mandates, and access to supervisors are barriers that influence how often supervision is received (Harvey & Struzziero, 2008). Many school psychologists have administrative supervisors who are not able to address clinical concerns. Peer consultation then becomes a necessity for school psychologists to collaborate with other colleagues for guidance and social support not usually obtained during administrative supervision.

Empirical evidence suggests that approximately one- to two-thirds of school psychologists may actually be receiving professional supervision (Chafouleas et al.,

2002; Ross & Goh, 1993). More recently, Curtis et al. (2012) surveyed NASP members during the 2009-2010 school year and found that 56% of the members surveyed are receiving administrative supervision during the school year. Only 28% of the sample indicated receiving professional supervision or support. Of those school psychologists who are receiving supervision, about one-third reported having it only one hour or less a month (Ross & Goh, 1993).

Structure and Format of Supervision

Trends among school psychologists indicate a need nationally for increasing opportunities for high quality supervision. NASP recommends that the most effective type of supervision would be from a school psychologist who is in an administrative position. However, many school systems have different configurations of supervision based on many factors regarding the organization of the school system and staffing resources available (NASP, 2004).

One such method may be to examine the format in which supervision is delivered. One-on-one supervision is a common format, involving a supervisor and supervisee. This type of supervision allows for discussions of specific cases, and personal issues, and the quality of supervision is better structured. However, this type of supervision can be time consuming and less efficient than other more flexible formats of supervision. Milne and Oliver (2000) found that more flexible formats of supervision including group supervision, co-teaming, peer consultation, team supervision, or a mixed format may be a more efficient way to provide quality supervision to professionals. In the mental health field, flexible formats for supervision are commonly used and are viewed positively by the supervisors. However, supervisors report that

flexible supervision requires extra effort to plan an efficient supervision session and there is a reduction of quality control compared to a smaller one-on-one setting (Milne & Oliver, 2000).

Barriers to supervision

The influence of supervision on school psychologists is a topic not often addressed in current school psychology research (McIntosh & Phelps, 2000). The literature base does indicate a need for more consistent access to quality supervision; however there is little research that demonstrates the direct impact of supervision on practicing school psychologists. Likewise, it is a shared belief by national professional associations (APA, 2002; NASP, 2010) that professional supervision experiences are a necessary component for professional development.

School systems have different expectations for professional development and supervision. Harvey and Pearrow (2010) found that the systems and variables within the school setting impact the type of supervision received by school psychologists. Large school systems may have a director of psychological services supervising several psychological staff. Whereas a smaller system may have administrators assigned to the supervision of school psychologists. If the supervisor is a principal, special education director, or another administrator professional supervision is often difficult to administer because these professionals are often unfamiliar with the responsibilities and best practices of school psychologists.

Often, supervisors are determined based on the resources of the school or district. For example, a large urban school system that employs numerous school psychologists may have monthly group meetings for supervision and peer consultation.

Conversely, a small rural school may only employ one psychologist who has limited access to opportunities for supervision from a fellow school psychologist and may have to seek peer consultation on their own. Despite the different opportunities afforded to school psychologists for professional development, ethical standards clearly articulate that it is the responsibility of the school psychologist to seek supervision and professional development to maintain certification for practice (NASP, 2010a).

Needs of School Psychologists

The role of the school psychologist is evolving into a more complex and dynamic position involving consultation and direct interventions, often while serving large caseloads. The needs of school psychologists vary based largely upon the roles they serve in their school, which, as noted previously, may be indirectly influenced by the location of where they practice. Curtis et al. (2012) found that school psychologists are more frequently working in suburban settings (43%) followed by urban settings (26%) and rural settings (24%).

School psychologists working in urban, suburban and rural areas face different types of challenges within their systems and maybe involved in the provision of service in different ways. Urban schools often have greater diversity among students and a higher number of students who are at risk of failure due to factors such as socio-economic status. Urban psychologists may work more predominantly with minority populations and require professional development in bilingual assessment, nonbiased assessment, and other minority issues (Reschly & Connolly, 1990; Stoiber & Vanderwood, 2008).

Current definitions for urban settings offered by the U.S. Census 2000, suggest that an urban area is an area with “a population density of at least 1000 people per square mile and the surrounding blocks have an overall density of at least 500 people per square mile” (p. 1). A suburban area is defined as being outside a principal city and inside an urban area with a density of 500 people per square mile. A rural area is defined as any area outside of an urban area with a population density of less than 500 people per square mile. The National Center for Education Statistics (NCES) further defines the difference between urban and rural as it applies to schools. Urban or city schools reside within an urbanized area as defined by the census. Rural schools are schools that reside at least 2.5 miles from an urban cluster. Urban and rural schools can be large or small depending upon the population which resides in the area (National Center for Education Statistics, 2010).

Fowler and Harrison (2001) surveyed a sample of school psychologists to determine if there were differences in professional development needs across urban, suburban, and rural regions. Results of the study found that across all regions, school psychologists indicated consultation and direct service as the two greatest areas in need of professional development. Direct service included individual and group interventions, behavioral consultation, and educational consultation. The largest percentage of the sample reported engaging in professional development activities quarterly. No differences were found among age, gender, credential status, or years of experience.

Curtis, Hunley, and Grier (2002) studied the differences among school psychologists and their practices across different regions. Results of the study

indicated that school psychologists with more experience across regions spent less time in initial evaluations and more time with direct services conducting more in-services, conducting more reevaluations, and servicing more students through consultation. There was no significant difference between genders in terms of the services provided.

Similarly, Reschly and Connolly (1990) conducted a national study to determine differences between psychologists practicing in urban and rural settings. School psychologists in rural areas were more likely to fill a generalist role and have a stronger voice in systems level changes. However, due to understaffing and other variables (i.e., funding) school psychologists can also experience role ambiguity, often having job tasks far from the typical job description of a school psychologist (Curtis, 2002). Rural school psychologists also experience heavier caseloads and limited access to support systems and supervision (Huebner & Huberty, 1984). Supervision, in this context, may prove beneficial for school psychologists when it includes opportunities for performance feedback and support to learn new skills. Unfortunately, trends within the literature suggest that supervision offered to rural school psychologists is often conducted by an administrator with little to no experience with school psychology (Huebner & Huberty, 1984).

Similarly, rural areas are facing shortages of qualified mental health workers. One of the reasons cited for lower rates of retention of qualified clinicians is the lack of opportunities for supervision. Mitchell (2009) found that mental health clinicians working in rural areas were more mobile than their urban counterparts. The job stress related to working in rural areas can lead to lower job satisfaction and higher levels of burnout. As noted within this study, supervision is characterized as a necessary component which

needs to be provided to help increase self-efficacy for clinicians working in challenging areas.

Self-Efficacy and Supervision

Research has shown that regular access to supervision is imperative in the strengthening of self-efficacy, or belief in one's abilities, among practitioners (Cashwell & Dooley, 2001; Mitchell, 2008). Individuals with higher self-efficacy beliefs may have stronger coping skills when presented with work related stressors (Jex & Bliese, 1999). Some supervision activities are more effective than others and it is important to clearly define the differences. As noted previously, positive feedback has been demonstrated to increase individuals' sense of efficacy. Daniels and Larson (2001) found that positive feedback on performance was likely to increase self-efficacy among counselors. More specifically, it was suggested that the experience of positive feedback received within the supervisory relationship helped create mastery experiences for counselors as well as provide them with modeling and social persuasion to improve their professional performance.

Likewise, self-efficacy can be strengthened through supervision activities that offer opportunities to learn new skills as well as receive feedback on their performance. Professional supervision experiences provide unique opportunities for practitioners to build competencies in new areas as well as strengthen other professional areas. Taken together, these empirical trends clearly support the notion that with ongoing access to supervisory experiences practitioners will be better able to prepare for future scenarios (Larson & Daniels, 1998). With this in mind, Cashwell and Dooley (2001) found a strong correlation between regular professional supervision and higher levels of self-

efficacy among counselors. Conversely, a lack of supervision was suggested to be a contributing factor to higher levels of stress, burnout, attrition, and lower levels of confidence in their abilities.

Although recommended and at times required by accrediting boards and national associations, the availability of supervision varies across the mental health profession. Mitchell (2010) found great discrepancies in the access of supervision for mental health professionals working in rural areas. Consistent with previous studies, a lack of professional support in practice was noted as a contributing factor to practitioners' feelings of isolation, burnout, and lower levels of self-efficacy. The preliminary nature of these research findings supports the need for studying the relationship between supervision and self-efficacy as it pertains to the practice of school psychology.

Summary

School psychologists are expanding their professional role by becoming more involved in the problem solving process allowing them to provide more diverse services to students. As the role shifts, more time is devoted to activities such as consultation, intervention, and counseling. To strengthen self-efficacy in these areas, school psychologists must seek out professional development opportunities to enhance their skills and ensure that efficacious practices are being delivered. Supervision meets this need as a central and necessary component of professional development for school psychologists. Research has suggested that school psychologists differ in both the type and frequency of supervision (Chafouleas et al., 2002). Despite the professional emphasis and importance placed on supervision, this area has received little empirical attention in the professional literature relative to the practice of school psychology. The

proposed study will examine the relationship between several facets of supervision and self-efficacy. Additionally, several other factors including peer support, caseload, and experience will also be investigated as it relates to school psychologists' self-efficacy. This study also aims to build upon existing research concerning the influence of the type of supervision on the self-efficacy of school psychologists. Given the consistency noted within the literature pertaining to related fields of practice, the results are expected to demonstrate that individuals who receive adequate levels of supervision will demonstrate higher levels of self-efficacy and also provide insight on how to support school psychologists in the field.

CHAPTER 3

METHODOLOGY

Design

The purpose of this study was to examine differences in self-efficacy among school psychologists who receive supervision, which was differentiated based upon type, frequency, and format. The study also aimed to explore geographic and work setting variables that may influence school psychologists' access to peer consultation, supervision characteristics, role diversity, and caseload. Multiple analyses were conducted to examine the relationships proposed by the research questions. Several variables were included in the study such as type of supervision received, frequency of supervision, format of supervision, and frequency of peer consultation. Work setting variables were also included because they are endogenous and were thought to have potential for indirect influences on self-efficacy. The outcome variable in this study was school psychologists' self-efficacy, as measured by the Huber Inventory of Self-Efficacy for School Psychologists (Huber, 2006). The scale includes an overall measure of self-efficacy and five subdomains including: Multidimensional Assessment Skills, Intervention and Consultation Skills, Counseling Skills, Professional Interpersonal Skills, and Research Skills. Consistent with the a priori hypotheses, the research model, as illustrated in Figure 1, was tested to determine if significant relationships exist between the variables.

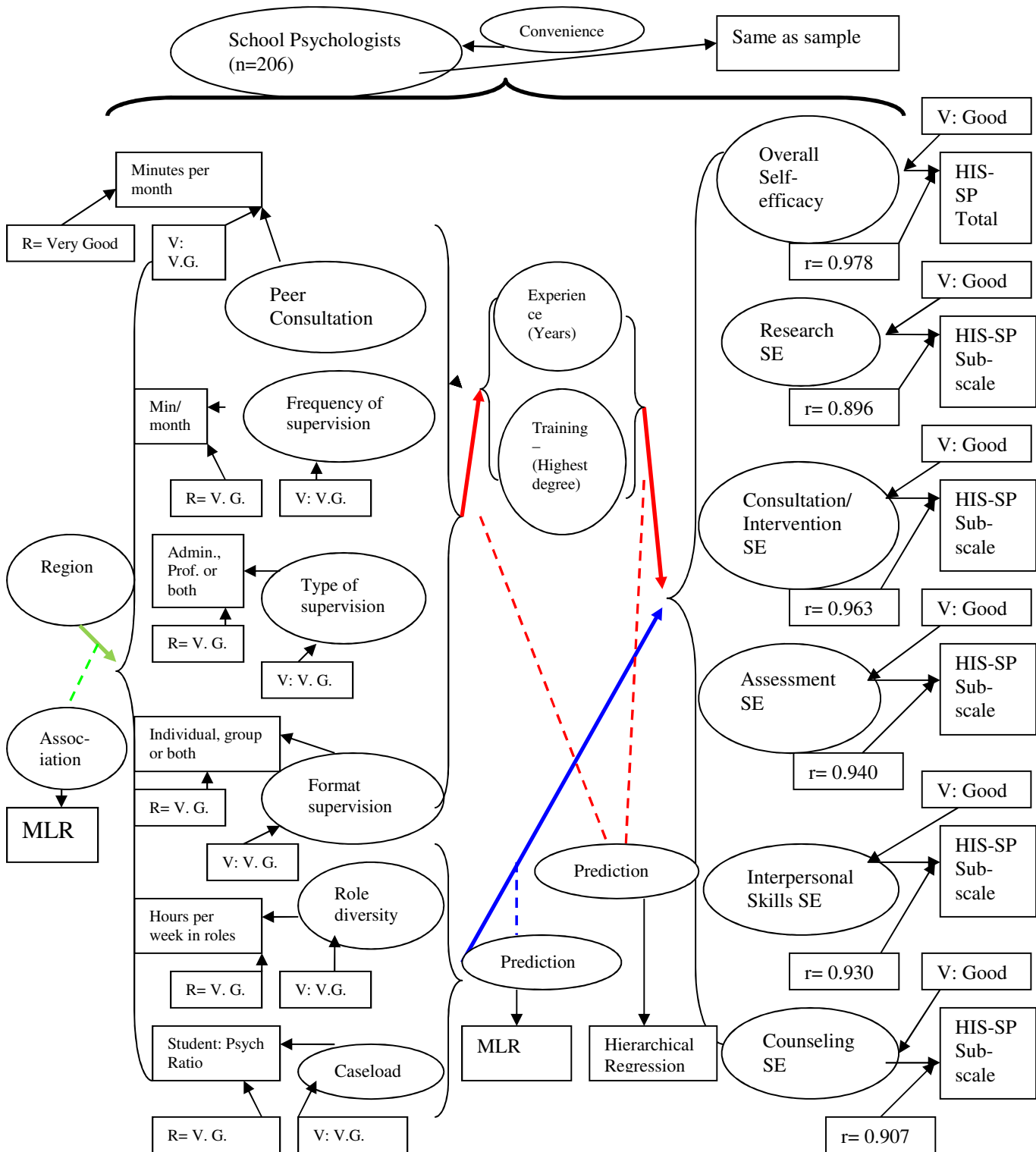


Figure 1. Research model for present study. This figure represents the variables and outcomes associated with the study.

Population

The population of interest for this study was school psychologists practicing in school settings, public or private. The population and sample for the study were the same and included those who gave consent to participate in the study. Other criteria for inclusion in the study were the following: (1) must be a practicing school psychologist (Master's degree or higher) and (2) work in a school setting. The sample is further defined below.

Sample

The sample of this study consisted of 206 school psychologists. The sampling method for the study was selected based on convenience. Participants in this study were practicing school psychologists who were members of state organizations, intermediate units or school systems in Pennsylvania, Maryland, and Ohio. However, inclusion criteria for the student did not limit what state the participant was from as long as the participant was a practicing school psychologist. Participation for the study were solicited through several methods depending upon the standards of the associations including direct email, posting of survey links on member websites and social media pages, and through announcements on professional listserv. Posting the survey link on member websites and social media pages allowed for a larger audience and it is possible that school psychologists, not necessarily members, had access to the survey link. For instance, a school psychologist with training from one state but working in another may access the website and complete the survey. The demographic questionnaire used in this study helped further define the sample that was used in the

study (e.g., years practicing, participation in NASP accredited graduate program, highest degree earned etc.).

Instruments

Huber Inventory of Self-Efficacy for School Psychologists (HIS-SP)

The HIS-SP was used to measure school psychologists' self-efficacy. According to Bandura (1977), self-efficacy is context specific and, therefore, should be assessed using measures directed related to school psychology. Huber (2006) developed a specific scale to measure self-efficacy among school psychologists called the Huber Inventory of Self-Efficacy for School Psychologists. The inventory was developed following Bandura's (2001a) standards for developing self-efficacy scales and factor analysis indicated that it was a "psychometrically sound instrument of school psychology self-efficacy" (Huber, 2006, p.106). The HIS-SP consists of 95 items and measures individual's responses to questions using a 7-point Likert Scale. The anchors for the scale are Not Well at All (1) to Very Well (7). Scores are calculated for an overall measure of school psychology self-efficacy and five additional factors. Each of the five factors, as mentioned above, describe the different roles and functions of a school psychologist. The identified factors and their corresponding item frequencies are as follows: Intervention and Consultation Skills (28 items), Multidimensional Assessment Skills (18 items), Counseling Skills (10 items), Professional Interpersonal Skills (12 items), and Research Skills (7 items). Internal consistency measures (alpha coefficients) were calculated during the original development of the instrument and are reported in Table 2.

Table 2

Internal consistency for the HIS-SP

	Correlation (<i>r</i>)
Total Score	.98
<i>Subscales</i>	
Intervention and Consultation Skills	.96
Multidimensional Assessment Skills	.94
Counseling Skills	.91
Professional Interpersonal Skills	.93
Research Skills	.90

Construct validity measures indicate significantly higher levels of self-efficacy among working professional school psychologists compared to graduate students (Huber, 2006). Although it has not been published, the inventory meets psychometrically acceptable standards and has been used in other research studies (see Roth, 2006). The instrument can found in Appendix B.

Demographic Questionnaire

A demographic questionnaire was created to collect data about participants work characteristics. Participants were asked to provide demographic information including work setting (rural, suburban, or urban), years of experience, and educational degree (master's degree or doctorate). In addition, participants were asked to provide information regarding the type of supervision received (e.g. administrative, professional, or both). Regularity of supervision received was measured by an estimate of the number of hours engaged in each type of supervision and how frequently they receive it (e.g. weekly, monthly, quarterly, etc.). Participants were asked to indicate who administers each type of supervision received and were questioned about the format

(i.e. individual, group, or both) in which the supervision is received. In order to calculate student to school psychologist ratio, participants were asked to provide an estimate of students in the district or county and the number of school psychologists on staff. Participants were asked to report the regularity of peer consultation (e.g. amount of time engaged in peer consultation and frequency). Finally, participants were asked to estimate time engaged in job duties (e.g. consultation, assessment, counseling, intervention and research).

Prior to data collection, a pilot study was conducted to verify the validity of the measure. For the pilot study, the questionnaire was administered to ten professional school psychologists. Participants in the pilot study were asked to provide anonymous input regarding the readability and validity of the measure. The demographic questionnaire can be found in Appendix A.

Procedures

Instructional Review Board (IRB) approval was obtained prior to data collection. Once IRB approval was granted, a pilot study was conducted to assess the face validity of the demographic questionnaire. Ten professional school psychologists were sent a survey link with the demographic survey with the sole purpose of reviewing and completing the survey. Participants were able to provide written feedback about the readability and validity of the measure. Responses indicated that the survey was understandable and the participants provided expected answers. Therefore, no changes were made to the demographic survey. All information collected from the pilot study was kept separate from the overall sample using Qualtrics, which is an internet survey tool. After reviewing the pilot data, the demographic questionnaire and HIS-SP were uploaded to Qualtrics and a survey link was created. The link

to the survey was emailed to members of the Maryland School Psychologist's Association and to state intermediate units. A link to the survey was also posted on the Association of School Psychologists of Pennsylvania's website and social media pages.

The initial contact with participants explained the purpose of the study, an estimate of time it would take to participate, informed consent, a description of the measures that will be used, and a link to the survey. Upon entering the website, participants were directed to the informed consent form that outlined the premise of the study. Participants were reassured that all data collected information collected was anonymous.

Participants also had an option to participate in a drawing for a \$50 Amazon gift card. To help ensure anonymity, a separate site was used for entering the drawing. Participants who wished to be included in the drawing entered their email address and were contacted via email if their name is chosen at the conclusion of the data collection period which occurred February 1, 2012 to May 31, 2012.

Table 3

Supervision and Self-Efficacy Project Task Table.

#	Name	Description	Begin	End	Person
1.	Obtain materials and permission	Obtain permission to use the Huber Inventory of Self-Efficacy for School Psychologists	3/11	3/11	Researcher
2.	IRB Proposal and Approval	IRB Proposal Submission and Approval	4/11	6/11	Researcher and Dissertation Chair
3.	Defend Topic	Present Chapters 1-3 to Dissertation Committee	7/11	7/11	Researcher and Dissertation Committee
4.	Qualtrics	Set up questionnaires using Qualtrics	9/11	9/11	Researcher
5.	Pilot Study	Collect data on validity of demographic questionnaire	11/11	12/11	Researcher
6.	Obtain Sample/ Data Collection	Email, Postings, Participants complete survey using Qualtrics	2/12	5/12	Researcher
7.	Statistical Analysis	Statistical Analysis of Findings	7/12	9/12	Researcher
8.	Final report preparation	Examine data to see if it meets assumptions for analysis and interpret analysis results. Write the report.	9/12	1/13	Researcher Dissertation Chair
9.	Final Report Review	Meet with interested parties to review and refine the report.	2/13	3/13	Researcher Dissertation Chair
10.	Final report presentation	Present final report to IUP faculty.	3/13	4/13	Researcher Dissertation Committee

Statistical Analysis

All statistical analyses were conducted using Statistical Package for the Social Sciences (SPSS) 20.0 for Windows. The study used several statistical methods to analyze the data. Table 4 outlines the statistical analysis and assumptions for individual

research questions. Prior to analyzing the research questions, a correlation matrix was computed to determine if there was a high degree of multicollinearity among any of the variables. Results are presented in Chapter 4.

The first hypothesis tested the predictive relationship between supervision characteristics and school psychologists' self-efficacy when controlling for training and experience. It was hypothesized that level of training and professional experience would be correlated with self-efficacy. When controlling for these factors it was expected that a predictive relationship would exist between supervision characteristics and self-efficacy. A hierarchical multiple regression analysis was performed to analyze the relationship among the variables, using two steps. In step 1, overall self-efficacy was the dependent variable and (a) years of experience (b) doctoral degree and (c) specialist degree were entered into the model. In step 2, supervision features including (a) frequency and (b) format were entered into the step 1 equation. Before the hierarchical multiple regression analysis was performed, the following assumptions were checked: (1) data is interval or ratio, (2) residuals reflect a normal distribution, (3) there were equal variances of all error terms, and (4) the sample size was appropriate.

Research questions two through four examined differences in self-efficacy among school psychologists who receive supervision in regard to type, frequency, and format. Separate multivariate analysis of variance (MANOVA) were used to explore differences in among practitioners in regard to type of supervision received, frequency of supervision received and format of supervision received. This procedure was selected because it measures differences among means of the multiple dependent variables, i.e., self-efficacy factors, for various categories of the independent variable,

i.e., type of supervision, frequency of supervision or format of supervision. It was assumed that the data is interval as determined by the instrument used. It was also assumed that the residuals have a normal distribution, determined by a histogram of the value that makes a normal curve. The third and fourth assumption was that there was homogeneity of variances and covariances, determined by reviewing the descriptive statistics. The fifth assumption was to assure that the sample size was appropriate.

The fifth research question examined if regularity of peer consultation influenced school psychologists' self-efficacy. It was hypothesized that those who engaged in peer consultation more often would have higher levels of self-efficacy, as measured by the Huber Inventory of Self-Efficacy for School Psychologists. A Pearson Correlation was used to examine the relationship between frequency of peer consultation and self-efficacy. Assumptions examined were the same as Research Question 2.

The sixth research question analyzed whether supervision characteristics and regularity of peer consultation varied across school psychologists working in different geographic settings. It was hypothesized that urban school psychologists would have greater access to professional supervision and peer support than rural school psychologists. Chi square test of independence was used to determine if different factors of supervision were related to geographic work settings. It was assumed that the data was nominal or ordinal, the sample size was adequate, each cell had five or more, and that the observations were independent of each other.

The final research question examined the degree to which an individual's caseload and role diversity influenced a school psychologist's self-efficacy. It was hypothesized that school psychologists serving the NASP recommended caseload

ratios or less would have greater role diversity and have higher ratings of self-efficacy than those with higher caseloads. A multiple linear regression was used to analyze the relationship among the variables. The predictor variables included time engaged in work activities (role diversity) and student to school psychologist ratio (caseload). The outcome variable was the total self-efficacy score of the HIS-SP. The following assumptions were checked prior to analysis: (a) data was interval, or ratio, (b) residuals had a normal distribution, (c) there were equal variances of all error terms, and (d) the sample size was appropriate.

Table 4

Statistical analysis of study.

Research Questions	Hypotheses	Variables	Statistic	Assumptions
1. What is the relationship between supervision characteristics and school psychologists' self-efficacy when controlling for training and experience?	School psychologists with more experience and training will engage less frequently in supervision and have higher levels of self-efficacy than psychologists with less experience.	Supervision type, frequency, format, experience, level of training, self-efficacy	Hierarchical Regression	(1) Interval or ratio data, (2) Residuals are uncorrelated (3) Causal flow is unidirectional (4) Variables are measured without errors (5) Relationships are linear and additive
2. Is there a significant difference in self-efficacy among school psychologists who receive different types of supervision?	School psychologists with greater access to professional supervision will demonstrate higher levels of self-efficacy compared to those who receive administrative supervision.	Type of supervision, self-efficacy	MANOVA	(1) Interval or ratio data (2) Normality (3) Equal Variances (4) Sample Size
3. Is there a significant difference in self-efficacy among school psychologists who receive supervision more frequently?	School psychologists who receive supervision, administrative or professional, more frequently will demonstrate higher levels of self-efficacy than those who engage in supervision less often.	Frequency of administrative and professional supervision, self-efficacy	MANOVA	(1) Interval or ratio data (2) Normality (3) Equal Variances (4) Sample Size
4. Is there a significant difference in self-efficacy among school psychologists who receive supervision in different formats?	School psychologists who engage in group supervision will demonstrate higher levels of self-efficacy than peers who receive individual supervision.	Format of administrative and professional supervision, self-efficacy	MANOVA	(1) Interval or ratio data (2) Normality (3) Equal Variances (4) Sample Size
5. What is the degree of influence of frequency of peer consultation on school psychologists' self-efficacy?	School psychologists who engage in peer consultation more often than their peers will have higher levels of self-efficacy	Frequency of peer consultation, self-efficacy	MANOVA	(1)Interval or ratio data (2)Normality (3) Equal Variances (4)Linearity
6. How does access to supervision and peer consultation vary across school psychologists working in different geographic settings?	Urban school psychologists will have a greater access to professional supervision and peer support than rural school psychologists.	Frequency of supervision, peer consultation, geographic work setting	χ^2	(1)Nominal or ordinal data (2) No more than 20% of cells have expected frequency of less than 5 (3) Independent cases
7. To what degree does an individual's caseload and role diversity influence a school psychologist's self-efficacy?	School psychologists serving the NASP recommended caseload ratios or less will have greater role diversity and have higher ratings of self-efficacy than those with higher caseloads.	Caseload, hours in professional roles, self-efficacy	Multiple Linear Regression	(1)Interval or ratio data (2)Normality (3) Equal Variances (4)Linearity

Summary

The methodology of the study was outlined in this chapter. The sample, instruments, and procedures were defined. The chapter concluded with an overview of statistical procedures used to examine the relationships among supervision variables and self-efficacy.

CHAPTER 4

RESULTS

This chapter provides a description of the data analyses used to answer the research questions posed in the present study. Furthermore, this chapter details information collected from the pilot study, demographic information of the sample, data analysis and the research questions and the results of the study. The Statistical Package for Social Sciences (SPSS) was used to analyze the data along with the support of the Indiana University of Pennsylvania's Applied Research Lab.

Pilot Study

Initially, a pilot study was conducted using only the demographic questionnaire with the purpose of increasing the readability and validity of the scale. Ten volunteers, all professional school psychologists (females $n = 7$; males $n = 3$) completed the survey and provided written feedback on the measure. Face validity was assessed by having each participant complete the questionnaire and then provide an opportunity for written or verbal feedback. Among the pilot sample, all participants completed the demographic survey. No questions were skipped. Questions that required numerical answers (e.g., years of experience) were written numerically or expressed with words. A review of the pilot data revealed that participant's answers varied when asked "What year did you earn your highest degree?" Two out of ten participants entered the university they had received their degree from rather than the year they had graduated. It was determined that if this were to occur during data collection that those answers would be excluded from analysis. Overall, participants found the survey to be direct and easy to understand.

Demographic Summary

Following the pilot study, the demographic survey was then distributed to potential participants. Two hundred and nineteen participants completed the survey. Thirteen participants' responses were removed from the final analysis due to missing HIS-SP data. Therefore, there were 206 valid cases used in the analysis for this study. Demographic information was inspected through descriptive statistical analysis (i.e., frequency, mean, standard deviation) to identify any possible outliers. Of the 206 participants, 82% ($n = 168$) were female and 18% ($n = 38$) were male. Participants reported having a master's degree (18%), an Educational Specialist Degree or Certificate of Advanced Graduate Study (68%) or a Doctoral degree (15%) as their highest level of education. Approximately 70% of the participants graduated from NASP approved graduate programs and did so between the years of 1974-2011.

Participants held state school psychologist certifications from several states including: Pennsylvania ($n = 85$), Maryland ($n = 77$), Ohio ($n = 9$), Delaware ($n = 4$), Nevada ($n = 4$), New Jersey ($n = 3$), West Virginia ($n = 2$), and Iowa ($n = 1$). Only 1% of the sample indicated that they did not hold state certification as a school psychologist. A small portion of the sample (9%) was licensed to practice privately, having licensure in the following states: Maryland ($n = 9$), Pennsylvania ($n = 5$), Ohio ($n = 2$), and Nevada ($n = 1$). The average years of experience held by participants in this study was 11.11 years ($SD = 5$) with a range of 1-37 years. On average, participants in the study serviced 1290 students ($SD = 526.98$) with a range of 50-4167 students.

Of the school psychologists surveyed, 46% indicated that they worked in a suburban setting ($n = 95$), 29% in a rural setting ($n = 59$), and 25% in an urban setting

($n = 51$). Finally, school psychologists within the sample reported spending an average of 20.8 hours per week on assessment related activities, 8.17 hours per week on consultation related activities, 4.62 hours per week on intervention activities, 4.07 hours per week on counseling related activities, and 0.97 hours per week on research related activities.

Table 5

Demographic Summary

Demographic Characteristic	Frequency	Percentage
Sex		
Female	168	82%
Male	38	18%
Highest Degree Earned		
Master's Degree	37	18%
Ed.S. or C.A.G.S.	139	67%
Doctorate	30	15%

Table 6

Participant Job Roles by Hours per Week

	Assessment	Intervention	Consultation	Counseling	Research
<i>M</i>	20.80	4.62	8.17	4.07	0.97
<i>SD</i>	10.69	4.14	6.36	5.85	1.46
Range	0-40	0-30	0-40	0-28	0-10

Supervision and Peer Consultation Summary

Table 7 illustrates the supervision and peer consultation trends among school psychologists surveyed. The majority of the school psychologists in the survey reported receiving administrative supervision (83%, $n = 170$) while slightly less than half of the respondents reported receiving professional supervision (46%, $n = 94$). Approximately half the sample (46%, $n = 95$) reported engaging in peer consultation throughout the school year. Further examination of the type of supervision received revealed that 96 respondents received administrative supervision only, 15 respondents received professional supervision only, 74 respondents received both types of supervision, and 21 respondents received no supervision.

Administrative Supervision

Forty-two percent of the sample indicated that they receive administrative supervision monthly or more often (e.g., weekly or biweekly). Further analysis indicated that participants receive administrative supervision on average 6.6 times per year ($SD = 9.95$). Participants with more experience reported engaging in administrative supervision less often although the relationship was minimal ($r = -.06$). Among those surveyed, the director of special education is most likely to conduct administrative supervision (37%) followed closely by the Director of Psychological Services (34%). Other participants reported receiving administrative supervision from the Director of Pupil Services (13%), Superintendent (4.7%), Principal (3.5%), or fellow psychologist (2%). The majority of the sample (77%) reported the duration of administration supervision sessions lasting less than one hour. Administrative supervision is typically administered in an individual setting (47%) compared to a group setting (23%). Thirty

percent of the sample indicated receiving both formats of supervision with group supervision being more prevalent. Neither format of administrative supervision had a strong correlation with years of experience (Individual Format: $r = .02$; Group Format: $r = -.08$).

Professional Supervision

Of those receiving professional supervision, 48% of school psychologists reported participating in supervision activities monthly or more often (e.g., weekly or biweekly). Participants reported engaging in professional supervision on average four times per year ($SD = 8.41$). A minimal, inverse relationship was found between years of experience and frequency of professional supervision ($r = -.16$). The duration of professional supervision sessions, among those surveyed, was typically thirty minutes or less (41%) followed by thirty to sixty minutes (34%). Most commonly, professional supervision was facilitated by the Director of Psychological Services (50%) followed by a fellow school psychologist (24%), Director of Special Education (9%), or Director of Pupil Services (7%). Participants also indicated receiving supervision from a senior school psychologist, lead school psychologist, or supervisor of psychological services. Among those receiving professional supervision, half (51%) of them indicated receiving the supervision in an individual format compared to a group format (20%). Twenty-eight percent of the participants indicated receiving both formats with the individual format being most prevalent. Years of experience appeared to have no discernible influence on the format of supervision received (Individual $r = -.14$; Group $r = .03$).

Peer Consultation

The majority of school psychologists who engage in peer consultation reported utilizing this as frequent as monthly or more (89%). Participants reported engaging in peer consultation on average 8 times per year ($SD = 11.89$). Ten percent of the sample indicated engaging in peer consultation quarterly or less often. Others, not included in the percentages, reported engaging in peer consultation as needed. A weak inverse correlation compared to other types of supervision, was found between peer consultation and years of experience ($r = -.26$). The typical peer consultation session as reported by participants was 30 minutes or less (44%).

Table 7

Frequency and Percentage of Supervision and Peer Consultation

<i>Factor</i>	Type of Supervision					
	Administrative		Professional		Peer Consultation	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
<i>Frequency</i>						
Biweekly	18	11%	11	12%	25	28%
Weekly	5	3%	8	8%	16	18%
Monthly	48	28%	26	28%	38	43%
Quarterly	26	15%	12	13%	6	7%
Semester	25	15%	17	13%	2	2%
Yearly	47	28%	19	20%	1	1%
<i>Duration</i>						
0-30 minutes	76	45%	38	40%	89	44%
31-59 minutes	54	32%	32	34%	70	35%
60-89 minutes	20	12%	14	15%	27	13%
90-120 minutes	12	7%	3	2%	8	4%
>120 minutes	8	5%	6	7%	9	4%
<i>Format</i>						
Individual	80	47%	47	51%	N/A	N/A
Group	39	23%	19	21%	N/A	N/A
Both	50	30%	26	28%	N/A	N/A

HIS-SP Summary

The outcome measure for this study was the HIS-SP. The scale consisted of 95 items which measure self-efficacy in the various roles of a school psychologist. Through factor analysis, Huber (2006) identified five prevailing factors within the inventory including: Intervention and Consultation Skills, Multidimensional Assessment Skills, Assessment Skills, Professional Interpersonal Skills, and Research Skills. For the current study, participants completed the HIS-SP online and the results were exported to SPSS.

Data from the HIS-SP were reviewed and incomplete participant entries were excluded from analysis. Participants were asked to reflect on their perceived abilities using a 7 point Likert scale (1-Not Very Well to 7-Very Well). Results of the scale provided an overall measure of self-efficacy along with five factor scores as mentioned above. Previous research reported quartile norms to describe the level of self-efficacy among school psychologists (Huber, 2006). The possible range for the total score of the HIS-SP is 95-665, where higher scores indicate higher levels of self-efficacy in school psychology. It is important to note that the five subscales scales are not weighed equally because each has a different number of items. Intervention has the highest number of items ($n = 28$) with the possible range of 28-196. Assessment ($n = 18$) had a possible range of 18-126. The other three factors had the following ranges: Counseling ($n = 10$) 10-70, Interpersonal Skills ($n = 12$) 12-84, and Research Skills ($n = 7$) 7-49. The mean for the overall sample was 539.99 ($n = 206$; $SD = 51.75$), and was in the 4th quartile. Complete descriptive statistics for all five factors are reported in Table 8.

To inspect normality of the scores of the HIS-SP (overall score and five subscales), the skew and kurtosis of the data was reviewed. Acceptable levels of skewness were found among the data collected for four out of five subscales of the HIS-SP and the overall measure of self-efficacy. When comparing the quartile scores for the factors provided by the author of the HIS-SP, participants reported higher levels of self-efficacy in the areas of Counseling and Professional Interpersonal Skills. Cronbach's alpha (an estimated internal consistency) for the Total HIS-SP used in this study was .97. Each scale score also had acceptable Cronbach's alphas (Intervention $\alpha = .95$, Assessment $\alpha = .91$, Counseling $\alpha = .92$, Interpersonal Skills $\alpha = .91$, and Research Skills $\alpha = .88$).

Table 8

Descriptive Summary of HIS-SP scales.

	<i>M</i>	<i>SD</i>	Quartile	Range	Skew (SE)	Kurtosis (SE)
Intervention & Consultation Skills	146.53	18.21	2	98-188	-0.23 (.17)	-0.20(.34)
Assessment Skills	112.10	8.94	2	89-126	-0.49 (.17)	-0.29 (.34)
Counseling Skills	52.22	9.43	3	16-69	-0.63 (.17)	0.57 (.34)
Professional Interpersonal Skills	73.81	6.77	3	53-84	-0.47 (.17)	-0.33(.34)
Research Skills	34.89	6.14	2	14-49	-0.32 (.17)	0.22 (.34)
Total Self-Efficacy	539.99	51.74	4	387-654	-0.37 (.17)	0.01 (.34)

Correlation Matrix

Prior to analyzing the data for specific research questions and hypotheses, a correlation matrix was computed in order to review the relationship among the variables within the study. According to Heinman (2001), correlation coefficients ranging from .0 - .2 are considered very weak to negligible, .2 - .4 are considered weak, .4 - .5 are considered moderate, and those .5 and above are strong. Among the variables, moderate correlations were found between the subdomain and total score of the HIS-SP (2006). No discernible relationships were found among years of experience and scores of the HIS-SP. In the present study, relationships among self-efficacy scores and frequency of administrative supervision, professional supervision, and peer consultation were minute. A weak, inverse relationship was found between years of experience and frequency of peer consultation. The results of the correlation matrix are presented in Table 9.

Table 9

Correlation Matrix of Research Variables

	Frequency of Supervision			Format of Supervision				Years of Experience	HIS-SP Self-Efficacy Scores					
	Administrative.	Professional	Peer Consult.	Admin.	Prof.	Admin.	Prof.		Total	Intervention	Assessment	Counseling	Inter-personal	Research
Admin. Supervision f	—													
Prof. Supervision f	.50	—												
Peer Consult. f	.14	.45	—											
Admin Individual Format	-.28	-.19	-.04	—										
Prof. Individual Format	-.24	-.22	-.07	.66	—									
Admin Group Format	.06	-.03	-.09	-.52	-.19	—								
Prof. Group Format	-.06	-.08	-.00	-.33	-.52	.40	—							
Years of Experience	-.06	-.16	-.26	-.08	-.14	.02	.03	—						
Total SE	.07	.05	-.04	-.08	-.24	.03	.07	.36	—					
Intervention SE	.10	.11	.03	-.01	-.21	-.02	.01	.25	.92	—				
Assessment SE	.10	.03	-.15	-.05	-.07	.03	.01	.35	.78	.59	—			
Counseling SE	-.03	.00	-.02	-.11	-.32	.03	.15	.34	.79	.68	.48	—		
Interpersonal SE	.04	.02	-.04	-.21	-.24	.05	.1	.29	.81	.66	.69	.61	—	
Research SE	.07	.04	.01	-.07	-.21	.15	.06	.20	.70	.66	.45	.47	.40	—

Note: Correlations reported as 0.0 are due to rounding; f = Frequency, Admin. = Administrative Supervision; Peer Consult. = Peer Consultation; Prof. = Professional Supervision; SE = Self-Efficacy, Total SE = Overall HIS-SP Self-Efficacy Score; Intervention SE = HIS-SP Intervention Self-Efficacy Scale; Assessments SE = HIS-SP Assessment Self-Efficacy Scale; Counseling SE = Counseling Skills Self-Efficacy Scale; Interpersonal SE= HIS-SP Interpersonal Skills Self- Efficacy Scale; Research SE= HIS-SP Research Skills Self-Efficacy Scale

Data Analysis

Hypothesis 1: There will be a predictive relationship among supervision characteristics (frequency and format) and self-efficacy among school psychologists when controlling for level of training and professional experience.

Hierarchical Linear Regression was used to analyze the data for the first hypothesis. First the assumptions for the analysis were checked. It was assumed that the dependent variable, HIS-SP Total Score was interval, ratio, or absolute data. The HIS-SP provides interval data therefore the assumption was met. The assumption of normality was tested by creating a histogram fitted with a normal curve using the dependent variable, HIS-SP Total Score. Data points resembled a normal curve. Skewness and kurtosis values were also examined, further indicating normality (see Table 8). However, a review of the scatter plot of the residuals indicated that the data points were not linear. Tolerance was greater than 0.10 for all variables therefore the assumption of collinearity was met.

For the hierarchical linear regression, variables that explain self-efficacy were entered in two steps. In step 1, self-efficacy was the dependent variable and (a) years of experience, (b) doctoral degree, and (c) specialist degree were entered into the equation in order to control for variance attributed to these factors. In step 2, the supervision characteristics (i.e., frequency of administrative and professional supervision, format of administrative and professional supervision) were entered into the equation.

The results of step 1 indicated that the variance accounted for with the first three independent variables (i.e., experience, doctoral degree, and specialist degree) equaled

.06 (adjusted $R^2 = .02$), which was not significantly different from zero ($F(3, 76) = 1.57$, $p = .204$). Years of experience was the only statistically significant predictor variable, $\beta = .27$, $p < .05$. In step 2, the six supervision characteristics were entered into the regression equation. The change in variance accounted for was equal to .12 (adjusted $R^2 = .00$), which was not significant ($F(9, 76) = 1.0$, $p < .449$). Again, only years of experience remained statistically significant as a predictor of variance in self-efficacy, $\beta = .28$, $p < .05$. It is important to note that the results for this analysis were limited due to a reduction in sample size due to missing data. Although there were 206 participants in the study, the sample was reduced to 76 when the format variable was entered into the regression. Participants may have reported receiving supervision but did not specify the format. Table 10 provides a summary of results of the hierarchical regression analysis.

Table 10

Hierarchical Regression Analysis of Self-Efficacy.

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Experience	1.44	0.67	.27*	1.53	0.70	.28*
Doctorate	-2.34	25.32	-.01	-1.18	26.26	-.01
Specialist	6.07	15.13	.05	9.79	15.89	.09
Admin. Frequency				0.21	0.91	.05
Prof. Frequency				0.46	0.84	.10
Admin. Individual Format				15.75	19.15	.158
Admin. Group Format				5.05	18.69	.04
Prof. Individual Format				-25.76	18.1	-.26
Prof. Group Format				-2.4	17.93	-.02
R^2		.06			.12	
Adjusted R^2		.02			.00	

Note: Correlations of 0.00 are due to rounding; Admin. = Administrative Supervision; Prof. = Professional Supervision* $p < .05$

Hypothesis 2: School psychologists who engage in professional supervision will demonstrate higher levels of self-efficacy compared to peers who do not engage in supervision.

A one-way multivariate analysis of variance was used to determine if there were significant differences among the means of the factors of self-efficacy in relation to type of supervision received by the participants. For this analysis, the independent variable, supervision, was divided into four categories: administrative supervision, professional supervision, and both types of supervision, and no supervision. Prior to completing the analysis, the amount of time engaged in peer consultation was also considered as a potential confounding variable. However, after review of the linear relationship between frequency of peer consultation and self-efficacy, it was not significant and not included in the analysis, ($r = .04$, $n = 206$, $p = .570$). Data analysis for Hypothesis 5 further explains the results pertaining to peer consultation and self-efficacy.

Assumptions were checked by examining homoscedasticity and equal variances. Levene's Test of Equality of Error Variances, a measure of homogeneity of variance, was adequate for all variables. Box's Test of Equality of Covariance Matrices was not significant ($p = .491$), indicating that the data set was adequate for analysis. Also, it was assumed that the dependent variables were measured on a ratio scale. As reported in prior analysis, the HIS-SP met this assumption. According to the results of the MANOVA, there was no overall effect for type of supervision received on the domains of the HIS-SP, Wilks' $\lambda = .885$, $F(3, 206) = 1.37$, $p = .139$ ($\eta^2 = .04$).

Hypothesis 3: School psychologists who receive supervision, administrative or professional, more frequently will demonstrate higher levels of self-efficacy as measured by the HIS-SP than those who engage in supervision less often.

A one-way MANOVA was used to determine if there were significant differences among the means of the factors of self-efficacy in relation to frequency of administrative and professional supervision received by the participants. Separate MANOVA procedures were used to assess frequency of administrative and professional supervision. For both analyses, frequency of supervision was collapsed into three categories: (1) biweekly or more, (2) monthly- quarterly, and (3) semester or less.

Of the participants who received administrative supervision, 23 engaged in supervision bi-weekly or more, 74 engaged in supervision quarterly to monthly, and 72 engaged in supervision once a semester or less. First, the assumption of equality of covariance matrices was satisfied (Box's M $p = .36$). There was no significant main effect for frequency of administrative supervision, Wilks' $\lambda = 0.90$, $F(2, 169) = 1.82$, $p = .056$ ($\eta^2 = .05$).

However, analysis of frequency of professional supervision had significant findings. Of the participants who received professional supervision, 19 engaged in supervision bi-weekly or more, 38 engaged in supervision quarterly to monthly, and 36 engaged in supervision once a semester or less. The assumption of equality of covariance matrices was satisfied (Box's M $p = .09$). A significant overall main effect was found between frequency of professional supervision and the self-efficacy scores of the HIS-SP, Wilks' $\lambda = .80$, $F(2, 92) = 1.99$, $p = .037$, ($\eta^2 = .104$). Univariate ANOVAs found school psychologists with the sample, reported higher self-efficacy in the areas of

counseling self-efficacy, $F(2, 92) = 4.04, p = .02 (\eta^2 = .08)$, and research self-efficacy, $F(2, 92) = 4.44, p = 0.15 (\eta^2 = .09)$. Additionally, Tukey post-hoc analysis showed that participants who engaged in supervision at least once a month or quarter demonstrated higher levels of counseling self-efficacy ($M = 56.13$) than those who engaged in supervision once a semester or less ($M = 50.75$). Also, participants who engaged in professional supervision quarterly or more ($M = 36.24$) demonstrated higher levels of research self-efficacy than those who engaged in professional supervision once a semester or less ($M = 32.50$). Counseling and research were the two job roles least engaged in by the school psychologists who participated in the study. It stands to reason that school psychologists engaging in professional supervision may have focused their sessions on developing skills in these job areas.

Additional analyses were conducted post-hoc to determine if frequency of supervision received differed in relation to years of professional experience. Results of an ANOVA comparing the years of experience and frequency of administrative supervision did not indicate any significant results, $F(2,169) = .31, p = .735$. The same procedure was conducted comparing the years of experience and frequency of professional supervision. No significant effect was found for experience and frequency of professional supervision, $F(2, 92) = 1.02, p = .364$.

Hypothesis 4: School psychologists who engage in group supervision will demonstrate higher levels of self-efficacy.

Two one- way MANOVA's were used to determine if there were significant differences among the means of the factors of self-efficacy in relation to format of administrative and professional supervision received by the participants. Analysis of the

format of professional supervision and self-efficacy did not indicate any significant effects, Wilks' $\lambda = 0.85$, $F(2, 92) = 1.50$, $p = .145$ ($\eta^2 = .08$). However, significant main effects were found in relation to format of administrative supervision and self-efficacy. Initially, the assumption of equality of covariance matrices was satisfied (Box's $M p = .18$). An overall significant main effect for format of administrative supervision was found, Wilks' $\lambda = 0.86$, $F(2, 169) = 2.50$, $p = .007$ ($\eta^2 = .07$). Review of the univariate analyses indicated significant differences in Interpersonal self-efficacy although the effect size was minimal, $F(2, 169) = 4.28$, $p = .015$, ($\eta^2 = .05$). Further, Tukey post-hoc analysis found that participants who received a combination of both formats of supervision ($M = 75.66$) had higher levels of self-efficacy, based on the total score of the HIS-SP, than those who receive individual format alone ($M = 72.31$).

Similar to the analysis of frequency of supervision, years of experience was examined through post-hoc analysis to determine its influence on format of supervision. No significant differences exist among administrative format variables and years of experience, $F(2, 169) = .59$, $p = .556$ or professional format variables and experience, $F(2, 92) = 1.02$, $p = .958$.

Hypothesis 5: School psychologists who engage in peer consultation more often than their peers will have higher levels of self-efficacy.

This hypothesis was analyzed using a Pearson product moment correlation coefficient. First assumptions were checked. The dependent variable, HIS-SP Total Score, was measured on a ratio scale. Histograms and scatterplots indicated a normal distribution of the data. Results of the analysis indicated that there was no significant

relationship between frequency of peer consultation and school psychologists' self-efficacy ($r = .04$, $n = 206$, $p = .570$).

A post hoc analysis was conducted to examine possible differences among respondents who engage in peer consultation and those who did not based on years of experience. Results of an independent samples t-test did not indicate a significant difference in years of experience between individuals who engage in peer consultation ($M = 9.92$, $SD = 9.13$) and those who do not ($M = 12.19$, $SD = 9.79$).

Hypothesis 6: Urban school psychologists will have greater access to professional supervision and peer consultation than rural school psychologists.

Chi-Square Test of Independence was used to analyze this hypothesis. A 3x3 contingency chi-square was used to examine the presence of supervision across geographic work settings or regions. Assumptions were checked prior to completing the analysis. The nominal data was used in the analysis, cells used within the analysis had expected frequencies of more than five, and the cases were independent. The Chi-Square analysis determined that no significant relationship exists between type of supervision or consultation and geographic setting ($\chi^2 (3, 184) = 7.71$, $p = 0.102$).

Table 11

Frequencies of Supervision by Region

Type of Supervision	Region					
	Urban		Suburban		Rural	
	<i>n</i>	%	<i>N</i>	%	<i>n</i>	%
Administrative	42	12%	80	22%	47	13%
Professional	31	9%	45	13%	18	5%
Peer Consultation	31	9%	46	13%	18	5%
Total	104	29%	171	48%	83	23%

Additional chi-square analyses were conducted to examine the relationship between frequency of supervision and geographic work setting (region). Separate analyses were conducted for administrative supervision, professional supervision, and peer consultation. Due to the distribution of cases in the cells, the two variables frequency of supervision and frequency of consultation were collapsed. The Pearson's Chi-Square did not indicate a significant relationship between the frequency of administrative supervision and geographic setting ($\chi^2(2, 168) = 2.501, p = 0.286$). There was no significant relationship between professional supervision and geographic setting ($\chi^2(2, 93) = 4.60, p = 0.101$). Lastly, the relationship between peer consultation and geographic setting was also not significant, $\chi^2(2, 88) = 1.84, p = 0.399$.

Table 12

Crosstabulation of Region and Frequency of Administrative Supervision

Administrative Supervision	Region						χ^2	ϕ
	Urban		Suburban		Rural			
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%		
≥Monthly	19	11%	29	17%	23	14%	2.50	.122
≤ Quarterly	23	14%	50	30%	24	14%		
Total	42	25%	79	47%	47	28%		

Note: ≥Monthly = participants received administrative supervision monthly or more frequent; ≤ Quarterly = participants received administrative supervision quarterly or less frequent.

Table 13

Crosstabulation of Region and Frequency of Professional Supervision

Professional Supervision	Region						χ^2	ϕ
	Urban		Suburban		Rural			
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%		
≥Monthly	11	12%	22	24%	12	13%	4.60	.22
≤ Quarterly	20	22%	22	24%	6	6%		
Total	31	33%	44	47%	18	19%		

Note: ≥Monthly = participants received professional supervision monthly or more frequent; ≤ Quarterly = participants received professional supervision quarterly or less frequent.

Table 14

Crosstabulation of Region and Frequency of Peer Consultation

Peer Consultation	Region						χ^2	ϕ
	Urban		Suburban		Rural			
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%		
≥Monthly	16	18%	18	20%	7	8%	1.84	.15
≤ Quarterly	12	14%	25	28%	10	11%		
Total	28	32%	43	49%	17	19%		

Note: ≥ Biweekly = participants received professional supervision biweekly or more or more frequent;
 ≤ Monthly = participants received professional supervision monthly or less frequent.

Hypothesis 7: School psychologists serving the NASP recommended caseload ratio or less will have greater role diversity and higher levels of self-efficacy than peers with higher caseloads.

Standard multiple linear regression was used to analyze this hypothesis. Table 15 summarizes the analysis results. Prior to conducting the multiple linear regression, tolerance levels of each factor were reviewed and found to be greater than 0.1. A review of a histogram of the dependent variable, self-efficacy indicated a normal distribution. However, the scatterplot of the residuals indicated high levels of scatter among the variables. The predictor variables included caseload (e.g. number of

students per school psychologist) and role diversity (e.g. average number of hours engaged in activities per week including assessment, intervention, consultation, counseling, and research). The total score from the HIS-SP served as the outcome variable. The predictors, caseload and role diversity, accounted for approximately 8% of the variance in self-efficacy scores ($R^2 = .078$). Although the F score suggests that the model is significant, $F(6, 205) = 2.79, p = .013$, further analysis of the correlation matrix did not indicate any significant relationships among coefficients.

Table 15

Analysis of the Relationship between Caseload and Role Diversity on Self-Efficacy

Variables	B	$SE B$	β	T	p
Caseload	.00	.00	.05	.73	.466
Assessment Hours	-.53	.60	-.11	-.86	.383
Intervention Hours	1.48	1.01	.12	1.46	.147
Consultation Hours	.18	.77	.02	.23	.818
Counseling Hours	.87	.81	.10	1.07	.288
Research Hours	2.29	2.53	.07	.91	.366

Note: Correlations of .00 are due to rounding.

Summary

This chapter summarized the analyses used to test the hypotheses in the present study. Of the 219 school psychologists surveyed, 206 participants provided valid responses. Participants in this study were practicing school psychologists mostly female, with an average of 11 years of experience, with the majority of the sample holding specialist degrees or higher. More than half of the sample indicated receiving some form of supervision with administrative supervision being the most prevalent followed by professional supervision and peer consultation. Overall, participants reported relatively high levels of self-efficacy as measured by the HIS-SP. Several

statistical procedures were conducted to analyze the research questions including MANOVA, hierarchical regression, Pearson correlation, multiple linear regression, and Chi Square Test of Independence. Results from the various analyses indicated minimal significance among the variables examined. The following chapter will attempt to explain why the results do not support the initial hypotheses.

CHAPTER 5

DISCUSSION

Introduction

As the professional responsibilities of school psychologists expand, the need for support and professional development is critical. School psychologists seek out continuing education opportunities through several avenues (i.e., workshops, self-study, webinars); however, access to professional supervision within their workplace is often limited (Chafouleas et al., 2002, Fischetti & Crespi, 1999; Ross & Goh, 1993). The usefulness of professional supervision has been well documented in the literature. Professional supervision provides opportunities for practitioners to engage with a supervisor, trained in school psychology, in order to reflect on work, problem solve, and discuss professional issues. Activities conducted within the supervision setting that involve positive feedback, verbal persuasion, and observational learning, can help the practitioner enhance self-efficacy in all areas of practice (Bandura, 1977; Cashwell & Dooley, 2001; Daniels & Larson, 2001). Previous studies have indicated that school psychologists receive different types of supervision at different frequencies. The purpose of the present study was to examine the influence of supervision characteristics on school psychologists' self-efficacy. A non-experimental, quantitative design was used to analyze the relationship among facets of supervision available to school psychologists and self-efficacy. The survey was sent to participants using a variety of methods including email, posting on websites and social media. Use of these methods did not allow for a valid response rate to be calculated. The survey used in this investigation consisted of a demographic survey and a measure of school

psychologists' self-efficacy (HIS-SP, Huber, 2006). Data from 219 practicing school psychologists were collected using a survey method. Of those respondents, 206 responses were able to be used for data analysis. The current study examined the type, frequency and format of supervision received by school psychologists and how this impacted their level of self-efficacy as measured by the HIS-SP. Chapter Five will discuss the present findings in relation to each hypothesis. Implications, limitations and recommendations for future research will also be addressed.

Research Questions and Hypotheses

Hypothesis 1: There will be a predictive relationship among supervision characteristics (frequency and format) and self-efficacy among school psychologists when controlling for level of training and professional experience.

Results of the hierarchical regression did not support the hypothesis. Supervision characteristics such as frequency of supervision and format of supervision did not provide evidence of predictability of self-efficacy among participants, even when controlling for experience and level of training. The results of this particular analysis should be examined with extreme caution. The major limiting factor in this analysis was missing data. Complications arose when entering the Format variable because not everyone who reported receiving supervision indicated the format used (individual, group, or both), reducing the number of valid cases for analysis to a sample of only 76 participants. Initial evaluation of the assumptions indicated that the data did not trend in a linear fashion, indicating a poor relationship among the variables.

Participants in the sample were experienced ($M=11$ years, Range = 1-37 years) with the majority holding specialist degrees (67%) or higher (15%). Trends in the data

showed that practitioners with more years of experience reported higher levels of self-efficacy ($r = .24$). The relationship between frequency of supervision and experience was unclear (Administrative Supervision: $r = -.05$; Professional Supervision: $r = -.18$).

Experience has been identified as a contributing factor to self-efficacy (Bandura, 2006, Daniels & Larson, 2001; Gecas, 1989; Lent & Brown, 2006). Bandura (1977) suggests that self-efficacy is developed through four methods including mastery experiences, modeling, social persuasion and emotional arousal. Work experience suggests that participants have had opportunities to engage in and gain experience within the field of school psychology. More recent work suggests that teachers' professional self-efficacy increases with experience from early career to mid-career before slightly declining (Klassen & Chiu, 2010). Future research would be needed to determine if the same trend applies to school psychologists. Results of the present study show that experience was the most robust predictor of self-efficacy among the variables. Taken together, these results were likely limited by the restricted range in the sample relative to professional experience and the reduced sample size.

Hypothesis 2: School psychologists who engage in professional supervision will demonstrate higher levels of self-efficacy compared to peers who do not engage in supervision.

The second analysis explored differences among the five factors of the HIS-SP (Assessment, Intervention, Interpersonal Skills, Counseling and Research) in relation to type of supervision. It was hypothesized that school psychologists who engage in professional supervision would demonstrate higher levels of self-efficacy compared to those who do not engage in supervision. Supervision was differentiated into four

categories: administrative supervision only, professional supervision only, a combination of both types of supervision, and those who did not receive supervision. This was necessary to limit the potential compounding influences of individuals receiving multiple both types of supervision. Results of the MANOVA did not reveal any significant differences in self-efficacy among school psychologists who receive the different types of supervision. Therefore, the null hypothesis was accepted. When considering these findings it is important to note that the number of participants who only receive professional was quite small ($n = 15$) compared to those who received administrative supervision only ($n = 96$), or a combination of both ($n = 74$).

The results of the present study contradict findings from previous studies that suggest professional supervision positively influences self-efficacy (Cashwell & Dooley, 2001; Daniels & Larson, 2001; Zins & Murphy, 1996). Although there was a lack of substantial difference found among the participants, the majority of the sample (90%) reported engaging in some type of supervision. Previous studies indicated significantly fewer individuals receiving supervision (Chafouleas et al., 2002; Curtis et al., 2012) than what was reported by school psychologists who participated in the present study.

The scores of the HIS-SP were relatively high for each supervision group. The limited variability in the dependent variables likely accounts for the present findings. Had the sample included more early career school psychologists with lower levels of self-efficacy the findings may have been more robust. The sample in the study was by and large experienced with high self-efficacy. Therefore the sample did not yield adequate variability to accurately test this hypothesis and others in the study. Future

research will want to focus on early career school psychologists and the influences supervision may have on building self-efficacy.

Hypothesis 3: School psychologists who receive supervision, administrative or professional, more frequently will demonstrate higher levels of self-efficacy as measured by the HIS-SP than those who engage in supervision less often.

Frequency of professional supervision proved to be a significant factor in the present study. Although the effect size was small, participants reported higher levels of counseling and research self-efficacy when they engaged in supervision quarterly to monthly, compared to those who receive it more or less often. These findings support the central premise of the study, that supervision can influence professional self-efficacy. Counseling and research were two areas that school psychologists reported engaging in less often. Furthermore, a national survey of school psychologists also show that limited a percentage of time is devoted to individual (5.8%) and group counseling (3.1%) (Castillo et al., 2012). It is not surprising that school psychologists receiving professional supervision had increased opportunities to develop specific job domains. Thus, supervision is more helpful when these professionals are attempting to expand their role. The trends found in this study are also consistent with Bandura's theory of self-efficacy, that it a multi-domain construct. It is important for future research to further examine profiles of self-efficacy domains in lieu of examining the overall level self-efficacy.

Frequency of supervision, independent of type, for novice school psychologists is set by NASP (2010a) and APA (2002) standards; however, frequency can decline as the practitioner gains more experience and seek other platforms for professional

development. Consequently, post-hoc analysis was conducted to determine if experience was an influencing factor however results were inconclusive. Visual examination of the means indicated that the frequency of supervision declined as the mean age increased for both administrative and professional supervision.

Frequency of supervision regardless of type may help increase professional development. Routine engagement with other professionals whether fellow school psychologists or administrators can help reduce feelings of isolation sometimes experienced in the field. Professional supervision is thought to be the most beneficial; however, administrative supervision can still be used as a means to offer support to practitioners.

Another noteworthy finding among the results was that participants reported that they receive supervision more frequently than previous studies have reported (Chafouleas et al., 2002; Ross & Goh, 1993). While it is impossible to account for sampling bias in the interpretation of these results given the non-randomized sample, this study provides evidence that school psychologists continue to receive administrative supervision more frequently than professional supervision despite the literature indicating the benefits and need for more professional supervision opportunities (Cashwell & Dooley, 2001; Curtis et al., 2012; Daniels & Larson, 2001). Evidence of professional supervision is prevalent within the school psychology field; however it may be necessary to bring this awareness to the forefront of the education leadership field. Several avenues could be taken to spread awareness. Certainly, presentations at multi-disciplinary conferences would help reach a larger audience. Another idea would be to address need for greater access to professional supervision

would be to collaborate with graduate training programs of educational leadership providing training in this area.

Hypothesis 4: School psychologists who engage in group supervision will demonstrate higher levels of self-efficacy.

The final supervision factor examined in this study was format of supervision. Format of supervision (individual, group, or both) was a significant factor in influencing self-efficacy among participants who received administrative supervision but not professional supervision; however the effect size was small. Participants who received both formats of administrative supervision reported higher levels of self-efficacy in the area of interpersonal skills compared to other formats, although the effect size was small. Milne (2000) noted the importance of using flexible formats, opposed to the traditional individual format for conducting supervision. It allows for more practitioners to receiving supervision and also always for different dynamics among group participants (i.e. shared experiences, opportunities to practice skills, support, etc.). Participants in this study indicated that administrative and professional supervision are more typically provided in an individual format compared to a group format or a combination of both. Similar to the analyses for frequency, post-hoc analyses were conducted to determine how years of experience might impact the findings for format. However, no significant differences were found in experience, again illustrating the influence the restricted range of experience likely had on the results of the study.

Hypothesis 5: School psychologists who engage in peer consultation more often than their peers will have higher levels of self-efficacy.

Results indicated that no significant relationship exists between the frequency of peer consultation and school psychologists' self-efficacy. Among the sample, slightly less than half of the participants indicated that they engage in peer consultation in a regular basis. Of those who seek out peer consultation, over 30% reported doing so monthly or more often. It may have been difficult to detect any significant change in self-efficacy among participants in the present study because of the limited variability among the scores on the self-efficacy measure. The sample was experienced and reported high levels of self-efficacy. Practitioners similar to the sample may engage in peer consultation but for other reasons than building self-efficacy. An additional post-hoc analysis found no significant difference in years of experience among those who engage in peer consultation and those who do not. Peer consultation may have a stronger influence on self-efficacy among early career school psychologists because of their need for more professional support.

Zins and Murphy (1996) found similar trends in regularity of peer consultation among school psychologists. In their study, 40% of school psychologists reported engaging in peer consultation. School psychologists reported improved skills and knowledge and increased job enthusiasm as the largest perceived benefit of peer consultation. Peer consultation provides opportunities for school psychologists to meet and discuss concerns in an informal, non-supervisory setting. Successful features of peer consultation groups include: committed participants, structured meetings with specified topics, administrative support, mutual respect among participants, and set

meetings times (Truneckova et al., 2010; Zins & Murphy, 1996). Peer consultation depending on its purpose can be a beneficial resource for school psychologists seeking professional connections and means to practice new skills.

Hypothesis 6: Urban school psychologists will have greater access to professional supervision and peer consultation than rural school psychologists.

The null hypothesis was accepted because there were no significant differences found among participants in regard to supervision and geographic region. Trends within the literature suggested that school psychologists working in different geographic regions experience different challenges within their systems (Reschly & Connolly, 1990; Stoiber & Vanderwood, 2008). Due to understaffing and other variables (i.e., funding) school psychologists can also experience role ambiguity, often having job tasks far from the typical job description of a school psychologist (Curtis, 2002). Earlier research has shown that rural school psychologists also experience heavier caseloads and limited access to support systems (Huebner & Huberty, 1984). Similar needs have also been indicated among mental health clinicians working in rural areas. Rural areas are facing shortages of qualified mental health workers and one influencing factor of retention rates of qualified clinicians has been attributed to professional supervision opportunities (Mitchell, 2009).

Discrepancies, although not significant with the sample in the present study, were found in regard to access to supervision across geographic settings. It's important to continue to understand the impact work environment has on school psychologists' ability to perform and understand the differing needs of practitioners in the field. However, some research has shown that school psychologists, independent

of their demographic differences have similar needs for support and training particularly with direct intervention and consultation (Fowler & Harrison, 2001). Among school psychologists, the most rewarding types of continued professional development allow for self-assessment, opportunity to practice and receive feedback of newly learned skills, and allow for personal goal attainment.

Hypothesis 7: School psychologists serving the NASP recommended caseload ratio or less will have greater role diversity and higher levels of self-efficacy than peers with higher caseloads.

Results of the multiple linear regression used to analyze this question did not support the hypothesis. No significant relationship was found among caseload, role diversity and school psychologists' self-efficacy. The model itself was significant; however, the practical significance of this is limited because none of the coefficients had a significant relationship with self-efficacy. A review of the Pearson Correlations indicated that the variable Assessment was moderately correlated with Intervention ($r = .47$), Consultation ($r = .55$), and Counseling ($r = .51$). Although, a school psychologist may be servicing the NASP recommended caseload or less, other factors such as job description or number of other mental health providers of staff (i.e., school counselors, mental health counselors, social workers) may influence where the practitioners time is spent.

Job diversity of a school psychologist has found to be a significant factor when examining levels of burnout and job satisfaction (Proctor & Steadman, 2003). It was hypothesized that job diversity would also play a role in a school psychologist's sense of self-efficacy. However, results of the present study are inconclusive. New roles for

contemporary school psychologists are focusing more on providing comprehensive academic, mental health, and systems level systems within the school setting. The current model for school psychology practice (NASP, 2010b) includes ten domains of practice comprising of systems level services, preventive and responsive services, family school collaborative services, as well as direct academic and behavioral services to students. It is not surprising that five factors used in the present study were correlated because similar skills are used among the domains of practice. For example, consultation could be done within the context of identifying a student's needs for a targeted intervention or at a systems level when analyzing school-wide data. In order to provide effective services, school psychologists must gain competency and efficacy within the different roles of the field.

Despite the push for more comprehensive service provisions, school psychologists surveyed in the present study reported spending 52% of their weekly time devoted to assessment related activities. Similar results were found by Castillo et al. (2012) which found that school psychologists devote almost half of their time to assessment related activities. In this study, consultation services were the second most frequently engaged in activity by the participants (21%), followed by intervention activities (12%), counseling (10%), and research (2%). This again supports the earlier significant findings as to why increased frequency of professional supervision focusing on less practiced job roles would increase certain areas of self-efficacy. Comparably, Castillo et al. (2012) found that school psychologists engage in developing interventions 25% of the time followed by consultative services (16%), individual counseling (10%),

developing of general education interventions (8%), and in-service programs for parents (4%).

Along with role diversity, caseload (school psychologist to student ratio) was also examined as it relates to school psychologist self-efficacy. In this study, the mean ratio of school psychologist was 1290 which is slightly lower than the ratio of 1:1383 reported by Curtis et al. (2012). Both studies indicate that school psychologists are still serving higher caseloads than recommended (NASP, 2010b). Surprisingly, caseload was not highly correlated with role diversity in any of the job roles defined. The hypothesis suggested that those with higher caseloads would have to devote more time to assessment than other job roles and would have lower self-efficacy. The relationship between caseload and self-efficacy was minimal ($r = .05$, $p = .466$). Within this sample, overall self-efficacy was not influenced by changes in caseload. Higher caseloads have typically resulted in school psychologists conducting more evaluations leaving less time to engage in more diverse services (Curtis, 2002). However, participants in this study did not report spending more or less time in particular activities as a result of fluctuations in caseload.

Implications

The primary objective of this study was to investigate the facets of supervision received by school psychologists and their influence on self-efficacy. Although the results of the present study produced few significant findings, several implications can be drawn from these results. Professional experience was the strongest predictor of self-efficacy in this student. This variable also mildly influenced frequency of supervision and peer consultation, a common trend. Overall, the sample of school

psychologists surveyed had relatively high levels of self-efficacy independent of type, frequency, or format of supervision received. The findings could be attributed to the restricted range of experience exhibited by the sample and the self-efficacious nature of school psychologists in that they are continual learners. The high levels of self-efficacy as seen in this study may be partially due to the demand for continual professional development for state and national certification as well as demands to abide by ethical standards (NASP 2010b). Also, literature has shown that self-efficacy is not as robust a predictor among experienced practitioners (Larson & Daniels, 1998). Thus, a recommendation to use a sample of early career professionals is warranted.

Furthermore, the use of self-efficacy measures, like the HIS-SP may be beneficial for use during supervision practices. This study used it as a measure of general self-efficacy of school psychologists; however, it may be a beneficial tool for use within the supervisory experience for students and early career school psychologists. The measure can help direct psychologists and supervisors to tailor supervision experiences to best meet individual needs. Results of the scale could help guide professional goal setting and then be used again to assess growth.

Although regarded as an effective means for developing self-efficacy, particularly in fields like counseling (Cashwell & Dooley, 2001; Daniels & Larson, 2001); professional supervision is still not utilized by many school psychologists (Chafouleas et al., 2002; Curtis et al., 2012). Despite the continued limited availability of professional supervision, congruent with the findings of the present study, school psychologists continue to have high levels of self-efficacy. This implies that there are other avenues in which school psychologists are developing self-efficacy. The multidisciplinary nature

of school psychologists' work allows practitioners to seek out learning opportunities in other fields such as curriculum and instruction, counseling, and mental health as well as trainings focused for school psychologists. Practitioners can attend work-sponsored in-services, conventions, graduate courses, in addition to other virtual learning opportunities such as webcasts, online forums, and online courses. Further study is needed to determine the relationship between self-efficacy and different forums of professional development.

In this study, there were no significant differences among school psychologists working in different geographic regions in regard to access to supervision and peer consultation. Supervision was once one of the few means for school psychologists to communicate with other professionals. School psychologists working in rural areas may not be as isolated as once thought. Earlier studies suggested that rural school psychologists and mental health clinicians were more likely to experience isolation within the work setting, understaffing and limited resources (Curtis, 2002; Huebner & Huberty, 1984; Mitchell, 2009). Insignificant differences found in this study may be attributed to advances in communication for school psychologists. Technology allows for school psychologists to have greater access to colleagues and competency building activities. This implies that school psychologists may no longer be as isolated as previously thought. However, with email, social media and web-based video conferencing, school psychologists can instantly communicate with school psychologists anywhere in the world if necessary.

There is no doubt that supervision is an important and necessary component of career development, although the results of the present study did not illustrate any

significant differences in self-efficacy based on facets of supervision. In the case of this study, the self-efficacy may not have been sensitive enough to detect differences among the groups based on the presence of supervision. It may be better used within the context of supervision to assess growth or pinpoint specific needs. Continued research in this field may help identify the most beneficial approaches for developing and maintaining self-efficacy among school psychologists.

Limitations

Given the failure to reject many of the null hypotheses, it is imperative to review the limitations of this study. As previously stated, one of the study's major limitations can be attributed to sampling. The study used convenience sampling and relied on the responses of school psychologists who were interested in participating in the topic and completed the survey. Therefore, participation was solicited through several methods depending upon the standards of the associations including direct email, posting of link on member website and social media pages, and through a listserv. The posting of the survey link on member websites and social media pages allowed for a larger audience and it is possible that school psychologists, not necessarily association members or school psychologists from other states could have had access to the survey link. Sampling bias may have been related to respondents' interest in the research topic and may have limited the participation of more subgroups, e.g., early career school psychologists.

A second limitation of the study pertains to the use of survey data and self-reporting. The study relied on self-report for reporting of demographic data and self-efficacy. Due to the subject of the study, practitioners may not have accurately admitted

weaknesses or feel they had to respond positively due to the presence of sociability bias. It may be difficult for some practitioners to honestly evaluate their performance in all areas without comparing the information to other information sources. Despite efforts to reduce biases, due to the nature of the study, practitioners may feel the need to respond more positively and not admit areas of weakness in their performance. On the other hand, self-efficacy among the participants may have been influenced by the level of experience of participants and their interest in the study.

Despite the potential limitations related to the sample, it is important to understand the characteristics of the population being studied. School psychologists require a higher level of education for certification and must abide to continuing education mandates. Within this population it may be difficult to detect discernible differences in self-efficacy. Although access to adequate supervision is best practice, there are other modalities in which practitioners can obtain professional development and support. Even with budget constraints for staffing and travel for professional development, technology and virtual communication allows for instant connections among colleagues. Although limited by several factors, the study attempted to add to the literature in order to better understand the relationship of supervision and self-efficacy among school psychologists.

Recommendations for Future Research

The results of the study found a relationship between frequency of professional supervision and self-efficacy but only relative to specific job roles, e.g., counseling. Future research should focus on analyzing self-efficacy of school psychologists' in terms of individual job roles rather than using an omnibus construct of self-efficacy.

Consistent with Bandura's theory (1977), self-efficacy is better understood as a multi-domain construct and this level of analysis will allow for more variability among experienced school psychologists.

Replication of this study with a larger, national sample may lead investigators to different, more significant findings. The sample used in this study was sufficient for data analysis; however a larger, more heterogeneous sample may have led to more variability within the findings. Also, including a nationally representative sample would also better reflect supervision trends and its impact on a more general population of school psychologists. Additionally, it would be interesting to investigate the impact of other relevant factors such as supervision satisfaction and job performance as they relate to frequency of supervision and self-efficacy. Further, it may be interesting to include variables regarding a school psychologist's level of integration within school activities, a factor that has been shown to influence a school psychologist's perceptions toward their profession (Proctor & Steadman, 2003). Other important factors may be access to and use of technology for enhancing professional development (e.g., webinars, use of professional websites, discussion forums, etc.).

As a result of this research, only 46% of participants reported receiving professional supervision, yet the entire sample indicated relatively high levels of self-efficacy. Further research that incorporates the use of direct measures of professional competence to validate self-report ratings would be beneficial. It is clear that future study may need to include analysis of other professional development activities along with supervision that may promote self-efficacy. School psychologists have professional obligations to continually increase their knowledge base. As mentioned

previously there are multiple ways for school psychologists to engage in such activities and the present study was focused on administrative and professional supervision and peer consultation. Future studies want to concentrate on developing an understanding of what professional development activities school psychologists engage in, what is the preferred medium to do so, and how do school psychologists perceive the effectiveness of such activities.

Finally, future experimental research may want to focus on using the HIS-SP as a means for measuring growth of school psychologists engaged in supervision. Particularly for novice professionals who tend to receive supervision more frequently, the HIS-SP could be used as the within measure to access the growth of self-efficacy as a function of exposure to professional supervision. Additionally, format of supervision, individual and group, could be another variable manipulated within this type of study.

Conclusions

The purpose of this study was to investigate the theoretically postulated relationship between supervision and school psychologist's self-efficacy. Among participants in the study, frequency of professional supervision had a significant, but minimal influence on counseling and research self-efficacy. These are job roles less often engaged in during a school psychologists' week compared to more prominent roles like assessment and intervention (Castillo, et al., 2012). Thus, providing some insight into why the subdomains of self-efficacy, i.e., counseling and research, would be influenced by professional supervision. Professional experience also emerged as a predictor of self-efficacy, although the relationship was relatively small. Additional factors such as caseload, job diversity, and geographic work setting were inconclusive

regarding their relationship with self-efficacy. Limitations of the study such as the overall level of professional experience of limited the variability of the sample.

School psychologists, who participated in the study, indicated that professional supervision is still not engaged in as frequently as administrative supervision. In the field of school psychology, the type of supervision received is important because of their inherent differences in purpose, supervisor qualities, and skills addressed within the sessions (McIntosh & Phelps, 2000). With limited opportunities to develop professional competencies within the daily work environment, school psychologists must reach out to other opportunities for enrichment. Results of this study suggest that other work related variables aside from geographic setting, may be hindering with the availability of school psychologist's ability to engage in professional supervision on a consistent basis. These factors may include supervisor-supervisee variables, quality of supervision received, or access to other means of professional development.

With school psychologists undertaking multiple roles within the school system, it is necessary for psychologists to believe in their abilities to effectively support students. Professional self-efficacy is seen as a key cognitive process involved within the self-evaluation process and influences future behavior. Research has shown that self-efficacy is developed through observation, modeling, and practice. Through these methods, individuals learn response patterns within specific situations are able to apply them to future behavior.

Professional supervision remains a means for developing professional competency and self-efficacy. Supervision allows for school psychologists to receive feedback regarding performance, master skills and work on professional goals.

However, it is not the only method for developing competencies. School psychologists may be seeking professional development through other means outside of the work setting in order to stay abreast of current practices. Further investigations are necessary to examine the most effective types of professional development opportunities for developing self-efficacy among school psychologists' with varying levels of experience.

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Appendix A

Demographic Questionnaire

1. Are you a school psychologist working in a school setting? Yes No

2. Sex?

Female

Male

3. Identify your highest level of education:

Master's Degree

Educational Specialist (Ed.S.) or Certificate of Advanced Graduate Study in School Psychology (C.A.G.S.)

Ph.D/ D.Ed. / Psy. D. or Other Related Doctoral Degree

4. What year did you obtain your highest level of education?

5. Was your graduate school psychology program NASP accredited at the time of your graduation?

Yes

No

6. Are you currently certified by the State Department of Education as a school psychologist?

Yes

No

If yes, what state _____

7. Are you currently licensed to practice privately in the state in which you work?

Yes

No

If yes, what state _____

8. Please state the collective numbers of years, including this school year, that you have been a professional school psychologist.

_____ (Number of years)

9. Identify which type of region you are currently employed:

_____ Urban: As defined by the Bureau of the Census, to include a central city and the surrounding densely settled territory that together have a population of 50,000 or more and a population density generally exceeding 1,000 people per square mile.

_____ Suburban: outside a principal city and inside an urban area with a population density of 500 people per square mile.

_____ Rural: any territory outside of an urban area with a population of less than 500 people per square mile.

10. Estimate the total number of students your school district or county.

11. How many full time school psychologists are in your school district or county system?

_____ Number of full time school psychologists

12. What are your weekly job roles? Estimate the percentage of time engaged EACH week in the following activities: (The total percentage must equal 100%.)

_____ % Assessment: Time designated for activities such as the assessment of academic skills, cognitive abilities, and behavior, observation of students, scoring assessments, and report writing.

_____ % Intervention: Time designated for activities such as designing, implementing or evaluating the effectiveness of student, class wide, or school wide interventions.

_____ % Counseling: Time designated for activities such as individual counseling, small group counseling, or crisis intervention.

_____ % Research: Time designated for activities such as research current best practices, sharing research with school faculty or parents, or evaluating the effectiveness of programs within the school.

_____ % Consultation: Time designated for activities involving the problem solving process such as participation in pre-referral meetings and conferences with parents, faculty and/or administrators.

13. Administrative supervision refers to *the oversight of “job duties in accordance with conditions of employment and assigned responsibilities, and is primarily concerned with outcomes and consumer satisfaction rather than discipline-specific professional skills. Administrative supervision may be carried out by individuals trained and credentialed in school administration and not school psychology” (NASP, 2011, p.2).*

Do you receive administrative supervision as defined above?

- Yes
 No

If you receive administrative supervision please answer Questions 14-18. If not, please proceed to Question 19.

14. How often is administrative supervision provided?

Please choose one:

- Weekly
 Biweekly
 Monthly
 Quarterly
 Semester
 Yearly

15. What is the average amount of time spent in administrative supervision per session?

- <30 minutes
 30-59 minutes
 60-89 minutes
 90-120 minutes
 >120 minutes

16. Who provides the administrative supervision?

- Superintendent
 Principal
 Director of Special Education
 Director of Psychological Services
 Director of Pupil Services
 A fellow school psychologist
 Other (please specify) _____

17. Describe the format of administrative supervision received.

- Individual
 Group
 A combination of both

18. If you receive both formats of supervision, please indicate which type is more prevalent.

- Individual
- Group

19. Professional supervision refers to “oversight of the specific professional practices of personnel within one’s own profession, and requires specific training and knowledge in the area of supervision” (NASP, 2011 p. 1).

Do you receive professional supervision as defined above?

- Yes
- No

If you receive administrative supervision please answer Questions 20-23. If not, please proceed to Question 25.

20. How often do you receive professional supervision?

Please choose one:

- Weekly
- Biweekly
- Monthly
- Quarterly
- Semester
- Yearly

21. What is the average amount of time spent in professional supervision per session?

- < 30 minutes
- 30-59 minutes
- 60-89 minutes
- 90-120 minutes
- 120+ minutes

22. Who provides the professional supervision?

- Superintendent
- Principal
- Director of Special Education
- Director of Psychological Services
- Director of Pupil Services
- A fellow school psychologist
- Other (please specify) _____

23. Describe the format of professional supervision received.

- Individual
- Group
- A combination of both

24. If you receive both formats of supervision, please indicate which type is more prevalent.

- Individual
- Group

25. How often do you engage in consultation with fellow school psychologists regarding best practices in school psychology (i.e. case studies, interventions, assessment techniques, etc.)?

Please choose one:

- Weekly
- Biweekly
- Monthly
- Quarterly
- Semester
- Yearly
- Other

26. What is the average amount of time spent in peer consultation?

- < 30 minutes
- 30-59 minutes
- 60-89 minutes
- 90-120 minutes
- 120+ minutes

Appendix B

Huber Inventory of Self-efficacy for School Psychologists (HIS-SP)

This questionnaire is designed to help us gain better understanding of the kinds of things that create difficulties for school psychology professionals. Please rate how well you are currently able to the things described below by writing the appropriate number. Your answers are strictly anonymous. Please give honest responses related to your perceived capability.

Write a number from 1 to 7 to indicate how well you are currently able to do the things described below.

1	2	3	4	5	6	7
Not well at all		Not too well		Pretty Well		Very Well

- _____ 1. How well can you define problem behavior(s) when conducting a functional behavior assessment?
- _____ 2. How well can you terminate a consultative relationship?
- _____ 3. How well can you evaluate the psychometric properties of tests?
- _____ 4. How well can you change or add tests or other assessment procedures as a result of information you obtain early in the assessment process?
- _____ 5. How well can you consult with other school personnel in addressing mental health related issues?
- _____ 6. How well can you identify training needs common to a school (i.e. parent and teacher training)?
- _____ 7. How well can you assist teachers and other educators in keeping informed about research related to their profession?
- _____ 8. How well can you develop a behavioral intervention plan?
- _____ 9. How well can you adhere to due process guidelines in all decisions affecting students?
- _____ 10. How well can you understand measurement statistics in adequate depth to evaluate published research?
- _____ 11. How well can you conduct studies that answer research questions of interest?
- _____ 12. How well can you establish and maintain rapport with children/adolescents you are assessing?

Write a number from 1 to 7 to indicate how well you are currently able to do the things described below.

1 2 3 4 5 6 7
Not well at all Not too well Pretty Well Very Well

- _____ 13. How well can you understand cultural issues that impact home-school collaboration?
- _____ 14. How well can you implement interventions?
- _____ 15. How well can you use knowledge of intervention research to generate realistic solutions to problems?
- _____ 16. How well can you use critical thinking skills to pull all of the information together when writing a report?
- _____ 17. How well can you conduct crisis counseling?
- _____ 18. How well can you incorporate the findings of research into your practice?
- _____ 19. How well can you perform informal assessments (e.g. phonics test, rate of reading)?
- _____ 20. How well can you observe a student's behavior in several natural settings (i.e. classroom, playground, lunchroom, etc.)?
- _____ 21. How well can you summarize the findings of relevant research?
- _____ 22. How well can you give clinician administered assessment instruments?
- _____ 23. How well can you interview parents?
- _____ 24. How well can you follow the legal and ethical standards of school psychology in practice?
- _____ 25. How well can you administer criterion-referenced tests?
- _____ 26. How well can you collect data regarding problem behaviors?
- _____ 27. How well can you give self-report instruments to clients?
- _____ 28. How well can you assess instructional environments (i.e. classroom time, motivation techniques, and opportunities provided for practice of skills)?

Write a number from 1 to 7 to indicate how well you are currently able to do the things described below.

1 2 3 4 5 6 7
Not well at all Not too well Pretty Well Very Well

- _____ 29. How well can you follow standardized procedures when using assessment tools?
- _____ 30. How well can you use knowledge of the internet to generate realistic solutions to problems?
- _____ 31. How well can you set measurable and observable goals?
- _____ 32. How well can you develop rapport with teachers?
- _____ 33. How well can you define a problem then obtain agreement about the problem with a consultee?
- _____ 34. How well can you apply leadership skills for crisis prevention and management?
- _____ 35. How well can you follow the steps in conducting a functional behavior assessment?
- _____ 36. How well can you develop an effective counselor-client relationship?
- _____ 37. How well can you examine school records?
- _____ 38. How well can you use positive interpersonal skills when relating to others in professional interactions?
- _____ 39. How well can you conduct workshops for the training needs of a school or district?
- _____ 40. How well can you convey research findings to your colleagues and employers?
- _____ 41. How well can you administer visual-motor tests?
- _____ 42. How well can you understand family influence on student performance?
- _____ 43. How well can you administer social, emotional, and behavior measures?
- _____ 44. How well can you develop rapport with others with whom you interact in a professional capacity?

Write a number from 1 to 7 to indicate how well you are currently able to do the things described below.

1	2	3	4	5	6	7
Not well at all		Not too well		Pretty Well		Very Well

_____ 45. How well can you use assessment findings to develop effective interventions?

_____ 46. How well can you recognize your own limitations and biases?

_____ 47. How well can you score assessment instruments?

_____ 48. How well can you develop rapport with parents?

_____ 49. How well can you design an intervention plan that can be employed across settings?

_____ 50. How well can you access information regarding federal and state laws and regulations concerning the assessment of children with special needs?

_____ 51. How well can you administer intelligence tests?

_____ 52. How well can you evaluate the appropriateness of the norm group when interpreting test scores of an individual or group?

_____ 53. How well can you communicate information to diverse audiences?

_____ 54. How well can you evaluate the consultative process?

_____ 55. How well can you promote partnerships between parents and educators to improve outcomes for parents?

_____ 56. How well can you conduct pre-referral interventions?

_____ 57. How well can you put planned changes into action within the entire organization?

_____ 58. How well can you follow the steps in the assessment process?

_____ 59. How well can you interview parents, teachers, students and others?

_____ 60. How well can you use effective listening skills?

_____ 61. How well can you interview teachers?

Write a number from 1 to 7 to indicate how well you are currently able to do the things described below.

1 2 3 4 5 6 7
Not well at all Not too well Pretty Well Very Well

_____ 62. How well can you maintain certification or licensure and attend continuing education functions?

_____ 63. How well can you critique research that has implications for practice?

_____ 64. How well can you follow-up as necessary when involved in the intervention process?

_____ 65. How well can you fulfill all legal requirements, in response to law and court decisions?

_____ 66. How well can you adapt in difficult situations?

_____ 67. How well can you evaluate interventions by collecting ongoing data?

_____ 68. How well can you write recommendations for interventions?

_____ 69. How well can you understand the effects of medication on children?

_____ 70. How well can you interview students?

_____ 71. How well can you assess appropriateness of referral for counseling?

_____ 72. How well can you clarify implementation procedures and responsibilities?

_____ 73. How well can you help educate parents for participation in Eligibility/ IEP meetings?

_____ 74. How well can you select interventions from the alternatives generated?

_____ 75. How well can you can help schools and parent work together to design curricula and intervention for students?

_____ 76. How well can you decide on what changes need to be made for an intervention to be successful?

_____ 77. How well can you administer projective tests?

_____ 78. How well can you use group counseling skills?

Write a number from 1 to 7 to indicate how well you are currently able to do the things described below.

1	2	3	4	5	6	7
Not well at all		Not too well		Pretty Well		Very Well

- ____ 79. How well can you recognize the basic principles of a research design?
- ____ 80. How well can you write to effectively communicate the most important points of a psycho-educational assessments?
- ____ 81. How well can you counsel children from different racial/ethnic groups?
- ____ 82. How well can you brainstorm a range of possible interventions?
- ____ 83. How well can you work collaboratively with all members involved in the intervention process?
- ____ 84. How well can you understand the consequences of assessment-related decisions?
- ____ 85. How well can you administer achievement tests?
- ____ 86. How well can you develop a functional hypothesis of the problem behavior?
- ____ 87. How well can you counsel individual children?
- ____ 88. How well can you interpret comprehensive assessment results for decision making purposes?
- ____ 89. How well can you use effective counseling skills?
- ____ 90. How well can you administer adaptive assessments?
- ____ 91. How well can you apply school based behavior modification principles and procedures to problems of the consultee?
- ____ 92. How well can you build a cooperative partnership in a consultative relationship?
- ____ 93. How well can you use play therapy?
- ____ 94. How well can you put into action a consultative plan?
- ____ 95. How well can you choose assessment instruments for addressing the referral concern(s)?

Appendix C
Cover Letter

Dear Fellow School Psychologist,

My name is Lisa Weed, and I am a school psychologist presently working on my dissertation at Indiana University of Pennsylvania. My research study involves a review of current supervision practices and the role such practices play for school psychologists.

This letter is to both inform you of my study, as well as request your participation. Please note that all participation is completely voluntary; and you can choose not to participate. All information collected in this study will be anonymous.

To participate in the study, you will have to access the following link provided by Qualtrics. Participants will be asked questions regarding the demographics of work setting, frequency and type of supervision receiving, caseload and years of experience. Participants will also be asked to complete the Huber Inventory of Self-Efficacy of School Psychologists. The process should take approximately 15-20 minutes. All participants will have the opportunity to enter a raffle to win a \$50 gift card to Amazon.

This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724.357.7730). There are no known risks or discomforts associated with this research. The results of this study will be made available to all participants upon request.

Thank you for your consideration.

Lisa Weed Phifer, M.Ed., NCSP
Doctoral Candidate
Indiana University of Pennsylvania
Stouffer Hall, Room 250
1175 Maple St.
Indiana, PA 15705
lqdp@iup.edu

Mark R. McGowan, Ph.D., NCSP
Assistant Professor
Indiana University of Pennsylvania
Stouffer Hall, Room 250
1175 Maple St.
Indiana, PA 15705
mmcgowan@iup.edu