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## WHAT DO TEACHERS THINK ABOUT EDUCATIONAL PSYCHOLOGY? DEVELOPING AND VALIDATING THE EDUCATIONAL PSYCHOLOGY PRACTITIONER SCALE

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WHAT DO TEACHERS THINK ABOUT EDUCATIONAL PSYCHOLOGY?  
DEVELOPING AND VALIDATING THE EDUCATIONAL PSYCHOLOGY  
PRACTITIONER SCALE

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DISSERTATION

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A dissertation submitted in partial  
fulfillment of the requirements for the  
degree of Doctorate of Philosophy in  
the College of Education at the  
University of Kentucky

By

Lauren Dionne Hargrave

Lexington, Kentucky

Director: Dr. Kenneth Tyler, Professor of Educational Psychology

Lexington, Kentucky

2017

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## ABSTRACT OF DISSERTATION

### WHAT DO TEACHERS THINK ABOUT EDUCATIONAL PSYCHOLOGY? DEVELOPING AND VALIDATING THE EDUCATIONAL PSYCHOLOGY PRACTITIONER SCALE

The purpose of this study was to develop and validate the *Educational Psychology Practitioner Scale (EPPS)*, which was designed to (a) assess the practices, training, and skills of educational psychologists and (b) determine their utility among K-12 schools classroom teachers. Study participants included 161 K-12 teachers across 21 states within the United States. An exploratory factor analysis yielded a 25-item, unidimensional scale. Correlating the EPPS with the Teacher Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001) and the Job Satisfaction Scale (Warner, 1973) provided discriminant validity for the scale. Study limitations and future research directions are discussed.

Keywords: educational psychology, educational practice, research-to-practice gap, scale validation, exploratory factor analysis

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Lauren D. Hargrave

9/28/2017

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Date

I dedicate my work in loving memory to my Grandmother, Dorethy Knotts, my best Kentucky friend, Taunta Taylor, my cousins Alandra 'Denny' Reid and Selana 'Lan Lan' Holt, and my spiritual leader, Dr. Wayne W. Dyer. May you all rest in peace.

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## **Chapter 1: Introduction**

Educational stakeholders such as parents, teachers, and students likely agree that being educated is a goal that everyone wants to achieve. However, the ways in which individuals are educated and the outcomes produced by those vary. The variation in how a student is educated leads to differences in academic performance outcomes, with some students excelling while others fail. One source of these variations in educational processes and outcomes is individual differences in learning (i.e., “diversity in abilities and characteristics among students at a particular age and within a particular gender or cultural group”) (Ormrod, 2013, p. 119). In particular, students’ social (e.g., student engagement), emotional (e.g., interests or feelings), and cognitive factors along with the knowledge and skills they are expected to learn, play a role in their academic performance outcomes (Lee & Shute, 2010). In addition to these person-centered factors, contextual factors such as teacher effectiveness and school climate also contribute to student learning and its outcomes (Lee & Shute, 2010).

To examine these and additional contextual and person-centered factors associated with student academic performance (e.g., peer support and self-beliefs) (Lee & Shute, 2010), psychological theories, research methods, and findings from empirical studies are applied to the field of education. Specifically, educational psychology is a discipline within the psychological sciences that focuses on factors related to K-20 education. It employs rigorous scientific inquiry to explore conditions in which teaching and learning occur (Mishra, Koehler, & Greenhow, 2016). Educational psychology is considered to be “the scientific study of how instruction affects learning” (Farley et al.,

2016, p. 427) as well as a discipline that investigates the “development and application of psychological principles to education” (O’Donnell & Levin, 2001, p. 73). Specifically, educational psychology investigates “the development, evaluation, and application of (a) theories and principles of human learning, teaching, and instruction and (b) theory-derived educational materials, programs, strategies, and techniques that can enhance lifelong educational activities and processes” (Wittrock & Farley, 1989, p. 196). Additionally, it explores other cognitive (e.g., motivation, information processing, transfer, and metacognition) and non-cognitive factors (e.g., identity) directly associated with teaching and learning (Hagstrom, Fry, Cramblet, & Tanner, 2007; Hulleman & Barron, 2016). According to the *Handbook of Educational Psychology*, it is a disciplinary progenitor to other disciplines such as developmental, social, school, and counseling psychology (Farley et al., 2016). Specifically, certain scholars in the field of educational psychology contributed to the formation of developmental psychology (i.e., G. Stanley Hall’s child-study movement) and clinical and counseling psychology (i.e., William James’ view on the self) (Farley et al., 2016).

Since the writings of early educational psychologists such as Hall and James, the goals of more contemporary educational psychologists are to (a) understand the process of instruction, learning, and assessment and (b) improve the educational process and promote academic success through psychological science (American Psychological Association [APA], 2017; Farley et al., 2016). Educational psychologists pursue these goals by (a) identifying methods for effective learning (b) studying cognitive and non-cognitive processes involved in learning; and (c) understanding how different methods of teaching by a more capable other affects the acquisition of knowledge by the learner

(APA, 2017; Farley et al., 2016). The ability to pursue these goals start with training in graduate educational psychology programs located within university-situated colleges of education (Hagstrom et al., 2007).

There are over 100 educational psychology graduate programs in the U.S. (Rest, Rutman, & Olsson, 2017) and their primary goals are to address issues relevant to education and to help improve education. Graduate students within educational psychology programs oftentimes engage in (a) instructing undergraduate pre-service teachers (Nezhad & Vahedi, 2011; Patrick, Anderman, Bruening, & Duffin, 2011; Woolfolk Hoy, 2000) and (b) critically examining educational psychology factors in relation to K-20 education, such as motivation, classroom management, learning, and development (Patrick et al., 2011). Patrick, Anderman, Bruening, and Duffin (2011) believe that knowledge in student cognitive development, learning, and motivation is essential to pre-service teachers' effectiveness. Pre-service teachers enrolled in educational psychology classes, facilitated by educational psychology graduate students, often acquire this knowledge. In addition to teaching undergraduate courses, some graduate students engage in practical application in K-12 education, although the majority of the time is spent engrossed in educational research that provides implications for educational practice (Hagstrom et al., 2007).

Training in educational psychology graduate programs primarily consists of foundational educational psychology courses, which includes learning theories and cognitive and human development. Equally important, educational psychology graduate students have extensive training in research methods and advanced statistical analyses. Such training, along with experience with teaching at the collegiate level and conducting

research with professors, allow educational psychology graduate students to become educational researchers, psychometricians, and university professors. However, some educational psychologists employ their skills in organizations such as the military, medical field, and K-12 school systems (Alexander, 2017; Hagstrom et al., 2007; Mayer, 2017; Weinstein, 1989).

Despite the stated processes and goals of educational psychology, including but not limited to educational psychology graduate training, several educational research articles discuss educational psychologists' perceived lack of "hands-on" involvement in K-12 education (Anderman, 2011; Ball, 1984; Bredo, 2016; Grinder, 1989; Hagstrom et al., 2007; McCaslin & Hickey, 2001; Patrick et al., 2011; Strauss, 1996). Specifically, Anderman (2011) discussed the limited connection between educational psychology research and educational practice and suggested that educational psychologists work to improve the connection. In discussing the history and formation of educational psychology, Grinder (1989) mentioned that over time, the role of educational psychologists had shifted from "applied-service activities to research-scientific functions" (p. 15). More recently, McCaslin and Hickey (2001) stated that historically, educational psychologists have failed to do work in schools and should "assert our knowledge in the improvement of practice and the value of the public school" (p. 139).

With the longstanding perception of the lack of "hands-on" involvement by some educational psychologists, Anderman (2011) and Patrick et al. (2011) have brought about several reasons why educational psychologists are not actively engaged in educational practice, particularly within K-12 educational settings. Some of those reasons include, but are not limited to (a) problems communicating research results; (b) educators'

negative perceptions of research; (c) the shortage of direct connections to practice; (d) the challenge of having “collaborative and mutually valued relationships between faculty in educational psychology and other domains of education”; and (e) the belief that educational psychologists “do not take seriously enough the importance of practice in their own research” (Anderman, 2011; Patrick et al., 2011, p. 75).

Thus, educational psychologists primarily conduct research that only provides implications for educational practice as opposed to actively affecting K-12 educational practice (Hulleman & Barron, 2016). While a few articles recommend educational psychology graduate students engage in actual K-12 educational practices and operations, particularly the teacher preparation process throughout their graduate training in order to enhance the association between educational psychology and educational practice (Farley et al., 2016; Weinstein, 1989; Wittrock & Farley, 1989), it is unclear whether such is taking place in educational psychology graduate programs in particular or among educational psychologists in general. More specifically, there are presumptions among some educational researchers: (a) there is an underutilization of educational psychology theory and research by K-12 teachers and stakeholders and (b) there is a limited or even strained relationship between educational psychology and educational practice (Anderman, 2011; Bredo, 2016; Hulleman & Barron, 2016; Patrick et al., 2011; Snow, 2011). For some, these issues illustrate the presumed gap between educational psychology and educational practice (Anderman, 2011; Hulleman & Barron, 2016; Patrick et al., 2016). However, there are no current empirical data to substantiate or refute the aforementioned presumptions (i.e., underutilized educational psychology and strained educational psychology/educational practice relationship), nor is there a

psychometrically sound instrumentation to assess these presumptions. In essence, there is no empirical evidence that demonstrates teachers' knowledge of educational psychology, the skills of an educational psychologist, or their relevance and utility to K-12 schools. Hence, there are no data that provide evidence of the perceived gap between educational psychology and educational practice among K-12 educators.

The purpose of this dissertation research is to develop and validate an instrument assessing K-12 teachers' perceptions of educational psychology practices, training, and skills. The instrument assessed the perceptions of K-12 teachers regarding the utility and relevance of educational psychology graduate level training to the education field. The items from this instrument were extracted from the websites of the top 20 educational psychology programs in the U.S. (U.S. World and News Report, 2017). Within these websites are the goals, purpose, mission, curricula, and guidelines of the respective educational psychology graduate programs. The items derived from this information reflect the skills that educational psychologists purportedly have after completion of their respective Masters and PhD programs. This study is the first step in determining whether the perceived gap between educational psychology and the K-12 educational practice exists from a K-12 educator's standpoint. The contribution of this work is in the development and validation of an instrument that will aid educational researchers in understanding how teachers view educational psychologists' skills, research, and overall fit within their educational practices. In the following pages, a conceptual framework that supports the importance of practice-orientation in educational psychology will be discussed. Next, a discussion of the history and scope of educational psychology over the years and issues will be offered. Specifically, these sections will highlight the role that

educational psychology has maintained in teacher preparation programs and K-12 schools. Additionally, an overview of the statement of the problem and study methodology will be offered. Finally, the results, discussion, limitations, future directions, and conclusion will be discussed.

## Chapter 2: Literature Review

### Philosophical Framework

**John Dewey.** John Dewey was an educational philosopher who contributed to the foundation of the field of educational psychology, despite not receiving formal psychological training (Bredo, 2003). He viewed education as a social function that connected children to the experiences of others (Dewey, 1951). Specifically, he thought of education from a constructivist viewpoint where children actively participate within the educational environment in order to acquire knowledge. Additionally, while interacting with and experiencing others, adults (e.g., teachers) pass on beliefs, standards, values, and expectations that help to form children's culture and fuel the existence of society (Dewey, 2004). Having meaningful, continuous interactions with their educational environment, namely with teachers, allow children to develop within a context that builds upon language and existing knowledge (Berding, 2015; Bredo, 2003). Dewey believed that who or what individuals become is contingent upon their interactions with others. For many of these individuals, these interactions take place within a formal learning context, such as the public school.

Within the field of education, schools are charged with teaching students foundational skills and preparing them to contribute to society (Dewey, 1899). Dewey believed schools should also reflect society and provide experiences and activities relevant to the lives of learners by connecting to home values, interests, and their everyday life. Furthermore, he thought schools should embrace the natural urges of children and allow children to think on their own. Consistent with his philosophy on the individual learner, Dewey believed it is important for teachers to assist in developing

his/her thoughts and interests and provide new experiences in order to maximize the potential of children without imposing ideas and habits upon them (Dewey, 1899). According to Dewey (1899), once teachers understood these experiences, they would be able to develop and integrate curricula, which maximizes students' learning. Specifically, once teachers understood the needs, impulses, and habits of children, then create an environment that maximizes upon these factors, meaningful learning would occur (Berliner, 1993).

With this in mind, Dewey founded an elementary school in 1896 at the University of Chicago with the goal of helping teachers to become effective. Effective teachers in the sense that they are teachers "who intimately understand each student's thinking and feelings, stimulate the student's capacity to discover for herself, and assist every child or adolescent as she appropriates and applies ideas" (Simpson, 2006, p. 5). At the University Elementary School, he experimented with curricula and educational methods that integrated his philosophy of learning into practice (Berliner, 1993). Specifically, Dewey reorganized educational curricula and developed new ways of learning due to the value he placed on children learning through experiences as opposed to rote learning (Dewey, 2004; Simpson, 2006).

With such a perspective, John Dewey is considered by and introduced to many educational psychologists as an educational practitioner, particularly as his writings and observations were more philosophical and practitioner oriented than scientific and/or empirical in nature. His views on educational practices, along with his direct involvement in education, are important for this study because they show a connection between education and psychology that moves beyond empirical research for guidance on

teaching and learning. While Dewey was not an educational psychologist, his philosophy continues to influence the field by contributing several thoughts such as: (a) the importance of experiences, which is aligned with Vygotsky's scaffolding, zone of proximal development, and sociocultural theory; (b) the importance of social interactions within context, which likely has implications for Bandura's triadic reciprocity, specifically, the interaction between individuals and the environment, which likely influence one another and have implications for student learning outcomes; and (c) the importance of continuity, which is linked to James' view on associations, amongst other ideas widely used throughout the field of educational psychology.

Throughout Dewey's tenure in educational psychology, he consistently viewed the educational researcher as one who is an active participant in the day-to-day activities, operations, and transactions within the formal learning environment (Bredo, 2003). Like several contemporary educational psychologists, Dewey would strongly support the idea that school involvement can positively influence stakeholders within formal educational settings (Berding, 2015; Bredo, 2003; Mayer, 2015; Simpson, 2006). Specifically, he asserted:

“Distinctions drawn in one situation may clearly be helpful in another, but since each situation is unique, one cannot simply impose distinctions drawn from outside of a given situation on that situation; interpretation and judgment are needed. For the psychologist studying an organism's behavior, this means that one needs to understand what the organism is trying to do and the differences that make a difference to the organism, rather than imposing an external task definition on the situation” (Bredo, 2003, p. 105).

Essentially, educational psychologists should not impose their ideas/research onto teachers, but should include teachers in the research process in order to understand their needs. More generally, a greater focus is needed on the perceptions of teachers related to

educational psychology research in order to understand its utility to educational practice. At issue, however, is the absence of quantitative data that show K-12 teachers' perceptions of the level of involvement educational psychologists actually have in their classrooms and/or schools. In addition, there is a lack of data that examine teachers' perceptions of educational psychology relevance to classroom instruction. In order to further understand the relationship between educational psychology and K-12 practitioners, a review of the history of educational psychology in teacher education is provided below.

### **History of Educational Psychology in K-12 Education**

#### *Educational Psychology*

Educational psychology is a diverse field where both science and practice are important (Shuell, 1996). However, it is also a field in which the relationship between educational research and educational practice seems irreparable (Patrick et al., 2011). This division between educational research and educational practice has been prominent throughout the history of the field, particularly among some of its leading scholars. For example, William James, the founder of psychology in America, focused his work on teaching and learning (James, 2001; Woolfolk Hoy, 2000). He is considered the first psychologist in America to “directly address educational issues” (Bredo, 2003, p. 51). Specifically, James believed that “psychology is a science, and teaching is an art; sciences never generate arts directly out of themselves” (James, 1899/1983, p. 15). In essence, according to James, educational psychologists may provide some insight into educational practice, but they do not make decisions for educators (James, 1899/1983, p. 15). Therefore, James argued that science within education should not exclusively

inform instructional practices for teachers (Berliner, 1993). With this, James saw “the study of psychology useful in three ways: (a) to provide underpinnings for beliefs about instruction, (b) to prohibit teachers from making certain egregious errors, and (c) to provide intellectual support to teachers for some of their pedagogical decisions” (Berliner, 1993, p. 46). With such a position, James devoted his time giving a series of lectures to teachers on how best to help children learn by using associations and connecting materials to the interests of students as well as providing ways to keep the attention of students (James, 2001).

However, G. Stanley Hall, James protégé, departed from this line of thinking. Hall, the founder of the American Psychological Association (APA) and the child-study movement, believed that research conducted in natural settings with engaged participants was useful in informing educational practice (Berliner, 1993). With his work, Hall involved teachers in data collection processes and encouraged teachers to collect data on their students in order to more fully understand their cognitive development. In the 1860s, Hall’s child-study movement was integrated into schools. He did not support research conducted in a laboratory, as he believed that the laboratory did not provide opportunities to understand individuals’ feelings and beliefs. Considering this, he involved teachers in his data collection processes within classroom settings (Hall, 1897).

Unlike these influential educational psychologists, E. L. Thorndike believed that “psychology need not go into the classroom; it can derive its laws from the laboratory and hand them down to teachers...” (Berliner, 1993, p. 56). As one of James’ students, Thorndike used experimental methods to develop theories of learning that could be applied to teaching without evaluating a real classroom (Woolfolk Hoy, 2000).

Thorndike influenced individuals to believe that science was the solution to all problems in education and quantitative experiments were better than scientific work executed at school.

Thorndike maintained such confidence in the scientific aspects of psychology that he never tested his materials or ideas in the field, as he was sure that his work would be beneficial to schools (Berliner, 1993). As such, Thorndike resituated the focus on the study of learning from the classroom to the laboratory. However, his former adviser William James criticized this repositioning as he opposed laboratory-based education research (Woolfolk Hoy, 2000). Despite James' objection, however, Thorndike laid the foundation for the field of educational psychology.

While Thorndike was making an impact on the field of educational psychology from the vantage point of scientific inquiry, others were advancing educational psychology as it related to K-12 educational practices. For example, Alfred Binet developed measures that helped determine students' need for special education classes (Berliner, 1993). Binet created several IQ measures for children of all ages that are still being used today. Other educational psychologists such as Jean Piaget, Lev Vygotsky, B. F. Skinner, and Benjamin Bloom also had an impact on K-12 education. The development of theories on the way individuals learn such as Piaget's cognitive development theory and Bloom's Taxonomy positively impacted the field of education by providing explanations for the way that individuals make sense of the world, construct knowledge, and learn, all of which have been utilized in the understanding of learning within K-12 classrooms (Brainerd, 2003; Krathwohl, Bloom, & Masia, 1964).

Although these educational psychology theorists were making an impact on the field of educational psychology, the relevance of the field to educational practice was still in question. For example, in 1963, Carroll wrote that educational psychology would remain irrelevant due to its lack of concern for real educational problems. More than 10 years later, Brophy made it clear that there needed to be research in educational psychology that helped to inform educational practice (Brophy, 1974). He noted that the problem in educational psychology was not quality, but relevance. Specifically, Brophy (1974) believed that educational psychology needed to study problems “related to the needs of the classroom teacher” as cited in Woolfolk Hoy (2000, p. 259). To support this claim, Berliner (1993) believed that the irrelevance of educational psychology in K-12 schools was due to the field’s deficient concern for real educational problems. Though Berliner (1993) stated educational psychology had begun to show more interest in (a) studying academic subjects, (b) using alternatives to quantitative methods, and (c) employing assessments that better reflect student classroom performance, he believed that educational psychology still needed to work toward understanding the realities of classroom teachers and students in order to enhance their relevance to educational practice (Berliner, 1993; Woolfolk Hoy, 2000).

### *K-12 Education*

Despite the claim by Berliner and others (e.g., Brophy, 1974; Carroll, 1963; Woolfolk Hoy, 2000) regarding the relevance of educational psychology, the field remained a foundation of teacher education preparation for several decades. However, after the teacher education reform in the 1980s, educational psychology was no longer thought to be the foundation for teacher preparation. The reform was initiated by teacher

educators in response to criticism about teacher preparedness by the National Commission on Excellence in Education (Patrick et al., 2011). These criticisms came from experts on educational issues, concerned K-12 stakeholders, analyses of issues in education, and letters from concerned citizens. Specifically, teachers were being criticized for being inexperienced upon graduation. Also, teachers who taught English, science, and math were criticized for being unskilled to teach these subject areas. The education curriculum was criticized for being too focused on educational methods and not on academic subject matter (National Commission on Excellence in Education, 1983). The teacher education reforms' goal was to improve textbooks, tools for teaching and learning, and to provide courses that could improve upon the preparedness of pre-service teachers and provide a structured foundation.

After the reform in the 1980s, educational psychology did not remain a foundational course for teacher education (Patrick et al., 2011). One of the recommendations made by the Commission was for master teachers to design teacher preparation programs and supervise pre-service teachers (National Commission on Excellence in Education, 1983). Based on this recommendation and the need for more courses that focused on subject matter as opposed to educational methods, academic standards changed. As a result, educational psychology became an introductory course to pre-service teacher preparation as opposed to an actual teacher education program-based course. With this, some began to consider educational psychology irrelevant to teacher education; specifically in educational practices in general (Patrick et al., 2011). For example, Patrick et al. (2011) wrote “educational psychology tended to be characterized by teacher educators, practicing teachers, and students themselves as contributing

abstract, decontextualized, and universal content that did not help students see the relevance of the theories that were taught or make meaningful and practical connections with real educational situations” (p. 72). Overall, the teacher education reform generated changes in educational psychology that are still in place today across thousands of teacher education programs in the U.S.

Due to the teacher education reform in the 1980s, Division 15: Educational Psychology of the APA created a committee that focused on the role of educational psychology in teacher education. Its goal was to show how educational psychologists could contribute to teacher education and become paramount in the training of future teachers (Patrick et al., 2011). To do so, the committee evaluated the role of educational psychology in teacher education and published recommendations. Then, the committee became more active and focused on changing the way educational psychology was taught to preservice teachers. After a two-day conference that focused on teaching educational psychology in teacher education, a peer-reviewed academic journal was launched to communicate the teaching of educational psychology to K-12 stakeholders. Based on these actions, Patrick et al. (2011) believed educational psychology would become more relevant to educational stakeholders, most notably teachers. However, this was not the case as educational psychology is still viewed by many educational psychologists to be marginalized with no central role in education (Patrick et al., 2011). This is further evidenced by educational psychology courses still being on the peripheral of teacher education programs, as demonstrated in the minimal number of educational psychology courses teacher education program students have to enroll in.

This minimization of the role of educational psychology in teacher preparation led to its perceived marginalization of educational psychology as a field (Berliner, 1992; Patrick et al., 2011; Woolfolk Hoy, 2000). More recently, some authors have suggested that the role of educational psychology in education has been reduced to defending its relevance to teacher education programs (Nezhad & Vahedi, 2011). However, to demonstrate their involvement and utility, some educational psychologists have written several articles detailing the relevance of educational psychology courses to teacher education programs (Anderman, 2011; Poulou, 2005; Shuell, 1996; Woolfolk Hoy, 2000). Educational psychologists were thought of as “middle persons” who communicated psychological theory to educators (Shuell, 1996). Moreover, Anderman (2011) argues that it is the responsibility of educational psychologists to conduct quality research; the issue is that research conducted by educational psychologists is being ignored by K-12 stakeholders and they need to be reminded of “the salience of our research” (p. 185). Nonetheless, educational psychologists have been criticized for decades for perceivably withdrawing from educational practice-based responsibility, having minimal connection to practical matters in schooling, and relegating itself chiefly to research methodology and statistical inquiry (Grinder, 1989; Hulleman & Barron, 2016; Patrick et al., 2011).

### **Current Educational Psychology Issues**

In the early 20th century, the field of psychology and the field of teaching had a strong affiliation (Woolfolk Hoy, 2000). Educational psychologists such as G. Stanley Hall, John Dewey, and E. L. Thorndike studied children in relation to their understanding of the world, their interactions and experiences, and methods that helped children to learn

in various content areas (Woolfolk Hoy, 2000). Additionally, educational psychologists provided several methods that connected educational psychology and teachers, such as courses and texts related to applying psychology to the classroom and teaching and testing materials that helped with teacher preparation. At this time, nearly all pre-service teachers took educational psychology courses (Hilgard, 1996).

Since then, the relevance of educational psychology to educational practice has been perceived as marginal at best (Patrick et al., 2011; Woolfolk Hoy, 2000). To address this, contemporary educational psychologists have emphasized the integration of research findings into classroom practice (Anderman, 2011). However, Hulleman and Barron (2016) state that educational psychologists use a “test-theory first, solve problems-second approach” which has no “regard for solving the practical problems of educators” and has only “served to exacerbate gaps between research and practice” (p. 160). Positions taken by Snow (2011) and Porter and McMaken (2009) reinforce the stance taken by Hulleman & Barron (2016) as they indicate that research may not always be the answer to issues in education, especially when it is inconclusive.

Additionally, while issues that teachers have related to educational practice can be informed by educational research, sometimes, for them, there is too much research to choose from (Snow, 2011). Research studies may examine the same issue in education but have different conclusions on how to handle the issue, which may ultimately confuse educators and provide them with too many options (Snow, 2011). Also, some issues related to educational practice, such as problems that teachers face every day on a practical level, have never been studied (Snow, 2011; Woolfolk Hoy, 2000). Thus, educational researchers need to study more issues in educational practice; specifically,

they need to conduct research that provides conclusive evidence that will help with issues related to teacher experiences in the classroom and their day-to-day interactions with children and families (Snow, 2011; Woolfolk Hoy, 2000).

Snow (2011) voices his concern on behalf of the National Association for the Education of Young Children's (NAEYC) Center for Applied Research that was developed in 2010. This center was developed in order to help improve the relationship between researchers and practitioners. Specifically, the center focuses on the integrative relationship between researchers and practitioners by (a) helping practitioners to access, interpret, and implement research into their classrooms and (b) connect researchers with practitioners to inform them of gaps in the research. The center was developed in part due to educational research being contradictory, inconclusive, and even non-existent research related to practices that arise from teacher's day-to-day experiences (Snow, 2011).

Within current educational psychology literature, there is debate regarding the degree to which educational psychology remains intricately linked to teacher education/preparation programs in particular and the practitioner-wing of education in general (Anderman, 2011; Farley et al., 2016; Patrick et al., 2011). For example, Patrick et al. (2011) believe that educational psychologists have only changed the way they teach content to pre-service teachers, but have failed to communicate the relevance of their research to educators. This has contributed to the idea that the role of educational psychologists in teacher education is still marginal. Moreover, Anderman (2011) believes that research in educational psychology has significance; however, the problem is there is limited application of research findings to educational practice, which is

affecting the relationship between the two fields. Woolfolk Hoy (2016) on the other hand, believes the issue is that teacher education programs reduced the need for educational psychology classes, which diminishes the value of educational psychology to the field of education (Farley et al., 2016).

While discussing several reasons as to why educational psychologists are not actively engaged in educational practice, particularly within K-12 educational settings, none of the aforementioned articles provide empirical evidence to support the claim that educational psychologists have little involvement in or are marginalized within K-12 education. Stated more generally, there is no empirical evidence to support the existence of a gap between educational research, particularly educational psychology and educational practice, wherein K-12 teachers perceived the role and activities of educational psychologists as irrelevant or inconsequential. Hence, developing and validating a measure will help to address these claims by creating a scale that can assess K-12 teachers' perceptions of educational psychologists' relevance and connection to educational practice.

### **Statement of the Problem**

The gap between educational research and educational practice in the U.S. has been discussed in many disciplines, especially educational psychology (Anderman, 2011; Brant, 2015; Bredo, 2016; Dingfelder & Mandell, 2011; Szteinberg et al., 2014; Weston & Bain, 2015; Woolfolk Hoy, 2000). The gap between research and practice is the extent to which (a) educational psychologists and educational stakeholders lag in communication; (b) educational stakeholders have limited access to or limited utility for educational psychology research throughout their classroom practices; and (c)

educational psychologists disengage from conducting research with demonstrated applicability to educational practice in both formal and informal contexts.

Roth, Mavin, and Dekker (2014) take their stance as cognitive science professors to reinforce the belief that the gap between research and practice is somewhat due to the differences in the requirements needed to be successful on an exam and the requirements needed to be successful in the workplace. This is an important issue in education because oftentimes research is conducted about issues in K-12 education and possible solutions are found for these issues. However, the research is typically not written in a way that is understood by practitioners (Patrick et al., 2011). Furthermore, Hulleman and Barron (2016) believe that theories and constructs are developed about the educational process and its participants without a real intent on solving educational issues, which exacerbates the gap between educational research and educational practice. Similarly, there are only a few articles in the literature that recommend educational psychology graduate students engage in K-12 education practices and operation throughout their graduate training in order to improve upon these problems (Farley et al., 2016; Weinstein, 1989; Wittrock & Farley, 1989). Within these articles, the authors do not provide any empirical evidence of the extent to which educational psychology faculty and graduate students have engaged in K-12 training or any practice-orientation throughout their graduate training. Therefore, while there is a conceptual understanding of the gap between educational research and educational practice, it is empirically unknown.

One of the reasons for this is the absence of valid and reliable instrumentation that assess teachers' perceptions of the relevance and utility of educational psychology theories, concepts, and research findings. Thus, the purpose of this study is to develop

and validate the *Educational Psychology Practitioner Scale* (EPPS), a measure that provides some insight into the perspectives of K-12 classroom teachers regarding the utility and relevance of educational psychology—particularly their professional skills, training and practices—to their own pedagogical practices. Convergent and discriminant validity will be examined in order to provide a degree of validity for the study. These forms of validity are secondary to the initial purpose of the study which is to construct a scale and understand its factor structure (i.e., what constructs are represented within the scale). These forms of validity will be provided by examining the statistical association between the scale constructed for the current study and the Teacher Sense of Efficacy Scale (TSES) and Job Satisfaction Scale (JSS). It is hypothesized that if teachers have a high sense of efficacy, that is, they are confident in their teaching abilities, they may not find educational psychologists' skills useful to K-12 schools. Specifically, when scores on the TSES increase, scores on the EPPS will decrease. Furthermore, it is hypothesized that whether teachers are satisfied with their jobs is not associated with their beliefs of the usefulness of educational psychologists' skills to K-12 schools. The following hypotheses are used to determine convergent and discriminant validity:

H1: Scores on the EPPS will be negatively correlated with the TSES.

H2: Scores on the EPPS will not be correlated with the JSS.

This study is the first step in determining whether the perceived gap between educational psychology research and educational practice exists from teachers' perspectives. If the aforementioned hypotheses are confirmed, evidence of convergent and discriminant validity will be provided. Developing and validating the EPPS will contribute to the educational psychology literature, as there are currently no empirical

studies that examine the gap between educational research and educational practice, particularly as it pertains to educational psychology research. Typically, teachers are discussed, but are often left out of the conversation (e.g., Anderman, 2011; Patrick et al., 2011). Hence, this study gives teachers' a voice regarding educational research and practice while also providing initial evidence of the perceived gap between educational psychology and educational practice from K-12 teachers' viewpoint.

## Chapter 3: Method

### Participants

Participants in this study are 283 K-12 teachers from across the United States. Due to the initial restriction of completing the survey on a mobile device, data were not fully recorded for 68 participants and therefore, data for these participants were eliminated. Based on the decision to eliminate participants who completed less than 50% of the survey in order to limit biased analyses (Bennett, 2001; Peng, Harwell, Liou, & Ehman, 2006; Schafer, 1999), data from an additional 54 participants were not included in the study. Therefore, the sample for this study included 161 (87.3% female; 12.4% male; .3% unknown) K-12 teachers across the United States. Since the data were collected using a snowball and convenience sampling technique, participants were located across the U.S., with the states of Kentucky (57.8%) and North Carolina (14.9%) representing the majority of the sampled population. Self-reports indicated 88.6% of the sampled population was Caucasian, 9.3% was African American, and 0.6% indicated being Asian, Hispanic, and multiracial ethnicities. Teachers within the study taught students in elementary school (39.8%), middle school (22.4%), and high school (37.3%) primarily in a public school setting (93.8%). Additionally, as outlined in Table 4.1, Appendix A, 19.9% of teachers held Bachelor degrees, 65.8% held Master degrees, 11.2% held Ed.S./Specialist degrees, and 3.1% earned Doctoral degrees. The mean teaching experience for all of the educators in the study resulted in 14.7 years. The response rate for the study was 28.3% as 1,000 surveys were disseminated.

## **Procedure**

Approval from the University of Kentucky IRB was obtained prior to proceeding with this study. The doctoral candidate served as principal investigator (PI) for the study and thus, identified a list of teachers and administrators to contact for study participation. Educators were contacted using various outlets including (a) email; (b) LinkedIn, which is an online professional social networking service; and (c) Facebook, which is an online social media service. Teachers and administrators with previous associations were asked to work with their superintendent's office to have the survey sent to all schools in their respective location. More specifically, previous associations were made with superintendents, principals, and teachers on LinkedIn. In detail, the PI went on LinkedIn and in the search box, typed in "superintendent", "principal" and "teacher". Then, the PI was able to invite all of those individuals to connect on LinkedIn. Once they were connected, the PI sent each connection an individual message asking superintendents and principals to share the survey with their teachers and asking teachers to take and share the survey with their colleagues. On Facebook, the PI made several public posts on her page asking teachers to click on the link provided in order to take the survey and also asked individuals to share the post with their connections in order to solicit participation. Additionally, individuals who handle the dissemination of research for the superintendent's office were contacted and asked to share the survey with teachers in their school district.

Based on this request, there were two school districts where the superintendents approved the dissemination of the survey to all schools within their district. After receiving this approval, seven emails were sent to each principal in Lexington City

Schools (LCS), a school district located in Lexington, North Carolina. From those seven schools, two principals responded confirming that they shared the survey with their teachers. The support from LCS resulted in a sample of  $N = 24$ . Next, the superintendent for Fayette County Public Schools (FCPS) approved the dissemination of the survey to all FCPS. Emails were then sent to 63 principals asking each to share the survey with their teachers. This correspondence resulted in responses from three principals and a sample of  $N = 93$ . In addition to contacting the aforementioned schools, random school websites across the U.S. were visited and teachers' emails were obtained. Specifically, the PI googled different states such as Massachusetts and Indiana, selected two schools from each state, went onto the schools website to the directory and copied all of the teachers' emails into an email correspondence regarding taking the survey. This resulted in an additional 14 schools being contacted across the United States. Lastly, emails were sent to teachers through four different listservs in Kentucky and Florida combined. Participants in this study taught in various U.S. states, including North Carolina, Kentucky, Alabama, Massachusetts, New Jersey, Texas, and Indiana. By collecting data from different locations within the United States, this study has a sample of participants from regionally diverse school districts. Monetary incentives (i.e., 20 Visa gift cards valued at \$25 each) were mentioned to entice study participation. Gift cards were raffled and distributed to participants through email. Participants were entered into five separate drawings, selecting four participants per drawing, to win one of the Visa gift cards. The data were collected online using Qualtrics and responses were automatically recorded.

## Measures

**Initial scale development procedures.** The *Educational Psychology Practitioner Scale* (EPPS) is a 64-item survey that is designed to measure teachers' perceptions of the usefulness of educational psychologists' skills to K-12 schools. The EPPS was developed by the PI of this study to assess teachers' perception of the relevance and utility of educational psychology to their instructional practices. The items included on the EPPS were examined for content and face validity. Content validity confirms that a particular set of items on a scale reflects the content domain. Face validity is concerned with verifying that the items appear relevant to the construct (Devellis, 2012). Devellis (2012), Downing and Haladyna (2006), and Patten (2001) provide in-depth guidelines for item development, which were followed in establishing items for the EPPS. Devellis' (2012) guidelines were utilized in the construction of the scale. These eight guidelines are outlined as follows. The application of these eight guidelines is further detailed:

1. *Clearly determine what you want to measure.* Following extensive consultation with UK committee members, the PI elected to measure the utility of educational psychology to educational practice.
2. *Develop an item pool.* Several items were developed based on the information obtained in program training objectives as indicated by educational psychology programs on their websites.
3. *Determine format for measurement.* The format for measurement was determined throughout the process and confirmed through consultation with experts. Based on this expert feedback, it was determined that a questionnaire would be

developed that assessed teachers' perceptions on the usefulness of educational psychologists' skills, using a 4-point Likert-type rating scale.

4. *Have experts review item pool.* Four sets of experts reviewed the items on the EPPS.
5. *Consider including validating items.* Content validity was taken into consideration with the development of EPPS. Educational psychology professionals, statisticians, and pre-service teachers evaluated the content validity.
6. *Administer items to developmental sample.* The EPPS was administered to K-12 teachers across the United States.
7. *Evaluate items.* Once the data were obtained, statistical analyses were conducted to determine the internal structure of the scale.
8. *Optimize scale length.* After conducting the exploratory factor analysis, the length of the EPPS was optimized.

This study followed a deductive process. First, the literature was reviewed to ensure that no scales measuring K-12 stakeholders' perceptions about the utility of educational psychology skill sets or graduate programs were currently available. Next, the websites of the top 20 educational psychology graduate programs, as identified by U.S. World and News Report (2017), were surveyed to examine reported educational psychology skills, based on training objectives, curricula, syllabi, and handbooks. The PI identified themes and developed survey items based on these materials. Then, the items were written and refined several times. Through consultation from experts, additional survey items were identified. Given the dearth of studies examining how K-12 school personnel view educational psychology, particularly the skill sets, practices, and

relevance to teacher practices, the educational psychology websites were deemed suitable to begin scale development. In the following sections, the process of collecting literature, examining the top 20 educational psychology websites, developing items, and consulting with experts are further detailed.

**Literature search.** An extensive literature search was conducted to locate research that sought to (a) delineate the discipline of educational psychology and (b) identify educational psychology specific skills. The literature review also sought to locate empirical studies providing evidence of the relationship between educational psychology and educational practice. The literature search was also instrumental in determining the availability of valid and reliable measures assessing the skill sets of educational psychologists. The search terms included “teacher’s perceptions of educational psychology,” “educational psychologists’ skills,” “educational psychology scales,” “skill sets of educational psychologists,” and “identity of educational psychologists”, among others. A thorough search of the literature on the field of educational psychology produced no empirical studies that provided a sound identity for educational psychologists or educational psychology practice-relevant skills. Furthermore, no studies on or measures assessing the relationship between educational psychology and educational practice emerged. These omissions from the literature illuminate the significance of the current research study, which sought to develop an instrument to assess K-12 teachers’ perceptions of educational psychology and its utility.

**Researching websites.** Considering there was no literature to describe the skill set of educational psychologists, the next course of action included accessing Division 15: Educational Psychology within the American Psychological Association to ascertain

whether literature on the specified skills of educational psychologists exists. After consulting with Division 15's President, it was determined that the division does not provide any written guidelines, principles, or in-depth skill sets for educational psychologists. Thus, another source acquired was a report titled "Education Rankings and Advice" by the U.S. World and News Report (2017). This report identified 20 educational psychology graduate programs deemed the best in the nation. This report is provided annually and is considered a reliable source for information on U.S. colleges and universities. Thus, "Education Rankings and Advice" (U.S. World and News Report, 2017) was selected to identify educational psychology graduate programs. Upon executing this action, the educational psychology graduate program websites were accessed to gather information on the training, practices, and requisite and emerging skill sets and practices therein.

"Education Rankings and Advice" (U.S. World and News Report, 2017) identified educational psychology graduate programs under the category of "specialty ranking". The educational psychology graduate programs identified in this report were determined by 255 school or college of education deans that responded to a survey on top education programs. Each dean submitted a list of at least 10 schools with the top educational psychology programs and from these submissions, U.S. World and News Report numerically ranked each school in descending order. Based on this process, the top 20 educational psychology programs were determined and are ranked as follows: (1) University of Wisconsin-Madison; (2) University of Michigan- Ann Arbor; (3) Stanford University; (4) University of Maryland-College Park; (5) Michigan State University; (6) University of Texas-Austin; (7) University of Illinois-Urbana Champaign; (8) Vanderbilt

University; (9) University of California-Berkeley; (10) University of Minnesota-Twin Cities; (11) University of California-Los Angeles; (12) Ohio State University; (13) Teachers College-Columbia University; (14) University of Connecticut; (15) University of Washington; (16) Indiana University-Bloomington; (17) Northwestern University; (18) Pennsylvania State University-University Park; (19) University of Georgia; and (20) Florida State University.

Once the 20 schools were accessed, they were recorded in a notebook and the exploration of each educational psychology graduate program's website began. The educational psychology webpage for the university listed as the number one program in the country was searched first. From the websites, the introduction page, mission page, handbooks, and the pages from each individual program within educational psychology such as learning and development and quantitative methods were printed. It was discovered that some of the programs were titled educational psychology, but included other areas such as clinical psychology, counseling psychology, and school psychology. Aspects of these programs that included educational psychology were taken into consideration. However, the information specifically pertaining to the non-educational psychology programs (e.g., clinical psychology) was not. After printing information from all of the websites, they were sorted from one to twenty in three separate notebooks and information was filtered out for the item development.

**Item development.** To start item development, each university was examined starting with number one, University of Wisconsin-Madison, and working in chronological order to number 20, Florida State University. Five educational psychology handbooks and websites were examined per day. Prior to examining the content, in being

an educational psychology doctoral candidate and constantly reading educational psychology literature, I knew that educational psychologists specialized in different areas related to learning and K-12 education, which led to the scale being divided by color into four different categories of skills that educational psychologists are perceived to have. Those categories included (1) Practice-Orientation Skills - Purple; (2) Research and Statistical Skills - Yellow; (3) Professional Development Skills - Blue; and (4) Educational Psychology Knowledge Base Skills - Orange. Creating these categories made it easier to sift through the content and record relevant information. After creating the four separate skill categories, a color key was made, which helped to identify the skill that was being highlighted. Next, the color key was placed in the front of four different composition notebooks, which represented each individual category. The skills that fell under a particular category, such as practice-orientation skills, went into a notebook made specifically for that skill set. After the notebooks were organized, the content from five schools was evaluated per day and skills were highlighted based on the color key. Once all 20 schools were examined and all potential skills were highlighted, the skills were then written in their respective notebooks according to the color it was highlighted.

Initially, there were 92 items in the practice-orientation skills category, 55 items for the research and statistical skills, 22 items for professional development skills, and 35 items for the educational psychology knowledge base skills. Considering the items were originally written in notebooks, they needed to be typed into a word document for further organization. After typing all of the items into separate Word documents, based on the individual categories, they were then printed out and evaluated again. This time, the purpose of this second evaluation was to (a) ensure that no items were being repeated, (b)

ensure that the items were relevant to K-12 classrooms, and (c) combine similar items. As a result, there were then 41 practice-orientation skills items, 21 items for research and statistical skills, 16 items for professional development skills, and 14 items for educational psychology knowledge base skills. At times, some skills were switched to other skill categories after further examination of the content. For example, the item “address practical concerns of educators through research” was initially placed into the research and statistical skill category due to the term research. However, after further examination, it was placed into the practice-orientation skills category considering the action requires practical application. Following this task, the 92 items were put into a survey using Qualtrics on two different rating scales ranging from (1) *Not Important* to (4) *Very Important* and (1) *Useless* to (5) *Useful*. Afterward, an email was sent to the first expert for consultation.

**Consultation with experts.** To make certain that the items on the EPPS were appropriate for the targeted population and were representative of the skills in educational psychology, experts in the field of educational psychology and statistics were consulted along with individuals in teacher education programs. The first expert, the dissertation chair, was asked to go through each item in order to check for verbosity, cognitive overload, and sensibility. Based on this consultation, the following changes were made: (a) 5 items were deleted due to content, b) 7 items were made into two or more items due to cognitive overload, (c) 29 items were reworded due to clarity, and (d) the Likert-type rating scale with items ranging from (1) *Useless* to (4) *Useful* was chosen for the survey. Demographic variables also emerged through this consultation, including gender, ethnicity, educational level, school type, and teaching role.

Along with the dissertation chair, there were also experts from the Applied Statistics Laboratory (APS) at the University of Kentucky facilitated by another UK faculty member that provided feedback on the EPPS. The individuals in this lab not only are experts in statistics and scale development, but are also part of the educational psychology and teacher education fields. Thus, individuals from the APS lab provided feedback on wordiness of items, cognitive overload, repetitiveness, and relevance of items to teachers. APS lab members also completed the survey to determine how much time it would take potential participants. As a result of their consultation, more items were developed such as “critically evaluate practical concerns of parents through educational research” and “critically evaluate practical concerns of educators through educational research.” Previously, the aforementioned items were “critically evaluate practical concerns of parents and educators through educational research.” Some items were deleted due to repetitiveness. Also, the rating scale changed to (1) *Not at all useful* to (4) *Very useful* due to perceived negative language use of the term “*useless*”. Additionally, items such as “conduct learning analytics and educational data mining” and “invent new approaches to teaching statistics” were deleted due to perceived lack of relevance to teachers. Lastly, the organization of the items in Qualtrics was changed from four different subscales to one scale. This recommendation was given in order to ensure that if participants become fatigued toward the end of the survey and there were missing data, the randomization of the items would prevent one specific skill set from being missing.

Following the consultation with the APS lab, the above changes were made and the EPPS was piloted to pre-service teachers who were students in an educational course

that focused on human development and learning at the University of Kentucky. The instructor for the class placed the link to the survey on the class website and 17 pre-service teaching students participated in the survey. Once students had the opportunity to take the survey, the PI visited the class to solicit feedback from these students. Questions were asked regarding the Likert-type rating scale and their ability to understand the difference between (1) *Not at all useful* and (2) *Slightly useful*. The students stated that instead of saying an item was not at all useful, they chose slightly useful because the skill may be useful to someone within the school system. Therefore, the prompt was changed from “Below are a list of skills that educational psychologists are trained to do. Please rate the usefulness of these skills to K-12 schools” to “Below are a list of skills that educational psychologists are trained to do. Please rate the usefulness of these skills to you as a K-12 classroom teacher.” Making this change allowed for the questions to be specifically for K-12 teachers. Additionally, the pre-service teachers were asked if they understood the questions and if the questions were relevant, they answered yes to both questions.

After piloting the survey to K-12 teachers, other committee members were consulted. It was suggested that items should be reviewed (a) to ensure that no items were double-barreled and (b) to consider the wording of items for clarity purposes. After doing so, more items or parts of an item were deleted. As a result of the consultations and piloting the survey, there were a total of 64 items remaining, which makes-up the *Educational Psychology Practitioner Scale (EPPS)*.

**Teacher Sense of Efficacy Scale.** To provide evidence of convergent validity, teachers’ self-reports of their beliefs about their abilities to teach were analyzed. That is,

scores on the teacher sense of efficacy scale (TSES; see Appendix B) were analyzed to determine if there was a high correlation with the EPPS. According to Bandura (1977), self-efficacy is ones' beliefs about their ability to succeed. Thus, teacher self-efficacy is a teachers' belief about his/her ability to affect students' learning (Bandura, 1977; Guskey & Passaro, 1994). The short-form TSES is a 12-item, three sub-scaled instrument designed to assess teachers' beliefs about their teaching abilities in (a) student engagement, (b) instructional strategies, and (c) classroom management. The scale employs a 9-point Likert-type response and responses range from (1) *Nothing* to (9) *A Great Deal*. Tschannen-Moran and Woolfolk Hoy (2001) validated the TSES with a sample of 410 participants (103 pre-service teachers, 255 in-service teachers, and 52 unknown). Validation of the scale yielded a three-factor structure and internal consistency coefficient  $\alpha = .90$  for the total scale. The subscales yielded alphas of .81 = engagement, .86 = instruction, and .86 = management (Tschannen-Moran & Woolfolk Hoy, 2001). Considering this is an exploratory study and the EPPS is a new scale, there have not been any studies conducted to determine whether teachers' beliefs about their abilities are correlated with their attitudes towards the usefulness of educational psychology skills. However, it was hypothesized that if teachers have a high sense of self-efficacy, that is, they are confident that they can effectively do their job, they may not find educational psychology skills useful to K-12 schools. This hypothesis is supported by the idea that if teachers are highly effective, they would not need assistance or support from an educational psychologist. Specifically, it has been shown that efficacious teachers have less student failures and exhibit remarkable instruction and classroom organization (Dembo & Gibson, 1985; Klassen & Chiu, 2010). Thus, in being

an efficacious teacher, that is a teacher who is positively affecting student learning, skills of educational psychologists may be unwarranted, resulting in a negative relationship.

**Brayfield Rothe Job Satisfaction Index.** Another variable used in this study to provide discriminant validity is teachers' self-reports of their job satisfaction. That is, scores on the job satisfaction survey (JSS; see Appendix C) should have a near-zero correlation with the EPPS. The job satisfaction scale is operationalized through a unidimensional 14-item instrument designed to assess affective components and participants' feelings and emotions related to their job. The initial instrument was an 18-item scale developed by Brayfield and Rothe (1951). The authors administered the survey to 231 female office employees and reported a reliability coefficient of  $\alpha = .87$ . The scale was then modified by Warner (1973) and is now a 14-item unidimensional instrument. More recently, Voris (2011) conducted a study that examined special education teachers' self-efficacy and level of job satisfaction. Internal consistency reliability of  $\alpha = .88$  was reported for the JSS. The scale employs a 5-point Likert-type rating scale with responses ranging from (1) *Strongly Agree* to (5) *Strongly Disagree*. It was hypothesized that teachers' job satisfaction would have a near-zero correlation with teachers' perceptions of educational psychologists' skills. According to Cockburn and Haydn (2004), teachers' job satisfaction stems from intrinsic factors such as feelings received from working with children, witnessing student progression, and overall school climate. External factors do not have a significant effect on job satisfaction (Baughman, 1996; Johnson & Johnson, 1999; Perie & Baker, 1997). Thus, an external factor such as educational psychology skills should not have an effect on teachers' job satisfaction.

## Data Analyses

Once the participant data were collected in Qualtrics, they were exported into Microsoft Excel in order to check for outliers, missing data, and typos that were corrected. Some participants did not click ‘yes’ to consent, but also did not close the survey, so their results were added into the dataset. The data were analyzed in IBM SPSS Statistics 22.0 and *Mplus* 7.1 (Muthén & Muthén, 1998-2012) to ensure adequate results. However, SPSS results are reported in-text throughout the study because the robust weighted least squares estimator (WLSMV) in *Mplus* requires larger samples for more reliable results. In SPSS, missing data were handled using listwise deletion, thereby eliminating a maximum of three percent of cases per analysis (see Appendix A). In *Mplus*, missing data were handled using pairwise deletion with WLSMV estimator. For investigation of the factor structure of the EPPS, an exploratory factor analysis (EFA) was conducted. Additionally, to validate the internal structure of the TSES and JSS scales with this specified sample, a confirmatory factor analysis (CFA) was conducted, which will be discussed next.

To complete scale validation and determine the internal structure of the EPPS, an EFA was first conducted in SPSS using principal axis factoring estimator. The purpose of the EFA is to (a) determine the number of latent variables underlying a set of items, (b) combine similar items, and (c) explain and interpret the relationship among variables. To better handle missing data, an EFA was conducted using the robust weighted least squares (WLSMV) estimator with Geomin oblique rotation in *Mplus*. Conducting an EFA is necessary in order to determine the structure of a scale (Kline, 2016). Although the items were previously placed into separate categories, it cannot be ascertained where

the items actually fit until an EFA is conducted. The Kaiser-Meyer Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity were used to determine factorability. KMO shows whether the variables have common factors based on the range of 0 to 1, with .6 considered acceptable (Kaiser, 1974). Additionally, Bartlett's Test of Sphericity was used due to its ability to show whether the correlation matrix is an identity matrix and whether a factor analysis would be useful for the given data with  $p < .05$  considered statistically significant (Snedecor & Cochran, 1989).

In order to determine how many factors were extracted, Catell's (1966) scree plot procedure was examined and Embretson and Reise's (2000) recommendation that the survey only has one factor if the ratio of the first to second eigenvalue is larger than 3. Factors were defined based on a minimum of three loading items. Items were considered to load onto a given factor if they had a correlation of .6 or higher with the factor (MacCallum, Widaman, Preacher, & Hong, 2001; MacCallum, Widaman, Zhang, & Hong, 1999). After obtaining results from the EFA, items were also deleted based on redundancy of content.

In order to provide evidence of convergent and discriminant validity, latent variable correlations and sum score correlations were examined. Additionally, in order to confirm the structure of the TSES and JSS with the sample of K-12 teachers, a confirmatory factor analysis (CFA) was conducted in *Mplus*. A CFA was not conducted on the EPPS in this study because conducting a CFA for an instrument assumes there is a strong theoretical model or known data structure, which is not the case for the EPPS (Kline, 2016). Furthermore, a CFA could not be used to confirm the structure of the EPPS in this study because this study does not provide a large enough sample size.

Specifically, recommendations in the statistical literature suggest that (a) an EFA should be followed by a CFA using a different sample to evaluate the factor structure as stronger validation is provided when a CFA is conducted on a new sample rather than the same sample as an EFA; and (b) one take into account sample size when deciding whether to conduct a two-sample analysis, that is splitting the sample (Browne, 2000; Cabrera-Nguyen, 2010; Wang, Watts, Anderson, & Little, 2013).

To provide additional support of other studies that conducted an EFA sans CFA, other dissertations located in ProQuest's Dissertations and Theses database will be discussed. For example, Wesley's (2014) dissertation, which focused on the psychometric properties of a 52-item stereotype scale, only analyzed data using an EFA and a correlation to show evidence of convergent validity. Similar to this study, Wesley (2014) only conducted an EFA due to "the lack of structural validity and factor analytic studies on the stereotype scale" (p. 13). As a CFA should not be conducted when the factor structure is unknown. Additionally, Nelson's (2015) dissertation investigated the psychometric properties of a pre-existing social responsiveness scale by only analyzing the data using an EFA. The reasons behind this analysis was that there was a "limited range of possible factor solutions and limited literature on the factor structure" of the scale (Nelson, 2015, p. 45). Also, Mamaril (2014), conducted a dissertation study that focused on developing an engineering self-efficacy measure. In analyzing the data, Mamaril (2014) conducted an EFA and also used predictive analyses to examine other factors. However, a CFA was not conducted on these data in this study. Furthermore, Perez-Gonzalez, Garcia-Ros, and Gomez-Artiga (2004) published a study in the *School Psychology International Journal* that focused on the development and validation of a

new scale by conducting only an EFA. Thus, along with the aforementioned studies, the current dissertation study did not have such theoretical grounding and consequently conducted similar analyses of an EFA on a new measure prior to other analysis such as a CFA. Internal consistency, reliability coefficients, were calculated for the EPPS using Cronbach's alpha and McDonald's omega.

## Chapter 4: Results

### Exploratory Factor Analysis

To determine the internal structure of the EPPS, an EFA was conducted on the 64 items (see Appendix A, Table 4.2 to examine the descriptive statistics for the items and see Appendix D to examine the content of items). The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity was used to show factorability. KMO determines how small the partial correlations are in relation to the zero-order correlations. The KMO was used because it shows whether the variables have common factors based on how close the KMO is to one on a scale of 0 to 1. For this scale, the KMO was .87, which is significant, indicating that the variables have some factors in common. Additionally, Bartlett's test of sphericity was used because it determines whether the correlation matrix is an identity matrix and it shows whether a factor analysis would be useful for the given data. The Bartlett's test of sphericity was shown to be significant,  $\chi^2(2016) = 6451.97, p < .001$ . The polychoric correlations (see Table 4.3) among the variables were all above .3 and below .8, which show (a) factorability and suitability to conduct an EFA and (b) the items are capturing the same construct and are not redundant.

Once factorability was determined, principal axis factoring in SPSS was used to extract factors and WLSMV estimator was used in *Mplus* to confirm the results from SPSS. Factors with a loading of .6 or above were extracted, indicating the item was representative of the factor (MacCallum, Widaman, Preacher, & Hong, 2001; MacCallum, Widaman, Zhang, & Hong, 1999). Based upon Catell's (1966) scree procedure, Embretson and Reise's (2000) recommendation regarding the eigenvalue's

ratio, and the factor matrix, one factor was extracted (see Figure 1 and Table 4.4). The ratio from the first to second eigenvalue was 11.858:1.890, where the first factor represented 43.9% of the total variance. A total of 29 items were retained based on a standardized factor loading of .6 or above, all statistically significant,  $p < .01$ . However, in Table 4.4, the 25 items highlighted were retained after examining content redundancy. Additionally, the Geomin rotated loadings were all statistically significant ( $p < .05$ ) with loadings  $> .4$  (see Table 4.5). Reliability estimates were conducted using both alpha and omega. The 25-item EPPS resulted in  $\alpha = .95$  and  $\omega = .96$ . Recommendations regarding the maximum alpha value varies between .95 and .90. Alpha values  $> .90$  suggest redundancies of items (Kline, 2016; Streiner, 2003).

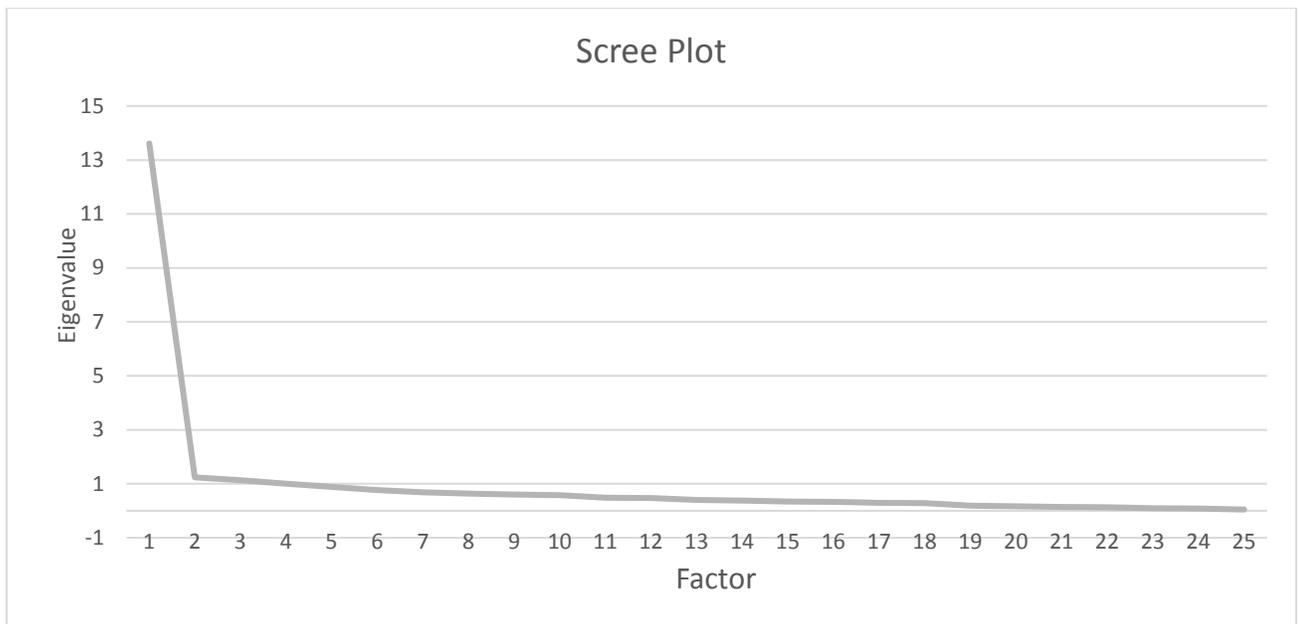


Figure 4.1. Scree plot of eigenvalues from factor analysis of EPPS.

Table 4.4  
*Factor Structure Coefficients*

	Factor 1
Item 1	.63
Item 2	.55
Item 3	.45
Item 4	.63
Item 5	.46
Item 6	.49
Item 7	.54
Item 8	.69
Item 9	.73
Item 10	.66
Item 11	.66
Item 12	.64
Item 13	.50
Item 14	.65
Item 15	.48
Item 16	.58
Item 17	.50
Item 18	.54
Item 19	.58
Item 20	.64
Item 21	.48
Item 22	.66
Item 23	.67
Item 24	.64
Item 25	.49
Item 26	.67
Item 27	.61
Item 28	.56
Item 29	.66
Item 30	.63
Item 31	.67
Item 32	.68
Item 33	.51
Item 34	.53
Item 35	.59
Item 36	.46
Item 37	.61
Item 38	.59
Item 39	.56
Item 40	.70
Item 41	.57
Item 42	.47
Item 43	.56

Item 44	.63
Item 45	.59
Item 46	.68
Item 47	.64
Item 48	.41
Item 49	.68
Item 50	.47
Item 51	.60
Item 52	.45
Item 53	.60
Item 54	.50
Item 55	.65
Item 56	.42
Item 57	.39
Item 58	.55
Item 59	.55
Item 60	.55
Item 61	.55
Item 62	.39
Item 63	.61
Item 64	.62

*Note.* These are all of the items from the initial EPPS. The items that are highlighted are the 25 items that officially make-up the EPPS.

Table 4.5  
*Geomin Rotated Loadings using WLSMV in Mplus*

	Factor1
Item 1	.69*
Item 2	.70*
Item 3	.78*
Item 4	.76*
Item 5	.76*
Item 6	.73*
Item 7	.72*
Item 8	.75*
Item 9	.74*
Item 10	.70*
Item 11	.70*
Item 12	.77*
Item 13	.75*
Item 14	.69*
Item 15	.76*
Item 16	.75*
Item 17	.69*
Item 18	.76*
Item 19	.72*
Item 20	.71*
Item 21	.70*
Item 22	.71*
Item 23	.72*
Item 24	.70*
Item 25	.69*

*Note.* Factor 1 = Educational psychology practitioner skills, which are skills that educational psychologists' are trained to have. The 25-items listed above are the items highlighted in Table 4.3.

\* $p < .05$ .

In examining the results of the EFA, there was a unidimensional factor identified for the *Educational Psychology Practitioner Scale* (EPPS; see Appendix E). This factor represents items that encompass skills of educational psychologists that are applicable to K-12 schools. The aforementioned items consist of practice orientation skills, research/statistical skills, educational psychology knowledge-based skills, and professional development skills. Practice-orientation skills are characterized as “hands-on”, active engagement in K-12 schools (i.e., “evaluate the effectiveness of instructional technologies across different context”). Research/statistical skills are related to research and statistics and are applicable to K-12 schools (i.e., “conduct research to enhance school content areas”). Educational psychology knowledge-based skills are defined as general knowledge that an educational psychologist has which can be applied in various settings including K-12 schools (i.e., “identify social processes that can contribute to the success of schools”). Lastly, professional development skills build upon an individual’s development within their profession (i.e., “collaborate with faculty from diverse academic backgrounds on funded research projects”). It is important to note that while EPPS scale items reflect these different types of skills, statistical analyses yielded a unidimensional factor. Thus, each skill type is grouped together as “Educational Psychology Practitioner Skills”.

Based on the EFA, 25 items were identified and retained in the final version of the EPPS on a Likert-type rating scale ranging from (1) *Not at all useful* to (4) *Very useful*. The 25 items in the EPPS include: (1) clarify the effects that differences (e.g., ethnicity, SES, disability) in students have on learning, (2) conduct research on human learning across the lifespan, (3) apply learning theories to issues in school contexts, (4) critically

evaluate research about human development across the lifespan, (5) conduct research in school settings related to individual differences in special populations, (6) identify variations in learning, (7) develop new statistical analysis to analyze data in educational settings, (8) conduct research that informs educational policy, (9) conduct research on identity formation, (10) provide sound statistical training services for your classroom, (11) address practical concerns of parents through educational research, (12) evaluate the effectiveness of instructional technologies across different contexts, (13) conduct research to enhance school content areas, (14) collaborate with faculty from diverse academic backgrounds on funded research projects, (15) examine how learning and teaching affect each other in school contexts, (16) investigate critical thinking in cultural contexts, (17) conduct research that advances effective practices in education, (18) address practical concerns (e.g., teaching style) of educators through educational research, (19) improve educational assessments through educational theory, (20) instruct prospective educators on how to utilize educational research, (21) publish high quality educational research that contributes to the scholarly literature, (22) develop surveys to collect data in educational settings, (23) identify social processes that contribute to the success of schools, (24) translate research findings for application to educational settings, and (25) identify ways that out-of-school factors foster development. Higher scores on the EPPS reflect positive attitudes toward the usefulness of educational psychologists' skill to K-12 schools, where lower scores reflect negative attitudes toward the usefulness of said skills.

## **Content Redundancy**

After running the EFA, 29 items had loadings  $> .6$ . However, the content of each item was examined to check for redundancy, which resulted in the official 25-item survey. Specifically, items such as “conduct research in school settings related to individual differences in special populations,” “conduct research in school settings related to learning in special populations,” and “conduct research in school settings related to motivation in special populations” were all examined to determine whether the content was redundant. Considering the first item encompasses all aspects of special populations, that is “individual differences” which is believed to be inclusive (e.g., including learning and motivation), “conduct research in school settings related to individual differences in special populations” was retained and the other two items were deleted. This process happened two more times with four other items, eliminating two of the four, and as a result, the EPPS contains 25 items.

## **Evidence of Validity**

In order to assess convergent and discriminant validity, a CFA using WLSMV estimator, focusing primarily on assessing latent variable correlations in *Mplus* was conducted, as well as sum-score correlations in SPSS. Sum score correlations were computed in conjunction with latent variable correlations as the small sample size can cause misleading results with the latent variable correlations (Wolf, Harrington, Clark, & Miller, 2013). Throughout the study, sum score correlations are reported in-text. Correlations were examined amongst the EPPS and two existing scales measuring teachers’ sense of self-efficacy and job satisfaction, which were previously validated (Tschannen-Moran & Woolfolk Hoy, 2001; Voris, 2011). Table 4.6 shows the latent

variable and sum score correlations among these scales. It was hypothesized that the EPPS would be highly correlated with the TSES and have a near-zero correlation with the job satisfaction scale. The results of both analysis show that there is a near-zero, nonsignificant correlation amongst the EPPS and TSES variables ( $r = .10, p = .20$ ). Supporting the hypothesis, however, is the near-zero correlation between the EPPS and job satisfaction scale ( $r = .11, p = .17$ ). Additionally, scores on the TSES were significantly, moderately correlated with the job satisfaction scale ( $r = .51, p < .001$ ).

Table 4.6  
*Latent Variable Correlations and Sum Score Correlations*

Variable	EPPS	TSES
EPPS		
TSES	.18*; (.10)	
JSS	.22**; (.11)	.60***; (.51*)

*Note.* EPPS = Educational Psychology Practitioner Scale; TSES = Teacher Sense of Efficacy Scale; JSS = Job Satisfaction Scale. Sum score correlations are in parentheses.

\*\*\*  $p < .001$ . \*\*  $p < .05$ . \*  $p < .01$ .

### **Confirmatory Factor Analysis**

To determine whether the study's sample was appropriate for the teacher sense of self-efficacy and job satisfaction scales, a CFA was conducted. According to the goodness of fit indices,  $\chi^2(77) = 303.90, p < .001$ , RMSEA = .13, CFI = .95, TLI = .95, there was adequate fit found between the job satisfaction data and the 1-factor model. Additionally, for the TSES, the goodness of fit indices showed adequate fit between the teacher sense of efficacy scale and the 3-factor construct,  $c^2(51) = 158.14, p < .001$ , RMSEA = .11, CFI = .96, TLI = .95. It is important to note that although the fit is adequate, the RMSEA does not represent good fit, which was possibly due to the sample size being below 200 (Hu & Bentler, 1999).

## Qualitative Data

The EPPS had an open-ended question that asked participants what additional skills educational psychologists needed in order to assist K-12 schools, in which 44 participants responded. In order to analyze participant's responses, first, they were imported from word to excel. Then, the responses were examined based on themes, such as feedback that discussed areas in other disciplines (e.g., school and counseling psychology), feedback that was not related to any discipline (e.g., meditating), feedback that was related to educational psychology, and feedback that stated "not applicable". Once the feedback was separated into those four categories, each category was then examined to determine whether there was any related/redundant "advice". In doing so, feedback that encompassed all of the other "advice" provided is stated in this study, which is provided below.

At the beginning of the survey, a definition of an educational psychologist was provided. In examining the feedback, majority of the participants (approximately 42%) who answered the question believe educational psychologists are school or counseling psychologists. For example, some individuals responded:

*"The skills you listed would be very helpful if they were offered by our school psychologist. As it is, I don't see our school psychologist offering any services to the teachers. I was not aware that she was trained in these skills."*

*"Working with these children in a caring, one on one environment. Today's "guidance" counselors don't have time to provide true counseling and assistance for our students. Their job is to review test scores, career pathways, graduation requirements and scheduling. It leaves little one on one counseling."*

*"I believe that they should communicate with the teachers that are involved with the students they evaluate in order to let those teachers understand what may be causing any underlying conditions in the classroom. I understand that certain things cannot be discussed due to patient confidentiality but some information is better than not knowing anything about the results of testing."*

This confusion may result from the conceptual, albeit discernible, similarities between educational and school psychology misconstrued. Specifically, educational psychology focuses on learning and factors that influence learning for all individuals (Bartlett & Elliot, 2009), while school psychology focuses on students with schooling issues and helping students address such issues (Merrell, Ervin, & Gimpel Peacock, 2012). It is also important to note that educational psychology has been considered a “parent-field” to school psychology (Ysseldyke & Schakel, 1983, p. 12). Thus, while similar, the two are not the same and have different roles and goals within K-12 schools.

On the other hand, feedback was provided regarding skills that educational psychologists need to help schools. One of those responses state:

*“I believe having observations in a regular classroom to understand what it is really like in the school systems. Often when you are outside the classroom or even in academia, you are unaware of the realities of the classroom. If there were observations and conversations with teachers in person, it would benefit the "how" they can benefit.”*

The idea that educational psychologists should engage in observations or practicala within K-12 classrooms in order to understand the realities of what takes place in a classroom is supported by the literature. Specifically, John Dewey, an educational philosopher and practitioner believed educational researchers should be “hands-on” in formal learning environments (Bredo, 2003). In addition, Hulleman and Barron (2016) discussed their beliefs that educational psychologists do not conduct research with classroom teachers in mind and has a lack of concern for solving problems of K-12 teachers. Their beliefs are supported by the perceived lack of understanding that educational psychologists have about the realities of K-12 classrooms.

The next two statements are parallel to one another and suggest:

*“Application is key. It is much easier to convey what you have done. Research is critical, but application of the research firsthand goes a lot further. It becomes more than “weighing the cow” and providing impossible solutions. If someone is willing to research and then try to apply the solutions in their own teaching practice and finally can show, through their own practice, how it affected students, it would be much better received. IN A TYPICAL PUBLIC SCHOOL SETTING, not in a private school or with a skewed group of students.”*

*“This was probably covered, but teachers need practical advice/help from professionals. Data, theory, and surveys are terrific, but frankly most teachers want to learn workable, realistic strategies/methods to increase student motivation and engagement.”*

These views are aligned with Dewey, who believed that including teachers in the research process helps to understand its applicability to practice (Bredo, 2003).

Furthermore, the need for educational psychologists to apply research to K-12 classrooms is an issue that has been discussed by some educational psychologists. For example, Anderman (2011) stated that research in educational psychology has limited application to educational practice, which is causing a disconnect between the two fields. Also, Patrick et al. (2011) discussed the fact that educational psychologists fail to communicate the relevance of their research to K-12 schools, which may be causing the lack of involvement desired by teachers in this study. Overall, the suggestions regarding additional skills educational psychologists need to assist K-12 schools, provided by the study participants, are attainable goals. However, in order to achieve these goals, training in educational psychology programs have to become more practice-based.

## Chapter 5: Discussion and Conclusion

This study described the development and initial validation of the *Educational Psychology Practitioner Scale* (EPPS), which was designed to assess the practices, training, and skills of educational psychologists and determine their utility to K-12 schools based on teachers' perceptions. In doing so, this dissertation study provides preliminary evidence of K-12 teachers' beliefs regarding the usefulness of educational psychologists' professional skills, practices, training, research, and K-12 involvement.

In examining the results from the exploratory factor analysis (EFA), the EPPS resulted in a 25-item survey. The items on the survey represent educational psychology skills that are applicable to K-12 schools. Since there were no previous studies or set skills provided for the field of educational psychology in the U.S., these items were developed based on information located on the top 20 educational psychology program websites (U.S. World and News Report, 2017). The one unidimensional, 25-item factor that characterizes the EPPS is representative of educational psychology skills that are applicable to K-12 schools. In developing the items, grounded on skills that educational psychologists are perceived to have, according to the different areas that educational psychologist study and specialize in, my knowledge/experience, and the educational psychology literature, it was speculated that there would be four factors including: (1) practice-orientation skills, (2) research and statistical skills, (3) professional development skills, and (4) educational psychology knowledge-based skills. However, the results yielded one factor, which is considered educational psychology practitioner skills. There is no literature to support how the scale should have emerged. Nevertheless, one factor may have emerged due to all of the skills being applicable to K-12 classrooms, according to the teachers' perceptions of the skills relevance throughout the survey. In other words,

since the 25 items were all composed of skills related and applicable to K-12 classrooms, according to participants' perceptions throughout the survey, one factor focused on useful and pertinent K-12 classroom skills emerged. Additionally, the PI's ambition to determine whether educational psychology skills were useful to K-12 schools may have affected the development of the items to all have a focus on application in practice. It is possible that, in examining the educational psychology websites, only skills that were applicable to K-12 schools were focused on. Hence, focusing on certain skills may have affected the outcome of the unidimensional scale with items that directly affect or are associated with being "hands-on" in schools.

Based on the 25 items that remained after conducting the EFA, the lowest mean was 2.33 and the highest was 3.30 (based on a scale of 1-lowest to 4-highest). Thus, the means from the items on the survey provide evidence that overall, the teachers in the study believe that educational psychology skills are slightly to moderately useful to K-12 schools. Specifically, skills that directly require being in the classroom, such as "identify variations in learning" ( $M = 3.30$ ) are considered to be more useful to K-12 teachers than skills such as "publish high quality educational research that contributes to the scholarly literature" ( $M = 2.33$ ). The items representing skills that take place in K-12 classrooms have higher means than items that take place outside of the classroom. This may be due to educators' lack of concern with factors that are not directly taking place in the classroom in order to improve learning, such as "publishing high quality educational research that contributes to the scholarly literature" (Cuban, 2016; Hulleman & Barron, 2016; Woolfolk Hoy, 2000). However, according to the data, specifically the

interpretation of the means of each item, we have learned that skills that educational psychologists have are important and useful to K-12 schools.

### **Validity**

To provide another degree of validity for the EPPS, convergent and discriminant evidence were examined. In order to provide evidence of convergent validity, the two scales, EPPS and TSES, should have been highly correlated. Unfortunately, the scales had a low, near-zero correlation,  $r = .10$ . There are no data to support the low correlation between the EPPS and TSES. It was hypothesized that teachers who have a high sense of efficacy may not find educational psychologists' skills useful in their classroom. That is, teachers who are confident in their teaching abilities may perceive educational psychologists skills as useless to their classroom. This hypothesis was driven by the idea that efficacious teachers have less student failures, exhibit remarkable instruction, and classroom organization (Dembo & Gibson, 1985; Klassen & Chiu, 2010), thus likely not finding the usefulness of educational psychologists' skills in their classroom. However, the results showed there was a minimal relationship between the two, thus not providing evidence of convergent validity. The lack of a significant correlation may be due to the fact that the EPPS is a new measure that needs further validation. Future research should examine other factors that may be highly correlated with the EPPS.

Discriminant validity was examined by correlating the EPPS and JSS. In order to provide evidence of discriminant validity, the two scales needed a near-zero correlation. It was hypothesized that teachers' satisfaction with their job had a near-zero correlation with their perceptions of the usefulness of educational psychology skills to K-12 schools. The results showed a near-zero correlation between the two scales,  $r = .11$ . Although there is no literature to support the relationship between the two scales, the results are

sensible. In other words, despite the lack of literature on the relationship between the two variables, whether teachers like their job or not should have no bearing on their beliefs regarding the utility of educational psychologists' skills to K-12 schools.

### **Limitations**

There are several limitations to this exploratory study due to a dearth of conceptual, theoretical, and empirical literature regarding the development of the EPPS. The biggest limitation of this study is the small sample size. The total sample for this study was  $N = 161$ . Considering there were 64 items on the initial EPPS, there was a subject-to-item ratio of 2.5:1. It has been recommended that the minimum subject-to-item ratio be 5:1 (Gorusch, 1983; Hatcher, 1994). In addition, according to Comfrey and Lee (1992), a sample size of 100 is considered poor and 200 is considered fair for an EFA. The sample for this study falls in-between those two recommendations, which may be overall considered poor according to the literature, but reasonable according to other published studies and the sampled population. For example, Costello and Osborne (2005) conducted a study where they examined PsychINFO articles over a two-year period that used an exploratory factor analysis. The results showed that 40.5% of the peer-reviewed studies had a subject-to-item ratio less than 5:1. Having a large sample size would have improved the results of the factor analysis by allowing for different statistical techniques to be used that would have yielded more significant results. Also, having a larger sample would allow for additional analyses such as a CFA and group comparisons. To collect data from teachers in the future, I would attend a national teaching conference such as the National Education Association annual meeting or The Association for Supervision and Curriculum Development Conference.

Furthermore, another limitation of this study is the low response rate. There were 1,000 participants contacted and only 283 responded, resulting in a response rate of 28.3%. While it is ideal to have a high response rate, several published studies have set precedent for low response rates. For example, Sivo, Saunders, Chang, and Jiang (2006) conducted a study where they examined response rates of journals in the social sciences. The response rates ranged from 22% to 59.4%, with 3% being the lowest. In examining other studies that sampled teachers (Blackburn & Robinson, 2008; Karabiyik & Korumaz, 2014; Voris, 2011), it was shown that there is often a low response rate and less than desirable sample size. Hence, it is not unusual for established journals to publish articles with low response rates. Specifically, with this study, the limited sample size is mostly due to time constraints, sampled population, and limited resources. The survey was administered at the beginning of May, which is close to the end of the school year for many teachers. Thus, teachers may have had issues with time due to testing and finalizing the school year. Keeping the survey open longer or at least during the summer would likely have not resulted in a significantly increased sample and it is unknown whether an adequate sample would have ever been obtained. Moreover, an incentive of 20 Visa gifts cards, amounting to \$25 each, were offered, although a bigger incentive could have potentially increased participation. However, the PI did not have the resources to provide such an incentive.

Consequently, due to the small sample size and low response rate, it is unknown how reflective the results are of all K-12 teachers in the U.S. and the results have limited generalizability. Due to missing data, the sample size was also affected by the analyses in SPSS and *Mplus*. SPSS uses listwise deletion to handle missing data, which deleted

approximately 10 cases per analyses. In *Mplus*, WLSMV estimator uses pairwise deletion to handle missing data, which is better than listwise deletion and only approximately 1% of the cases were deleted. Thus, the analyses made the sample slightly smaller.

Theoretically, this study did not have much literature to provide support for the development of the EPPS or its hypothesized associations with pre-existing measures. After exploring the literature and the educational psychology division of APA, there were no set definitions or skill sets to follow, which provides a statistical limitation of the inability to conduct a confirmatory factor analysis (CFA) on the EPPS in this study. As previously stated, a CFA was not conducted on the EPPS because conducting a CFA for an instrument assumes there is a strong theoretical model or known data structure (Kline, 2016). The current dissertation study did not have such theoretical grounding. However, the aforementioned studies (Mamaril, 2014; Nelson, 2015; Perez-Gonzalez et al., 2004; Wesley, 2014) conducted similar analyses and support the method of conducting an EFA on a new measure prior to other analysis such as a CFA. Sample size also affected the ability to conduct a CFA in this study as a CFA should be conducted on a separate sample (Browne, 2000; Cabrera-Nguyen, 2010; Wang, Watts, Anderson, & Little, 2013).

Additionally, the teacher sense of efficacy scale and the job satisfaction scale that was added in to provide evidence of convergent and discriminant validity had minimal theoretical connections as previously discussed. There were no previous data to support whether there was an association between both variables and teachers' perceptions of educational psychologists' skills. It is not until future studies are conducted that we will know whether these hypotheses are accurate.

## **Future directions**

In examining the results of the EFA, that is the emergence of a unidimensional scale, there were some concerns that should be addressed in future studies. Specifically, when developing the scale, the items were separated into the four aforementioned factors. Due to the lack of literature on educational psychology practices, the number of factors to be ascertained from the EFA could not be determined accurately. Moreover, based on the content of the 25 items that emerged from the EFA and the initial work identifying four educational psychology themes among the scale items, it is the PI's belief that the EPPS should have at least two factors. For example, items related to research such as "conduct research that informs educational policy" and "develop surveys to collect data in educational settings" should be a separate factor from items that are actively taking place in a classroom such as "improve educational assessments through educational theory" and "apply learning theories to issues in school contexts". It is unknown why such results were not yielded. Thus, the PI's next step is to conduct an EFA in another study, with a larger sample using all 64 items, in order to determine whether there is more than one factor for the EPPS.

After such has taken place, in order for this study to make an impact on the field of educational psychology and educational practice, there needs to be future studies that (a) confirm the internal structure of the *Educational Psychology Practitioner Scale* (EPPS), and (b) determine whether educational psychology graduate students obtain such skills throughout their studies. Specifically, the next study should conduct a confirmatory factor analysis (CFA) with a new, larger sample, with the 25-item scale to determine if the EPPS is indeed a unidimensional scale with 25 items. Following this study should be an examination of whether educational psychology graduate students and educational

psychologists believe they obtained such skills in their graduate programs. If the results of this study display evidence that educational psychology graduate programs are or are not providing the necessary skills to be “hands-on” in K-12 schools, the next study should examine how graduate training in educational psychology should change in order to have the necessary skills desired by teachers. Doing so would ensure that educational psychologists are prepared to apply their skills to K-12 schools.

Per the qualitative data, it was shown that some teachers desire the presence and help of educational psychologists in K-12 schools. Although the ‘wants’ may vary, overall, being able to understand the realities of a classroom teacher in order to effectively implement evidence-based research and provide professional development related to motivation and engagement are skills that educational psychologists should have. However, the issue at hand is determining whether teachers’ requests of educational psychologists are attainable. While the PI believes educational psychologists should have such skills, there are no data to support such a claim. Thus, in order to determine if educational psychologists have the aforementioned skills, after confirmation of the internal structure of the EPPS, a follow-up study should be conducted to determine whether educational psychologists are trained to have the skills provided throughout the EPPS and the skills desired by the teachers in this study.

More importantly, the main goal of this study is to provide empirical evidence on the perspectives of K-12 classroom teachers regarding the utility and relevance of educational psychologists—particularly their professional skills, training, research, and practices—to their own pedagogical practices. In like manner, providing evidence of the gap between educational psychology and educational practice from K-12 teachers’ point

of view was also imperative. These goals were pursued by assessing the practices, training, and skills of educational psychologists and determining their utility to K-12 schools based on teachers' perceptions through the development of the *Educational Psychology Practitioner Scale (EPPS)*.

The contribution of this work is in facilitating the attainment of the goal of future educational psychologists becoming "hands-on" in K-12 schools. That is, based on the studies quantitative and qualitative findings of educational psychology skills that are useful to and requested in schools, educational psychology programs should consider altering their training in order to ensure the applicability of their skills to K-12 schools. Educational psychologists being "hands-on" in schools may include being active in classrooms as an instructional coach, providing professional development, and interpreting research on schooling issues for teachers to apply to their classroom.

### **Conclusion**

The 25-item scale that resulted from the EFA is the starting point to determining (a) whether the perceived gap between educational psychology and educational practice exists based on K-12 teachers perceptions, (b) teachers' perceptions of the usefulness of educational psychologists' skills in K-12 schools; and (c) the need for training in educational psychology programs to become more practice-based, which can be examined in future studies by taking the items on the EPPS of skills that teachers desire and asking educational psychologists whether they truly have such skills. The responses received in future studies from educational psychologists will determine whether training in educational psychology programs need to change in order to effectively assist K-12 schools.

Though limited in generalizability due to small sample size, the current study shows that (a) there is a desire for educational psychologists to be physically present in K-12 schools, (b) there is a desire for the applicability of educational psychology research in K-12 schools, and (c) the skills of educational psychologists that are most important to K-12 schools include interactions in and applicability to K-12 classrooms. If all educational psychologists and their graduate and professional programming take heed to the information provided in this study, the field of educational psychology may remain relevant to K-12 schools (Berliner, 1993; Brophy, 1974; Carroll, 1963; Nezhad & Vahedi, 2011; Patrick et al. 2011; Woolfolk Hoy, 2000).

## APPENDICES

### Appendix A

Table 4.1  
*Description of Teachers Within the Study*

Characteristics	N	%
<b>Gender</b>		
Female	141	87.3
Male	20	12.4
<b>Ethnicity</b>		
African American	15	9.3
Asian	1	0.6
Caucasian	143	88.8
Hispanic	1	0.6
Multiracial	1	0.6
<b>Primary Teaching Role</b>		
Elementary Education (Grades K-5)	64	39.8
Middle School Education (Grades 6-8)	36	22.4
High School Education (Grades 9-12)	60	37.3
<b>School Type</b>		
Public	151	93.8
Private	7	4.3
Charter	3	1.9
<b>Education Level</b>		
Bachelors	32	19.9
Masters	106	65.8

Table 4.1 (continued)

Ed.S./Specialist	18	11.2
Doctorate	5	3.1

Table 4.2  
*Descriptive Statistics for 64-items on EPPS*

Item	N	Range	Mean	Standard Deviation	Skewness	Kurtosis
Clarify the effects that differences (e.g., ethnicity, SES, disability) in students have on learning	158	3.0	3.25	.77	-.89	.49
Provide information on social behaviors in relationships	158	3.0	3.12	.78	-.46	-.57
Apply for fellowships	158	3.0	1.91	.94	.77	-.36
Conduct research on human learning across the lifespan	158	3.0	2.69	.93	-.11	-.88
Behave ethically in relation to confidentiality	158	3.0	3.44	.80	-1.35	1.07
Clarify how learning changes from kindergarten to grade 12	158	3.0	3.28	.75	-.79	.05
Identify factors that lead to pro-social behaviors (e.g., sharing, volunteering) in students	157	3.0	3.20	.79	-.77	.14
Apply learning theories to issues in school contexts	158	3.0	3.05	.72	-.17	-.73
Critically evaluate research about human development across the lifespan	160	3.0	2.75	.92	-.20	-.85

Table 4.2 (continued)

Conduct research in school settings related to individual differences in special populations	159	3.0	3.03	.79	-.37	-.55
Identify variations in learning	160	3.0	3.30	.79	-.89	.04
Develop new statistical analysis to analyze data in educational settings	158	3.0	2.73	.87	-.10	-.74
Train police recruits at your school on cultural competence	160	3.0	2.75	1.0	-.26	-1.04
Conduct research that informs educational policy	160	3.0	2.91	.91	-.38	-.78
Teach in non-academic settings	160	3.0	2.57	.90	-.17	-.73
Publish research in professional journals	158	3.0	2.01	.85	.60	-.15
Develop classroom assessment practices	156	3.0	3.15	.87	-.77	-.18
Approach learning through creativity	155	3.0	3.31	.76	-.87	.14
Identify ways that in-school factors foster development	157	3.0	3.22	.76	-.76	.16
Conduct research on identity formation	156	3.0	2.62	.92	-.06	-.84
Create effective instructional	157	3.0	3.35	.79	-1.18	1.03

Table 4.2 (continued)

curricula that optimize learning						
Provide sound statistical training services for your classroom	157	3.0	2.75	.92	-.14	-.90
Evaluate research conducted by others	157	3.0	2.50	.91	.19	-.80
Address practical concerns of parents through educational research	157	3.0	3.07	.81	-.64	.00
Identify factors that lead to positive academic engagement for students	159	3.0	3.56	.66	-1.48	1.99
Evaluate the effectiveness of instructional technologies across different context	159	3.0	3.18	.81	-.70	-.21
Instruct prospective educators on how to conduct research related to learning and instruction	159	3.0	2.66	.96	-.22	-.89
Evaluate practices that affect the welfare of children	159	3.0	3.47	.68	-1.06	.39
Conduct research to enhance school content areas	159	3.0	2.96	.88	-.61	-.25
Collaborate with faculty from diverse academic backgrounds on	158	3.0	2.72	.92	-.23	-.79

Table 4.2 (continued)

funded research projects						
Examine how learning and teaching affect each other in school contexts	158	3.0	3.22	.78	-.83	.31
Investigate critical thinking in cultural contexts	159	3.0	3.06	.82	-.59	-.17
Behave ethically in relation to research	160	3.0	3.22	.90	-.87	-.26
Identify different characteristics that influence student motivation	158	3.0	3.49	.67	-1.11	.53
Find educational solutions for ethnic minority students	159	3.0	3.34	.74	-.83	-.06
Bridge the gap between research, psychological theory, and educational practice	159	3.0	3.17	.85	-.70	-.33
Conduct research that advances effective practices in education	159	3.0	3.11	.83	-.49	-.74
Use cognitive and physical (e.g., rote learning) techniques to enhance learning	159	3.0	3.22	.83	-.96	.47
Evaluate policies that affect the welfare of children	159	3.0	3.24	.72	-.71	.24

Table 4.2 (continued)

Address practical concerns (e.g., teaching style) of educators through educational research	158	3.0	3.08	.79	-.68	.18
Identify factors that promote resilience	161	3.0	3.19	.78	-.58	-.45
Critically assess own practices	161	3.0	3.13	.80	-.54	-.44
Explain social development across the lifespan	161	3.0	2.91	.80	-.21	-.67
Improve educational assessments through educational theory	161	3.0	2.92	.90	-.41	-.68
Employ evidence-based technology to enhance the way students learn	161	3.0	3.34	.73	-1.02	.91
Conduct research in school settings related to learning in special populations	160	3.0	3.09	.82	-.58	-.28
Instruct prospective educators on how to utilize educational research	161	3.0	2.86	.94	-.44	-.70
Design learning environments to help all students learn more effectively	160	3.0	3.49	.70	-1.47	2.34

Table 4.2 (continued)

Conduct research in school settings related to motivation in special populations	160	3.0	2.98	.83	-.30	-.75
Write scholarly empirical papers using APA style	160	3.0	1.90	.94	.68	-.57
Publish high quality educational research that contributes to the scholarly literature	160	3.0	2.33	1.0	.19	-1.04
Implement educational interventions	160	3.0	3.36	.80	-1.11	.56
Develop surveys to collect data in educational settings	159	3.0	2.67	.90	-.19	-.72
Edit professional journals	159	3.0	1.68	.82	.99	.20
Identify social processes that contribute to the success of schools	160	3.0	3.09	.81	-.45	-.62
Teach in academic settings	159	3.0	3.18	.85	-.85	.06
Communicate effectively	159	3.0	3.62	.61	-1.56	2.11
Apply existing knowledge to make connections to new content	160	3.0	3.27	.78	-.92	.41
Identify how in-school factors can affect motivation	160	3.0	3.43	.66	-1.02	1.05
Train teachers on cultural competence	160	3.0	3.24	.84	-.93	.17

Table 4.2 (continued)

Reinforce effective instruction in school content areas such as literacy, math, and science	160	3.0	3.35	.75	-1.05	.73
Serve on boards of professional organizations such as the American Psychological Association (APA)	160	3.0	2.23	.93	.32	-.74
Translate research findings for application to educational settings	160	3.0	2.97	.92	-.53	-.61
Identify ways that out-of-school factors foster development	160	3.0	3.25	.79	-.86	.23





Table 4.3 (continued)

					.58
			.44		.55
		.53	.60		.52
	.70	.54	.49		.40
.52	.43	.47	.54		.46
.53	.42	.54	.34		.41
.48	.62	.49	.55		.61
.52	.53	.57	.57		.42
.50	.51	.55	.44		.54
.43	.44	.56	.55		.60
.49	.49	.45	.51		.38
.48	.39	.54	.53		.38
.51	.41	.52	.48		.54
.45	.50	.52	.50		.51
.41	.43	.50	.45		.40
.59	.55	.54	.45		.48
.61	.64	.48	.61		.49
.46	.59	.59	.51		.42
.35	.39	.66	.44		.47
.57	.57	.45	.57		.63
.55	.54	.54	.46		.48
.46	.51	.45	.55		.49
.53	.44	.50	.48		.38
.40	.40	.59	.46		.63
I21	I22	I23	I24	I25	

## Appendix B

### *Teacher Sense of Efficacy Scale (TSES)*

This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities.

Please indicate your opinion about each of the statements below. Your answers are confidential.

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Nothing	Very Little	Some Influence	Quite a bit	A great deal
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1. How much can you do to control disruptive behavior in the classroom?
2. How much can you do to motivate students who show low interest in schoolwork?
3. How much can you do to get students to believe they can do well in schoolwork?
4. How much can you do to help your students' value learning?
5. To what extent can you craft good questions for your students?
6. How much can you do to get children to follow classroom rules?
7. How much can you do to calm a student who is disruptive or noisy?
8. How well can you establish a classroom management system with each group of students?
9. How much can you use a variety of assessment strategies?
10. To what extent can you provide an alternative explanation or example when students are confused?
11. How much can you assist families in helping their children do well in school?
12. How well can you implement alternative strategies in your classroom?

## Appendix C

### *Job Satisfaction Scale*

For the following questions, you will be asked to think about your job as a teacher. Please respond by checking the response that best describes your opinion of each item. Your answers are confidential.

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Strongly disagree	Disagree	Undecided	Agree	Strongly agree
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1. My job is interesting enough to keep me from getting bored
2. My friends seem more interested in their jobs than I am.
3. I consider my job pleasant
4. I am often bored with my job
5. I feel satisfied with my job
6. Most of the time, I have to force myself to go to work
7. I definitely dislike my work
8. I feel happier in my work than most other people
9. Most days I am enthusiastic about my work
10. Each day of work seems like it will never end
11. I like my job better than the average worker does
12. My job is uninteresting
13. I find real enjoyment in my work
14. I am disappointed that I ever took this job

## Appendix D

### *Initial Educational Psychology Practitioner Scale*

Below are a list of skills that educational psychologists are trained to do. Please rate the usefulness of these skills to you as a K-12 classroom teacher. Your answers are confidential.

Not at all useful	Slightly useful	Moderately useful	Very useful
1. Clarify the effects that differences (e.g., ethnicity, SES, disability) in students have on learning			
2. Provide information on social behaviors in relationships			
3. Apply for fellowships			
4. Conduct research on human learning across the lifespan			
5. Behave ethically in relation to confidentiality			
6. Clarify how learning changes from kindergarten to grade 12			
7. Identify factors that lead to pro-social behaviors (e.g., sharing, volunteering) in students			
8. Apply learning theories to issues in school contexts			
9. Critically evaluate research about human development across the lifespan			
10. Conduct research in school settings related to individual differences in special populations			
11. Identify variations in learning			
12. Develop new statistical analysis to analyze data in educational settings			
13. Train police recruits at your school on cultural competence			
14. Conduct research that informs educational policy			
15. Teach in non-academic settings			
16. Publish research in professional journals			
17. Develop classroom assessment practices			
18. Approach learning through creativity			
19. Identify ways that in-school factors foster development			
20. Conduct research on identity formation			
21. Create effective instructional curricula that optimize learning			
22. Provide sound statistical training services for your classroom			
23. Evaluate research conducted by others			
24. Address practical concerns of parents through educational research			
25. Identify factors that lead to positive academic engagement for students			
26. Evaluate the effectiveness of instructional technologies across different context			
27. Instruct prospective educators on how to conduct research related to learning and instruction			
28. Evaluate practices that affect the welfare of children			
29. Conduct research to enhance school content areas			

30. Collaborate with faculty from diverse academic backgrounds on funded research projects
31. Examine how learning and teaching affect each other in school contexts
32. Investigate critical thinking in cultural contexts
33. Behave ethically in relation to research
34. Identify different characteristics that influence student motivation
35. Find educational solutions for ethnic minority students
36. Bridge the gap between research, psychological theory, and educational practice
37. Conduct research that advances effective practices in education
38. Use cognitive and physical (e.g., rote learning) techniques to enhance learning
39. Evaluate policies that affect the welfare of children
40. Address practical concerns (e.g., teaching style) of educators through educational research
41. Identify factors that promote resilience
42. Critically assess own practices
43. Explain social development across the lifespan
44. Improve educational assessments through educational theory
45. Employ evidence-based technology to enhance the way students learn
46. Conduct research in school settings related to learning in special populations
47. Instruct prospective educators on how to utilize educational research
48. Design learning environments to help all students learn more effectively
49. Conduct research in school settings related to motivation in special populations
50. Write scholarly empirical papers using APA style
51. Publish high quality educational research that contributes to the scholarly literature
52. Implement educational interventions
53. Develop surveys to collect data in educational settings
54. Edit professional journals
55. Identify social processes that contribute to the success of schools
56. Teach in academic settings
57. Communicate effectively
58. Apply existing knowledge to make connections to new content
59. Identify how in-school factors can affect motivation
60. Train teachers on cultural competence
61. Reinforce effective instruction in school content areas such as literacy, math, and science
62. Serve on boards of professional organizations such as the American Psychological Association (APA)
63. Translate research findings for application to educational settings
64. Identify ways that out-of-school factors foster development

## Appendix E

### *Final Educational Psychology Practitioner Scale*

Below are a list of skills that educational psychologists are trained to do. Please rate the usefulness of these skills to you as a K-12 classroom teacher. Your answers are confidential.

Not at all useful	Slightly useful	Moderately Useful	Very useful
1. Clarify the effects that differences (e.g., ethnicity, SES, disability) in students have on learning			
2. Conduct research on human learning across the lifespan			
3. Apply learning theories to issues in school contexts			
4. Critically evaluate research about human development across the lifespan			
5. Conduct research in school settings related to individual differences in special populations			
6. Identify variations in learning			
7. Develop new statistical analysis to analyze data in educational settings			
8. Conduct research that informs educational policy			
9. Conduct research on identity formation			
10. Provide sound statistical training services for your classroom			
11. Address practical concerns of parents through educational research			
12. Evaluate the effectiveness of instructional technologies across different context			
13. Conduct research to enhance school content areas			
14. Collaborate with faculty from diverse academic backgrounds on funded research projects			
15. Examine how learning and teaching affect each other in school contexts			
16. Investigate critical thinking in cultural contexts			
17. Conduct research that advances effective practices in education			
18. Address practical concerns (e.g., teaching style) of educators through educational research			
19. Improve educational assessments through educational theory			
20. Instruct prospective educators on how to utilize educational research,			
21. Publish high quality educational research that contributes to the scholarly literature			
22. Develop surveys to collect data in educational settings			
23. Identify social processes that contribute to the success of schools			
24. Translate research findings for application to educational settings			
25. Identify ways that out-of-school factors foster development			

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# Lauren Dionne Hargrave

## EDUCATION

### **University of Kentucky (UK)**

**Doctor of Philosophy**, September 2017 (expected)

Major: Educational Psychology

### **University of Kentucky (UK)**

**Master of Science**, Summer 2015

Major: Educational Psychology

### **North Carolina Agricultural & Technical State University (NC A&T SU)**

**Bachelor of Science**, May 2013

Major: Early Education and Family Studies; B-K Teacher Licensure

## WORK EXPERIENCE

### **Graduate Assistant**

**The Graduate School, UK**

August 2016

### **Lead Research Assistant**

Department of Educational Leadership, UK

September 2015-  
May 2016

### **Instructor**

Department of Education, UK  
Department of Psychology, UK

August 2013-  
December 2015

### **Substitute Teacher**

Guilford County Schools

April 2013-  
June 2013

### **Teacher Assistant**

Luv-N-Arms Childcare Center

January 2011-  
December 2011

### **Teacher Assistant**

Small Angels Childcare

July 2010-  
November 2010

## PROFESSIONAL CERTIFICATION

**North Carolina Standard Profession 1 License #1206905**

December 2016

## RESEARCH EXPERIENCE

**Grant**

May 2017

Arvle and Ellen Thacker-Turner Research Grant  
University of Kentucky  
College of Education

**Manuscript**

Hargrave, L. D., Tyler, K. M., Thompson, F., Danner, F. (2016). An examination of the association between student-teacher interactions and academic self-concept among African American male high school students. *Journal of African American Males in Education*, 7(2), 33-49.

**Evaluator**

Spring 2016

Oxford University Press  
Evaluated "Statistics in Context" by Barbara Blatchley

**Ronald E. McNair Program**

Summer 2012

North Carolina Agricultural & Technical State University

## PROFESSIONAL PRESENTATIONS

**Presenter**

Summer 2017

University of Kentucky  
Violence Intervention and Prevention Center  
Bystander Training

**Presenter**

Spring 2017

University of Kentucky  
Center for Academic Resources and Enrichment Services  
Take the Lead Conference

**Presenter**

Fall 2016

University of Kentucky  
Center for Academic Resources and Enrichment Services  
Life After UK Conference

**Presenter**

Hargrave, L. D., Tyler, K. M. (2015). The association between student-teacher interactions and academic self-concept among African American male high school students. Paper accepted for the American Educational Research Association conference, Washington, DC. April 8<sup>th</sup>, 2016.

## PROFESSIONAL DEVELOPMENT

Professional Development Colloquium	Spring 2017
Personal Brand Workshop	Spring 2017
Social Justice Scholarship Series	Spring 2016, 2015, 2014
Dissertation Boot-Camp	Spring 2015, 2014
Intensive IRT Workshop – Certificate Received	Fall 2015
Diversity Training Workshop	Fall 2015

**PROFESSIONAL AFFILIATIONS AND HONORARY SOCIETIES**

American Educational Research Association (AERA)	Spring 2016
Junior League of Lexington	Fall 2014
Kappa Omicron Nu Honors Society	Fall 2012
Ronald E. McNair Scholar	Fall 2012
National Education Association (NEA)	Fall 2012