THE EFFECTS OF TEACHER CANDIDATE GENDER, PRINCIPAL GENDER, AND DEGREE TYPE ON THE ELEMENTARY TEACHER SELECTION PROCESS

Dissertation
Submitted to
The School of Education and Allied Professions of the UNIVERSITY OF DAYTON

In Partial Fulfillment of the Requirements for
The Degree
Doctor of Philosophy in Educational Leadership

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UNIVERSITY OF DAYTON
Dayton, Ohio
December, 2012
THE EFFECTS OF TEACHER CANDIDATE GENDER, PRINCIPAL GENDER, AND DEGREE TYPE ON THE ELEMENTARY TEACHER SELECTION PROCESS

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ABSTRACT

THE EFFECTS OF TEACHER CANDIDATE GENDER, PRINCIPAL GENDER, AND DEGREE TYPE ON THE ELEMENTARY TEACHER SELECTION PROCESS

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This study examined how gender of applicants, degree type of application (online or traditional), and gender of principals responsible for hiring teachers impacted the likelihood of elementary teacher applicants moving forward in the hiring process. The study compared elementary principals’ rating of hypothetical candidates for a first grade teaching position. Application of three theories, i.e., teaching as “women’s work,” similarity-attraction, and preference for traditional learning, were tested using a 2x2x2 (applicant gender, administrator gender, and type of degree) factorial design analysis of variance with a step-down in which the dependent variables were sequential, based on prior research. The analysis failed to find a difference in the rating of candidates based on their gender, degree type, or the gender of the principal. The failure to find a significant difference must be considered in light of the potential for a Type II error due to the low power of this study.
This dissertation is dedicated to all of the educators who spend countless hours helping students succeed. From Mrs. White, to Mrs. Pallant at Tippecanoe High School, you believed in me and my classmates, you provided all of your students the opportunity to learn. Mrs. Cochran and Dr. Kokernot, you saw in me my true potential and pushed me to my true limits. To Dr. Glenn Graham, you are an inspiration with your love for teaching and patience with students. To all the principals and administrators who have made the education of students their calling in life, thank you for leading and serving.
ACKNOWLEDGEMENTS

To my parents and family, for always supporting and encouraging me throughout my many adventures. To all the students in all my classes, thank you for the many opportunities to learn from each other. To Victor Johantges, for pushing me to achieve and go beyond my comfort level. To all the teachers and staff at Springboro, for supporting and encouraging me to learn more about education.

Thank you to my committee members, who provided exceptional encouragement, direction and guidance during this process. To Dr. A. William Place, a true Marianist and forever a UD Flyer, you are the reason I chose to attend UD and you provided the basis for my success. Thank you for all of your support as your student and as your advisee. In research it is not "anything goes," but when you have a chair that embodies the true spirit of a Marianist, anything is possible.

To the staff at UD, you have touched my heart with your spirit and support. To my cohort, throughout our classes and study sessions, you have pushed me to strive for more. I am proud to be your classmate, your study partner, and your colleague. Thank you to all the participants who took time away from their busy schedules to respond to the survey. Your work in the field of education is essential to the success of all students.
Finally, but most importantly, to Matt for encouraging me to reach for the stars. You have stood beside, and behind me, as I took on this adventure. You gave me the strength, time and ability to finish strong. Thank you for being my cheerleader, my husband and my best friend.
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CHAPTER I
INTRODUCTION

Education has continually been scrutinized and reforms have taken the lead as potential solutions to a perceived decline in student learning. Teachers have become the primary target for blame. Specifically, some claim that due to a decline in the quality of teachers, students’ learning and achievement are also decreasing (Weaver, 1984). The relationship between student achievement and teacher preparation (i.e. Darling-Hammond, 2000a; Darling-Hammond, Holtzman, Gatlin & Heilig, 2005), as well as teacher experience and student achievement, has been established (Darling-Hammond, 2000b, 2006). Some authors (e.g. Darling-Hammond, 2000b, 2007; Haycock & Crawford, 2008; Penske & Haycock, 2006) contend that a teacher’s influence is able to impact student learning despite other factors, including students’ past experiences, socio-economics, and minority status. In staffing classrooms with quality teachers, the process of selecting those quality teachers must be considered. Mason and Schroeder (2010) have suggested the most important job of a principal is the hiring of high-qualified staff members, as “crucial hiring can increase academic growth of students” (p. 186).

Three variables that could influence the selection of teachers in the hiring process were examined as the foci of this study; the gender of the teacher candidate, the gender of the principal who is obligated to access applicants for the teaching positions, and the
venue of the teacher candidate’s preparation (online or traditional). Past research has suggested that teacher gender does not have an impact on student learning (Carrington & McPhee, 2008; Chudgar & Sankar, 2008). Therefore the selection of candidates should not be based on gender, as it does not impact learning in the classroom. Gender of the principal responsible for hiring has been researched with inconsistent findings; Stallard (1990) found no significant difference in the rating of candidates based on the gender of the administrator, while Young (2005) found female administrators were more likely to offer an interview to female candidates and male administrators were more likely to offer an interview to male candidates. In both cases the studies were focused on secondary level administrators and teacher candidates. As for the venue for obtaining a degree, an increase has occurred in the number of students taking courses online. In the past eight years, online education has increased from 1.6 million students in 2002 to over 6.1 million students taking a minimum of one online course commencing in the Fall of 2010 (Allen & Seaman, 2011). As a part of total enrollment, online accounted for 31.3% of students in the Fall of 2010. The opportunity for undergraduate students to obtain part of or all of their degree online has begun to raise concerns about the creditability of degrees in the eyes of future employers (e.g. Carnevale, 2007; Huss, 2007a, 2007b, 2007c, 2007d). Although it has been suggested that online education is comparable to traditional education, studies in the field of employer dispositions suggest that a difference is present in the preference of otherwise equally qualified candidates (i.e. Adams, DeFleur, & Heald, 2007; Carnevale, 2007; Toppin & Pullens, 2010).
Statement of the Problem

Events around the country have drawn attention to teacher retention and the perceived role of unions in preventing the dismissal of ineffective teachers (Painter, 2000). If the concern is raised that teachers are ineffective, then perhaps an investigation should focus on the root of the problem: how those individuals were granted access into districts. Principals have a role in teacher selection; this study was designed to investigate principals’ preferences regarding teacher selection. Three areas of particular concern with regard to the evaluation of teacher candidates are teacher gender, teacher education, and principal gender.

In the case of gender post 1900’s, teaching has been defined as a “woman’s job” (Tyack & Hansot, 1988, p. 38) or “women’s work” (Johnson, 2008, p. 1). The changing demographics of teaching suggest that males are slowly exiting the profession, a situation similar to the mass exodus of the late 1800’s and early 1900’s (Johnson, 2008). The number of male teachers is lower in the younger grades as compared to higher grades (Fratt, 2004; Menteach, 2011). Reforms around the world have attempted to attract male candidates to teaching as well as increase the number of male teachers who are employed in early childhood education and care (Council of the European Union, 2011).

The low percentages of male elementary school teachers may be reflective of either a limited number of applicants or a societal embraced view of elementary teaching as a woman’s job. Due to past references to teaching being a female profession (i.e. Johnson, 2008; Tyack & Hansot, 1988) and the reports of less than twenty percent of the teaching work force being male (Menteach, 2011), it’s important to study the dynamics
of the selection process, especially the perceptions of written resumes by hiring principals.

Similarity-attraction as a research model suggests that individuals are drawn to those who are most similar to them, their experiences or their attitudes (Byrne, 1971). Researchers have extended similarity-attraction to include gender in studying the selection of assistant principal candidates (Reis, Young, & Jury, 1999), high school teaching positions (Stallard, 1990; Young, 2005), and recruiters on college campuses (Graves & Powell, 1995). The majority of elementary principals were female (59%) as reported in the 2007-2008 academic year (Aud et al., 2011). In addition 97% of preschool and kindergarten teachers were female and 81% of elementary and middle school teachers were female as reported by the Bureau of Labor Statistics (2011). Although market forces can’t be ignored, the current state of teaching is a female dominated profession. If similarity-attraction based on gender could be applied, then the rationale for low numbers of male elementary teachers could be perpetuated, in part, due to high percentages of female elementary principals.

With the increase in technology and the availability of post secondary education online, the opportunity to complete courses online has increased. Certification, the minimal standard necessary for obtaining a teaching licensure or certification, varies between states, however, there are some common themes. In order to become a teacher, the American Federation of Teachers (2008) suggests that those interested need to obtain a college degree that will lead to certification. The options for obtaining a college degree and ultimately certification range from traditional to online learning. Although many states have embraced the use of online learning through virtual universities and brick-
and-mortar universities as acceptable for degree obtainment, the question remains, what is the disposition of principals regarding teacher candidates who gain elementary education degrees online? That is, what is the potential for employment based on the opinions of principals responsible for hiring teacher candidates?

For the Internet generation, that is, students born into homes with computers and the Internet, online learning appears to make sense (Rodgers, 2005). The concept of learning online rather than being required to travel to a campus has left many undergraduate and graduate students faced with a question upon graduation: are employers accepting of online degrees? Research suggests that the dispositions of employers, outside of the field of education, view online learning as second rate compared to traditional learning (i.e. Adams, DeFleur, & Heald, 2007; Adams & DeFleur, 2006). The process of teacher selection, in regards to online degrees, has not been investigated thoroughly using a quantitative approach. Limited research has been done qualitatively (i.e. Huss, 2007b, 2007d), quantitatively (Huss, 2007c) with some mixed methods approaches (Huss, 2007a).

**Significance of the Problem**

Teacher selection, as a process, is significant for the role that teachers play in education. That is, teachers are the primary instruments for instruction within elementary classrooms. Rinehart and Young (1990) stated that “Inadequate teacher selection practice deprives students, sometimes for many years, from receiving the best possible education” (p. 176). As such, the selection of teacher candidates requires a closer look at the potential bias (based on gender of applicant and type of degree) that may impact hiring practices, as well as the impact of the gender of the administrator responsible for
hiring. Prior studies that have addressed gender of administrators as a variable in the teacher selection process have been focused at the secondary level.

In the case of gender of teachers, research (i.e. Carrington & McPhee, 2008; Chudgar & Sankar, 2008) suggests that there is no impact on student learning based on the gender of the teacher. A limited number of past studies have investigated gender of teacher applicants and include findings that gender is not significant in teacher selection (i.e. Henrikson, 1989; Place, 1989; Wallich, 1984). However, the majority of educators in elementary schools remain female with society embracing a view of teaching as “women’s work” (Johnson, 2008). The Civil Rights Act of 1967 protects against discrimination of current or future employees based on multiple factors including gender.

In the case of teacher selection, administrators who are biased against females, a protected class, are in violation of the Civil Rights Act. Whether degree type (online or traditional) is related to teacher selection has undergone only limited investigation (Huss, 2007a, 2007b, 2007c, 2007d).

Purpose of the Study

The purpose of this research was to further investigate the dispositions of elementary principals with regard to hiring elementary teachers based on gender of the applicant, gender of the administrator, and type of education (online vs. traditional) the applicant experienced. Three areas were addressed, specifically how male principals and female principals rated candidates who varied on gender and degree type. What is the opinion of principals responsible for hiring elementary teachers? Is there a preference for female candidates? Does the gender of the principal impact the selection of candidates?
What is the preference for degree types (online or traditional), when principals review resumes of elementary teacher candidates?

Past research (e.g. Place, 1989; Vail, 2010; Young, 2005; Young & Oto, 2004) has utilized a research design that compared job candidates through paper credentials. First used by Young and Allison (1982), the technique has been continually utilized in research on both teacher and principal selection. Advantages to using hypothetical paper candidates or resumes, instead of real candidates, include consistent information and ability to manipulate variables. As compared to mock interviews or videos, research in the field of selection that utilizes paper resumes limits the variance that can occur due to visual information (Young & Oto, 2004).

For this study, independent variables, degree type (online or traditional), candidate gender, and principal gender, were tested using an ANOVA. Data were analyzed using a step-down ANOVA. The researcher measured two dependent variables: evaluation of criteria, and likelihood of an interview, two activities of principals during the selection process. Previous studies on selection in the field of education, specific to teacher selection (e.g. Young, 2005) and principal selection (e.g. Young & Young, 2010; Young, Young, & Oto, 2011), have used the step-down ANOVA due to the opinion of the authors that selection is a process. In this study, teacher selection was investigated as a process. Specifically, principals evaluating potential applicants were assumed to consider the dependent variable of criteria (candidate’s knowledge of the curricular area, candidate’s ability to transmit knowledge, candidate’s likelihood to contribute to overall school program, candidate’s ability to maintain a disciplined teaching environment, candidate’s ability to create a friendly classroom environment, and candidate’s potential
for professional growth) and were assumed to then consider the dependent variable of
likelihood of an interview being offered.

The dependent variable of criteria was a composite score from six criteria
questions, which has been used in past research regarding teacher selection (i.e. Lou,
1995; Newby, 1994; Stallard, 1990). The dependent variable of likelihood of an
interview was evaluated on a scale from 1 to 10, with 10 being likely to interview.

The independent variable, type of education, as presented consistently in the
literature on principal’s attitudes towards online learning (Huss 2007a, 2007b, 2007c,
2007d), shows a preference for candidates with traditional degrees. Also in the field of
education, more recent research conducted by Richardson, McLeod and Dikkers (2011),
found a preference for principal candidates with traditional degrees compared to online
degrees. The literature on employer preference in fields other than education also finds a
preference for job candidates with traditional degrees as compared to those with online
degrees (Adams, DeFleur, & Heald, 2007; Adams & DeFleur, 2006).

Studies conducted on undergraduate students interviewing for business-oriented
jobs found a preference for male candidates as compared to female candidates (Dipboye,
Arvey & Terpstra, 1977; Dipboye, Fromkin & Wiback, 1975). In the field of education,
the Digest of Educational Statistics 2010 reports data that the majority of teachers are
female (70.1% in 2006) (Snyder & Dillow, 2011), while females also comprise over 90% of
elementary teachers (Johnson, 2008; Porter, 2008).

As of 2007-2008, females held the majority of school principal positions in public
education, whereas in private education female principals have been in the majority prior
to the 1993-1994 academic year (Snyder & Dillow, 2011). The variable, gender of

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administrator, has been found in past research (Young, 2005) to produce more positive outcomes for similar sex pairings as compared to dissimilar sex pairings, that is, female high school principals preferred female candidates while male high school principals preferred male candidates.

**Defined Terms**

For the purpose of this study teacher selection was broken down into two distinct parts, as defined by Young and Oto (2004). The first part of teacher selection was review of resumes for the purpose of extending an interview. The second part of teacher selection was interviewing candidates for the purpose of extending a job offer. This research study investigated the first part of teacher selection, asking building principals to rate teacher candidates from hypothetical resumes for the purpose of extending an interview. The second half of teacher selection was not addressed by this study.

Teacher candidates were defined as those individuals seeking employment for the upcoming school year. For this study, the paper resume candidates were certified to teach within grades K-3. They hold a licensure of certification for grades K-3.

Teacher ratings in this study were defined as two measures: the rating of candidates on six scales specific to job criteria, and the likelihood of being offered an interview. The first six questions specific to job criteria concern curricular knowledge, communication skills, discipline ability, classroom management, growth potential, and overall school contribution. Participating principals rated each candidate six times on a Likert scale of 1 to 4, where 4 represented the most favorable perception of the teacher candidate. A total composite score was created from combining all six scores. The likelihood of being offered an interview was reported on a scale of 1 (poor) to 10.
(excellent). The instrument participating principals used to rate teachers has been employed in the past by other researchers investigating teacher selection (Lou, 1995; Young & Allison, 1982; Young & Fox, 2002; Young & Oto, 2004).

Rutledge, Harris, Thompson, and Ingle (2008), in their review of literature on teacher screening and selection, found that principals are the “primary gatekeepers” when it comes to the selection process (p. 243). For the purpose of this research, principals were defined as responsible for reviewing resumes and offering an initial interview. In past studies, the demographic statistics have reported that 97% of administrators (senior high school principals) use paper credentials (i.e. resumes) to screen candidates for teaching positions (Young & Oto, 2004), thus supporting the use of paper credentials in the form of resumes, for screening hypothetical candidates in this study.

Traditional learning is primary instruction, face-to-face with some or no technology used (Columbaro & Monaghan, 2009). Instruction is delivered in a format that is written or given orally (Allen & Seaman, 2011). Online learning occurs when 80% or more of the learning occurs online (Columbaro & Monaghan, 2009), where face-to-face meetings typically do not occur (Allen & Seaman, 2011).

**Delimitations**

In the field of education, principals typically evaluate multiple candidates for an open position. This study asked participants to only rate one candidate. The evaluation of only one candidate was believed to limit the amount of time needed to participate. Thus the shorted participation time would improve response rates as principals valuable time was minimized for participation.
The use of a step-down analysis requires the researcher to prioritize and place dependent variables in order based on “contextual issues and not on statistics” (Finch, 2007, p. 14). Although the use of prior research is important in establishing an order, the bias of the researcher may influence the order. I believe that the six criteria constitute the first step in the process to decide if an interview will be given. First a principal rates the candidate in six specific areas; (1) candidate’s knowledge of the curricular areas, (2) candidate’s ability to transmit knowledge, (3) candidate’s likelihood to contribute to overall school program, (4) candidate’s ability to maintain a disciplined teaching environment, (5) candidate’s ability to create a friendly class environment, and (6) candidate’s potential for professional growth. Then after considering how the candidate scores in the six criteria, the principal proceeds to make a decision as to the likelihood of an interview. The intention to offer an interview, on a scale of 1 to 10, occurs because of the principal’s initial evaluation of the candidate on the six criteria. The step-down places the dependent variables in order, so that the first dependent variable was the composite score from the criteria and the second dependent variable was the participating principals’ rating of the likelihood of an interview. This order of the two variables in a step-down ANOVA has been used in prior research (Young, 2005). Young stated, “the step-down procedure views selection as a process rather than an event...Following this line of reasoning, the first phase of the step-down process used the composite score reflecting the evaluation of principals for job candidates as the dependent variable” (2005, p. 194).

Past research has considered selection of teachers at the secondary level (Stallard, 1990; Vail, 2010; Young & Allison, 1982). This study addressed selection at the primary
or elementary level, specifically first grade. A limitation of the study was the specific nature of the position, in that the applicant must be capable of teaching reading. The findings of this study may not be generalizable to teacher selection that occurs at grades other than first, or for first grade positions that do not focus on teaching reading.
CHAPTER II
REVIEW OF RELATED RESEARCH AND LITERATURE

Many authors suggest that the most important factor in student success is the quality of the teacher (Darling-Hammond, 2000b, 2007; Haycock & Crawford, 2008; O’Donovan, 2010; Penske & Haycock, 2006). Research suggests a relationship has been identified between teacher quality and student achievement and that the relationship is strong, “even after controlling for student poverty and for student language background” (Darling-Hammond, 2000b, p. 23). Due to the impact of the quality of the teacher within a classroom, a closer examination of teacher selection must be considered.

Bolton (1969) argues that teacher selection is an important responsibility of administrators due to the implications of the action. “Teacher selection provides an opportunity for an educational administrator to make a major contribution to the improvement of a school system” (p. 329). Selection of individuals who are able to improve school systems through student learning is an important part of teacher selection however, the selection process may be influenced by preference factors that may not impact student success, specifically teacher candidate gender. The selection of teachers based on applicant gender could possibly be a preference of the administrator responsible for hiring. Research does not suggest teacher gender as influential to student learning. Prior research on the impact of gender in the classroom has pointed out that there is no significant correlation between the teacher gender and student success (Carrington &
McPhee, 2008; Chudgar & Sankar, 2008). Yet there remains an overarching view that teaching, specifically in elementary schools, is “women’s work” (Johnson, 2008, p. 1).

Preference for selecting teacher candidates goes beyond candidate gender to include other variables that might bias an administrator, as presented in this study, teacher education (online or traditional). Limited quantitative research has been conducted that explores administrator preference for or against online teacher education (Huss, 2007a, 2007c), along with a few qualitative studies that find consistent themes concerning selection of teachers with online degrees (Bolton, 2010; Huss, 2007b, 2007d). Research studies examining hiring preferences for candidates with traditional degrees as opposed to online degrees have been in the fields of business (Adams & DeFleur, 2006), medicine (Adams, DeFleur, & Heald, 2007), and higher education (Adams & DeFleur, 2005).

**Past Research on Teacher Selection**

Teacher selection has evolved over the past four decades. Early research, circa 1970’s, considered the viewpoint of the administrator and what they looked for in teacher candidates. Johnson (1976) in his survey of administrators (central office staff, junior high and senior high principals) throughout Ohio, found age was important. Specifically, that administrators preferred candidates between the ages of 20 and 25.

In the eighties, research lead by I. P. Young included studies of teacher selection that manipulated variables (i.e. age, sex, experience, and administrator role) (Young & Allison, 1982; Young & Joseph, 1989; Young & McMurry, 1986; Young & Schmidt, 1988; Young & Voss, 1986). Young continued to lead the field in teacher selection research through the next three decades until present day. Articles published by Young
throughout the past three decades have focused on selection of teachers and administrators (Reis, Young, & Jury, 1999; Young, 2005; Young & Chounet, 2003; Young & Fox, 2002; Young & Marroquin, 2006; Young & Oto, 2004; Young & Young, 2010; Young, Young & Oto, 2011).

The impetus for many of the studies has been the presumed potential for discrimination against candidates. Screening paper candidates has and remains a task that limits the number of applicants to a manageable number, thus allowing administrators to narrow the pool of potential candidates. Often in the case of education, more applicants exist than positions. As stated by Young & Schmidt (1988), “the initial applicant pool exceeds greatly the actual number of vacant teaching positions” (p. 41). By screening paper candidates, employers are able to eliminate candidates. However, bias and discrimination has been brought to attention by research conducted on teacher selection.

Studies have considered the impact of bias as it relates to federal law. Under the umbrella of studies that consider the impact of federal legislation, specifically the Age Discrimination Act in Employment Act of 1967 (ADEA), studies have addressed the variables of age of applicants (e.g. Lou, 1995; Newby, 1994; Stallard, 1990; Vail, 2010; Young & Allison, 1982; Young & Fox, 2002; Young & Joseph, 1989; Young & McMurry, 1986; Young & Voss, 1986); national origin, or race, as stated by Title VII of the Civil Rights Act of 1964, (e.g. Lou, 1995; Young & Fox, 2002); and in regard to Title VII of the Civil Rights Act of 1964, research has also been conducted on the variable of gender or sex (e.g. Stallard, 1990; Young & Schmidt, 1988).
Age Discrimination in Employment

Age discrimination occurs when an employer makes decisions based on an individual’s age that affect their employment, compensation, or other privileges associated with employment. As stated in the Age Discrimination Act in Employment Act of 1976, “It shall be unlawful for an employer- (1) to fail or refuse to hire or to discharge any individual or otherwise discriminate against any individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual’s age” (29 U.S.C. §§ 621 et seq.). The ADEA was written to protect individuals who are 40 years of age or older. This also includes discriminations against applications for employment (U.S. Equal Employment Opportunity Commission, 2011).

In the case of teacher selection, age discrimination has been studied in regards to preferences for candidates based on age.

Teacher selection and candidate age. Research conducted in teacher selection has used age as a variable for selection preferences (e.g. Lou, 1995; Newby, 1994; Vail, 2010; Young & Allison, 1982; Young & Fox, 2002; Young & Joseph, 1989; Young & Oto, 2004; Young & Voss, 1986). Preference for younger (29 years old) teacher candidates has been found consistently in research (e.g. Young & Allison, 1982; Young & Joseph, 1989; Young & Voss, 1986), although some findings have discrepancies (e.g. Jury, 1993; Lou, 1995; Newby, 1994; Place, 1989; Vail, 2010; Young & Oto, 2004). In the case of Jury (1993), findings suggest that candidates who listed age (29 years old) were more likely to be offered an interview than those who did not list their age. Young and Oto (2004) found that candidates who listed their age were more likely to be offered an interview than those who did not list their age.
Young and Allison varied candidate ages two ways (29 years old and 49 years old) for their 1982 study, along with candidate’s experience (no experience, three years experience, and eight years experience) and administrator role (secondary principals and superintendents). Their findings suggested a preference for physical education teachers that were 29 years old. Young, along with Voss, extended the research in 1986 by exploring the impact of age (29 years old and 49 years old) with varied positions (physical education teacher vs. chemistry teacher) and amounts of information given about candidates (complete resumes vs. brief resumes). Their findings were consistent, in regard to age, as Young and Allison’s (1982) study. The 49-year-old physical education teacher candidate was rated lowest.

To further the research, Young and Joseph (1989) used similar variables age (29 years old and 49 years old), G.P.A. (2.68 and 3.50), position (chemistry and physical education), and added additional variables, “recency of academic preparation (skill obsolescence)” (p. 356-357), quality and quantity of candidate information. Their findings suggest that younger candidates were preferred over older teacher candidates for physical education positions.

Place’s (1989) research on teacher selection used the G.P.A. variable (2.68 and 3.50) along with candidate gender and age (29 years old and 49 years old). However, a unique approach to Place’s research was the evaluation of four candidates by each administrator, creating a between-within design. In prior research, administrators were sent packets containing one candidate only. Place argued that in true teacher selection, administrators are responsible for evaluating and comparing multiple candidates.
Place found no main effect for gender of teacher candidates and no effect for the interaction of gender of candidate and G.P.A. He found three significant findings: (1) younger (29 year old) candidates with a high (3.50) G.P.A. were rated higher than young (29 year old) candidates with a low (2.68) G.P.A.; (2) older (49 year old) candidates with a higher (3.50) G.P.A. were rated higher than older (49 year old) candidates with a lower (2.68) G.P.A.; and (3) younger (29 year old) candidates with a higher (3.50) G.P.A. were rated higher than older (49 year old) candidates with a lower (2.68) G.P.A. Place’s (1989) findings, although complex, do in some instances support age discrimination by age having an indirect effect.

Henrikson (1989) used a different approach to study music teacher selection at the elementary level. She asked principals to consider paper candidates by giving a yes-no decision to interview and placing their decision on a line scale. The line scale was a line in the middle of the page that was labeled as “definitely not interview” on the far left and “definitely interview” on the far right. Participants were asked to “Place a mark on the line at the position which reflects your decision” (p. 201). Participants also asked to include comments regarding their decision to interview. Applicants were varied on their gender, age (21 years old and 37 years old), undergraduate institution (large public research university, i.e. University of Illinois, and small private liberal arts university, i.e. Illinois Wesleyan University), G.P.A. (4.83 and 4.17, on a 5 point scale), extracurricular interests (musical, non-competitive activities and non-musical, competitive activities), and statement of educational philosophy (instrumental philosophy and aesthetic philosophy). Similar to Place’s (1989) research, participants were asked to rate multiple candidates. The rating, unlike prior research in teacher selection, used a line scale where
numbers were not present. A chi-square was used to analyze the data (yes-no decision). Age was the independent variable found to be significant at the .001 alpha level. Although Henrikson did not use 49 years as the older candidates, instead selecting 37 years, findings were consistent with prior studies that a preference was given for young candidates (Young & Allison, 1982).

For the line scale decision, Henrikson had two significant findings. Using an ANOVA, main effects were found for age and institution type. Principals rated younger (21 years old) candidates higher than older (37 years old) candidates. Graduates from the large public research university, University of Illinois, were rated higher than those from the small private liberal arts university, Illinois Wesleyan University. Henrikson also asked all participants to comment on their decision to offer or not offer an interview to applicants. In regard to age, eight of the principals who commented had statements that were positive for younger candidates, while seven participants also made positive comments regarding the older candidate. Henrikson stated that she did not feel the responses indicated “a strong preference for either younger or older candidates” (p. 121).

Stallard (1990) considered similar variables as presented in past research: age (29 years and 49 years), position applied for based on perceived activity level (physics and physical education), gender of the applicant, and gender of the administrator. The researcher tested for fourteen different hypotheses. Only one was statistically significant. The age of applicants was significantly different, that is 29-year-old candidates were rated higher than 49-year-old candidates, a finding that is consistent with Young & Allison’s (1982) findings.
Studying age (29 years old, 49 years old, and age not listed), degree level (bachelor’s and master’s), and type of program (Holmes and traditional), Jury (1993) used two analyses of variance. Holmes schools are universities committed to reform in teacher education by increasing standards for teacher candidates. The first was for the dependent variable of composite score and the second was for the dependent variable of likelihood of an interview. Jury did not find a significant result for the first dependent variable, the composite score of six criteria. Using the dependent variable of likelihood to be offered an interview, Jury found a significant difference between candidates with a bachelor’s degree who listed their age as compared to candidates with a bachelor’s degree who did not list their age. Specifically, candidates with a bachelor’s degree only who listed their age were rated higher (more likely) to be offered an interview than candidates with a bachelor’s degree who did not state their age. The third variable, type of program, was operationalized as either a candidate with an education from a Holmes school or a traditional school. Type of program was found to not be significant as a main effect or interaction for either of the two dependent variables.

Lou’s (1995) study was designed to consider three variables: age, ethnic name and grade point average. Similar to past studies, age was listed as 29 years old, 49 years old or not listed. Similar to Place’s (1989) study, a between-within design was employed that asked participants to rate multiple candidates. In the case of a main effect for age, no significant findings were reported.

Newby (1994) partially replicated Young and Allison’s (1982) research in an attempt to study the variables of age (29 years old and 49 years old), candidate experience (no experience, three years experience, and eight years experience), and
administrator position (principals and superintendents). Unlike Young and Allison’s study that only included participants from four Midwestern states, Newby used a national random sample that was almost twice the size (600) of Young and Allison’s study (384). There was a significant three-way interaction of the variables. Newby found that superintendents rated older (49 years old) candidates with eight years of experience significantly lower than younger (29 years old) candidates with eight years of experience. There were no significant two-way interactions or main effects for the variables.

Young and Fox (2002), researched age (29 years old, 49 years old and age not listed), along with national origin (Asian, Hispanic and Native American) and position sought by the applicant (history teacher or assistant principal). Similar to Jury’s study (1993) they used two dependent variables, the criteria combined for a composite score and the likelihood of an interview. Young and Fox, when analyzing the dependent variable of five criteria, found two significant two-way interactions and a main effect: two-way position and age, and a position and national origin, along with a main effect for focal position. They did not find a significant three-way interaction. In regard to position and age, candidates who were older (49 years old) or did not list their age were rated higher for the history teacher position than the assistant principal position.

When considering the rating of likelihood of an interview, researchers found a three-way interaction, a two-way interaction with position and origin, and main effect for position. Hispanic named candidates, age 29, were least likely to be offered an interview for the history position, while Hispanic candidates with age not listed were most likely to be offered an interview for the history position. Asian named candidates applying for the assistant principal position, age 29, were most likely to be offered an interview. In
contrast, older (49 years old) Native American named candidates were least likely to be offered an interview for the assistant principal position.

As opposed to prior studies, Young and Chounet (2003) studied elementary teacher selection. In prior studies, the administrators were from secondary level schools or superintendents. In this study, the administrators were elementary principals. Similar to past studies, age was investigated (29 years old, 49 years old and age not listed). A new variable, medium for transmitting candidate data was introduced. The researchers varied the medium three ways: traditional print material, electronic medium through a CD-ROM, and posting on a website. The return rate was higher for principals assigned a candidate with traditional printed materials. Young (2008) stated that the sample of participants (high school principals) used in his study “preferred by far to receive candidate information through the mail” (p. 154). Due to the low return rate of CD-ROM and web posted credentials and the high rate of return for traditional printed credentials, the authors had to recast the data into two groups. Their final analysis revealed no statistical multivariate effect for candidate age or use of an electronic medium. The only significant finding was for the large return rate of traditional printed materials.

Young and Oto (2004) studied age (29 years old, 49 years old, and age not listed) along with national origin of applicants (Asian, Hispanic, and Native American) and focal position (proximal and distal). Proximal positions were those within the administrators building while distal where positions located outside of their building but within the district. Similar to the Young and Fox (2002) study, two dependent variables were used. A main effect was found for age using the dependent variable of likelihood of an interview: candidates who did not list their age were less likely to be offered an
interview as compared to those who listed their age as 29 years old or 49 years old. For the dependent variable of composite score of criteria, a three-way interaction was confirmed.

Vail (2010) further studied the effects of age (29 years old and 49 years old), years of experience (three years and eight years), type of experience of the hypothetical teacher candidate (urban, suburban and rural), and district type of the administrator (urban, suburban, and rural). The researcher found no significant main effect for age, however a main effect did exist for experience. Candidates with more experience (8 years) were preferred by administrators from all district types (urban, suburban, and rural). The interaction between administrator’s district type and age was also found to be significant. Urban administrators preferred younger (29 years old) candidates whereas suburban administrators preferred older (49 years old) candidates.

**Teacher performance and age.** Although the research on teacher selection suggests a preference towards hiring young teachers (Young & Allison, 1982; Young & Voss, 1986), research has been conducted to compare the performance of older and younger teachers. Interestingly, research conducted by Young and Place (1988) found that older teachers (those forty years of age or older) were performing “slightly better” than younger teachers (those under the age of forty) when compared using a Midwestern state’s school district teacher performance evaluation. Although stated by the authors as “slightly better,” a difference existed in the performance of the two groups (p. 49). The forty-two item evaluation instrument, prescribed by the district policy, was conducted at the elementary, intermediate, middle and high school, by either principals or assistant
principals. The findings have implications for teacher selection, a process that in research has shown a preference for younger candidates.

**Title VII of the Civil Rights Act**

Title VII of the Civil Rights Act prohibits employment discrimination based on race, color, religion, sex and national origin: “It shall be an unlawful employment practice for an employer- (1) to fail or refuse to hire or to discourage any individual, otherwise to discriminate against any individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual’s race, color, religion, sex or national origin” (42 U.S.C. §§ 2000 et seq.). In the case of teacher selection, both national origin and sex have been studied.

**Teacher selection and candidate national origin.** Past research has studied national origin (e.g. Lou, 1995; Young & Fox, 2002; Young & Oto, 2004) in combination with other variables (gender, age, position, and locus of the decision to interview). The findings of studies considering national origin have not found a main effect for national origin but have found an interaction between ethnic name and G.P.A (Lou, 1995), a three-way interaction between age, position applied for, and national origin (Young & Fox, 2002), and a three-way interaction between age, location of position, and national origin (Young & Oto, 2004).

Lou (1995) studied the effects of age (29 years-old, 49 years-old, and no age listed), grade point average (2.68 and 3.50) and ethnic name (Anglo-Saxon and Hispanic) on selection of a chemistry teacher. His research design included the rating of four teacher candidates by a single principal, a design that was similar to that used by Place
Lou found a direct effect for candidate G.P.A, and an indirect effect for candidate’s ethnic name. Age was not found to be statically significant.

Anglo-Saxon named candidates were rated differently based on G.P.A. The Anglo-Saxon named candidates with a higher (3.50 G.P.A.) were rated significantly higher than the Anglo-Saxon name candidates with a lower (2.68 G.P.A.). Candidates with Hispanic names had no significant difference in the rating of higher (3.50) G.P.A. than Hispanic named candidates with a lower (2.68) G.P.A.

Preference was not given for Anglo-Saxon named candidates with a higher (3.50) G.P.A. when compared to Hispanic named candidates with a lower (2.68) G.P.A. However, when the Hispanic named candidates had a higher (3.50) G.P.A. and the Anglo-Saxon candidates had a lower (2.68) G.P.A., the rating for the Hispanic candidate was higher than that of the Anglo-Saxon candidates. Lou summarized that candidate’s ethnic name had an indirect effect (1995).

Young and Fox (2002), as presented in the earlier section on teacher age, studied the variables of age (29 years old, 49 years old and age not listed), national origin (Asian, Hispanic and Native American), and position sought by the applicant (history teacher or assistant principal). The first two-way interaction found that Asian applicants applying for the assistant principal position were rated higher than Hispanic and Native American candidates who were equally qualified. For the second two-way interaction, Hispanic applicants were more likely (when age was not listed) and less likely (29 years old) to be offered an interview for the history position. For the three-way interaction, Asian candidates, age 29, were more likely to be offered an interview for the assistant principal
position and age 49, Native American candidates were less likely to be offered an interview for the same position.

Young and Oto (2004) studied national origin (Asian, Hispanic, and Native American) along with the variables of age (29 years old, 49 years old, and age not listed) and locus of the decision to interview (proximal school or distal school). The researchers did not find national origin to have a main effect. They did find a three-way interaction for the dependent variable of composite score of criteria, between the variables of age, national origin and locus of the decisions. Asian applicants with age not listed were rated higher when the position was proximal rather than distal. Hispanic candidates, age 49, were rated higher for distal positions as compared to proximal positions. Older (49 years) Asian candidates were rated lower for either type of position (proximal or distal) as compared to Native American candidates. For the dependent variable, likelihood of an interview, only age was significantly related.

**Teacher selection and candidate gender.** Gender has been investigated in relation to teacher selection as a variable in combination with age (Henrikson, 1989; Place, 1989; Stallard, 1990; Wallich, 1984; Young & Schmidt, 1988) and positions sought (Young, 2005).

Wallich (1984) compared principal evaluations of potential candidates for a social studies position. Using the variable of age (24 years old, 34 years old, and 44 years old) and gender, the findings are inconsistent with previous studies on gender and age. Specifically, reported in the abstract, Wallich found that the age, sex, and the combination of the two did not affect the ratings of the candidates by administrators.
Young and Schmidt (1988) explored the variables of sex of candidate, age of candidate (29 years old, 40 years old, and 49 years old) and instructional level (elementary or secondary). A significant finding was identified for first order interactions (sex and age). Female candidates, age 29, were preferred over female candidates age 49. Interestingly, males had a positive effect for aging, “an analysis of the interaction suggests that to age gracefully may be a male prerogative” (p. 47).

Place (1989) mentioned in the previous section on age of candidates, studied three variables: age of candidates (29 years old and 49 years old), G.P.A. (2.68 and 3.50) and gender of candidates. He found no main effects for gender.

Henrikson (1989), also mentioned in the previous section on age of candidates, used a unique approach to study elementary music teacher selection. She did not use the evaluation of criteria or likelihood of an interview with a number scale found in prior research. Instead, her dependent variables were a yes-no on offering an interview and line scale, with no numbers corresponding, which demonstrated the strength of the interview decision, along with a comments section. Participants were given a solid black line, which stated “definitely not interview” at the far left and “definitely interview” at the far right. They were then directed to “Place a mark on the line at the position which reflects your decision” (Henrikson, 1989, p. 201).

Using six independent variables, Henrikson (1989) expanded upon variables used in past research (gender, age, G.P.A.) and included three new variables (undergraduate institution, extracurricular interest, and philosophy statement). Henrikson found that candidate age, as well as undergraduate institution, were significant. She did not find a main effect for gender.
Henrickson asked participants to make comments explaining their decisions to offer or not offer an interview to candidates. Eight participants made comments regarding gender. Henrikson stated that she felt seven of the eight participants “reacted positively toward male teachers in the elementary school” (1989, p. 119). However, the eighth comment was in support of females being more successful in elementary schools compared to male teachers due to the voice and relationships that can be established by women, saying “Women are more successful with K-6 students than men because of (female) voice and (female) relationships with young students” (Henrikson, 1989, p. 219).

Stallard’s (1990) research, presented in a previous section of this study, explored four variables: age (29 years old and 49 years old), gender of applicant, gender of administrator, and level of activity in relation to position (physics and physical education). Stallard found no significant difference in regards to the gender of the administrator, gender of the applicant, or position. Only age was significant, specifically, younger (29 years old) candidates were rated significantly higher than older (49 years old) candidates.

Although Stallard’s study includes two of the variables presented in this study, gender of candidate and gender of administrator, two major differences exist between that study and the present study: level of school and level of administrator. Stallard’s study explored a secondary level teaching position and participants of the study were secondary level administrators. The current study is designed to explore an elementary level teaching position and participants of this study will be primary level administrators.

Young (2005) studied the variables of applicant gender, administrator gender, and position applied for (high school history position and high school counselor position).
Findings for male and female administrators found composite scores (dependent variable comprised of the criteria scores) for male and female candidates to be similar. The second dependent variable, likelihood of an interview, was significantly different. Female administrators were more likely to offer an interview to female candidates, whereas male administrators were more likely to offer an interview to male candidates.

**Selection in the field of education.** Beyond selection of teachers, research has been done in the selection of administrators based on gender (Bon, 2009; Pagkos, 1991; Reis, Young, & Jury, 1999; Young & Young, 2010), age, (Pagkos, 1991), religion (Bon, 2009) and race (Young & Young, 2010). Findings within the field of administrator selection add to the discussion of selection in general.

In the case of gender, research has been conducted to look at the impact of gender of applicants for principal, assistant principal, and special education administrator positions (Bon, 2009; Pagkos, 1991; Reis, Young, & Jury, 1999; Young & Young, 2010). Findings concerning gender remain mixed with some supporting a preference for female candidates (e.g. Reis, Young, & Jury, 1999), and a few finding no preference (e.g. Bon, 2009; Pakgos, 1991).

In 1999, Reis, Young, and Jury, conducted a study to investigate selection of assistant principals by principals. The researchers varied the gender of the applicant, the gender of the writer of the reference letter and the gender of the principal. The research was framed by a gender similarity-attraction paradigm that suggested male principals would rate male assistant principals candidates higher while female principals would rate female assistant principal candidates higher. The findings of the study did not support similarity-attraction, but rather female assistant principals candidates were rated higher
by both male and female principals. One suggestion of the authors concerning the findings is that perhaps due to a large discrepancy in the percentage of female administrators currently employed, “there may be an intentional effort to increase the number of females in all administrative positions” (p. 241).

Studying selection for a different position, special education administrator, Pagkos (1991) used the variables of age (29 years old and 49 years old), gender and type of professional preparation (special education teacher and school psychologist). Superintendent and Chief Hiring Officer’s evaluations of candidates yield no significant findings. As reported in the abstract, there was no preference for age, gender or type of professional preparation.

In Bon’s 2009 research, the focus remained on gender. Specifically, the selection of assistant principals was studied by varying the gender of applicants and the gender of the evaluator. Bon added a new variable, religion of the applicant (Jewish, Catholic, and non-denominational). A national random sample of principals was solicited to compare paper candidates. There were no significant findings in regards to gender or religion of applicants. However, there were findings specific to evaluator gender. A difference existed in how male principals rated all applicants as compared to how female principals rated all applicants. The former rated them higher than the latter.

Building upon his past research with Reis et al (1999), Young and Young (2010) maintained the similarity-attraction paradigm for gender but changed the position of the administrator from principal to superintendent and position applied for from assistant principal to principal, adding the variable of national origin (Hispanic and non-Hispanic).
of the applicant. Their findings for male superintendents included a preference for non-Hispanic candidates.

**Teacher candidate position.** The majority of studies in teacher selection have considered positions that fall under the secondary level, specifically the secondary chemistry teacher (Place, 1989), social studies teacher (Wallich, 1984; Young & Fox, 2002), biology teacher (Jury, 1993), and physical education teacher (Young & Allison, 1982). Only three studies, Henrikson (1989), Young & Schmidt (1988), Young & Chounet (2003), have studied teacher selection at the elementary level. However, the Young and Schmidt (1988) study included all ranges of principals (elementary and secondary), Henrikson’s (1989) study investigated selection of elementary music teachers, and Young and Chounet (2003) studied the variables of age and information media. The purpose of this study is to investigate the preferences for elementary candidates based on gender. Currently females dominate the classroom at the elementary level, and female administrators have just recently become the majority in public schools. This study will focus on similarity-attraction, at the elementary education level because it has been viewed as a gender specific profession.

Prior studies that have investigated gender at the secondary level have mixed demographics of participants, which may or may not be reflective of the population; thus limiting the generalizability of findings. An advantage of this study is that the portion of elementary principals are closer to equal, with females comprising just a little more than half of the population in 2007-2008 (Snyder & Dillow, 2011). The use of a split sample, 50% female and 50% male participants, is similar to the actual representation of male and female principals in the field.
Role of Teaching as “Women’s Work”

Teaching as a profession has evolved over the past century. Prior to the late 1800’s, education within the United States was lead by males who functioned as teachers for a few months during the year either while continuing their education or during seasonal breaks from their main professions (Tyack & Hansot, 1988). Teaching was not viewed as a profession for males, rather a stepping-stone between their schooling and gaining employment within their true profession. The mass exodus of males from the profession was self-selected departure due to the changing demands of teaching. Specifically compulsory education and extending school terms forced many men to stop teaching as a seasonal job. The need for teachers, and the limited number of professions for females, opened the door to the ‘feminization of education’ in the late 1800’s and early 1900’s. Over time the societal view of teaching as “women’s work” evolved due to the high percentage of females within the profession and the decline in the number of males as teachers (Johnson, 2008, p. 1).

Teaching became a female dominated profession because of the void encountered due to the departure of males from the classroom. Those men who choose to stay within the field of education were elevated to the role of managers of (female) teachers. The history of teaching, with the mass exodus of males as teachers, has created a profession that is dominated by females within the classroom, especially at the elementary level. Despite attempts directed at increasing the number of male teachers (Skelton, 2007; Szwed, 2010), a definite difference is still present in the distribution of male to female teachers. Gender balance remains an issue around the globe, specifically in the primary grades, where only a few countries report male and female teachers as “approximately
equal” (Drudy, 2008). Although the rationale for wanting to teach primary students has been found to be similar between male and female teacher candidates (Szwed, 2010), there still appears to be an imbalance. Drudy (2008), in interviewing male and female primary school student teachers, found that one reason for discrepancy between male primary teachers and female primary teachers was “a bias towards seeing the ideal primary teacher as female” (p. 312).

**Rationale for Males to Avoid Teaching**

Qualitative research has investigated the world of male elementary teachers and identified themes that seem to prevent or discourage male teachers. Foster and Newman (2005) used “identity bruising” to explain the discouragement of male elementary teachers in UK who experienced instances of societal views of teaching as “women’s work.” The hegemonic view of female marginalization by men is reversed for each of the participants. All of the men felt marginalized for their decision to follow their dreams and teach. The personal narratives highlight the experiences of the men, all whom felt they were judged and given a “knock back” for choosing to teach (Foster & Newman, 2005, p. 346).

There are four arguments or rationales for why men select not to teach. The first is a perception that education or working with children is a female profession due to the nature of the positions requiring a motherly approach. A belief exists that women are more suitable to teaching young children due to their female inclination of being nurturing (Drudy, 2008). This is in line with the societal view that teaching is “women’s work” therefore men who select to teach are viewed as feminine. Low wages, lack of prestige, and concern over physical contact with children have also impacted the decision
of men to stay away from teaching (Johnson, 2008). Research conducted by Rentzou (2011) in Greece, a country that also has a low percentage of male elementary educators, found that parents believe that barriers limiting men to the profession include salary, suspicion of male teacher motives, and teaching as women’s work. This raises the question, is teaching a female dominated field because there are too few men who want to enter into the field, because they are discouraged to do so, or is there another explanation?

Perhaps the small number of male teachers may not be a trend of limited applicants but rather an increase in the number of female teachers selected compared to males. The data presented on the number of male and female teachers is from the perspective of those who have been hired rather than those that have completed an education degree and applied for teaching positions. The data reported on completion of bachelor’s degree in all fields of education in 2008-2009 shows a larger number of females completing (80,549) as compared to males (21,259) (Snyder & Dillow, 2011).

**Gender and Student Achievement**

Research in the field of gender and teachers has been categorized as either sex difference research or gender dynamics research (Sabbe & Aelterman, 2007). Sex difference research focuses on the difference between male and female teachers, while gender dynamic research focuses on the “role that gender plays in the choice to be a teacher,” as well as the different experiences, opinions, perceptions, and behaviors of individuals involved in education (Sabbe & Aelterman, 2007, p. 527).

Findings suggest that in the case of sex difference: job satisfaction, motivations for teaching and student achievement have limited research that is difficult to compare
due to differences in settings and social contexts. Of interest to this study is student achievement, specifically: Do students achieve more (or less) based on the gender of the teacher? Findings from prior research suggest that there is no significant difference in student achievement between students based on the gender of the teachers teaching the students (Carrington & McPhee, 2008; Chudgar & Sankar, 2008).

Gender dynamic research, as defined by Sabbe and Aelterman (2007), considers the role of gender in identity and behavior of teachers as well as those involved in education. For this study, particular interest is in the view of management (administration) in regards to gender dynamic research. How do administrators view or identify potential teacher candidates? Does gender play a role in the perceptions of elementary teaching as a female profession that excludes or limits access to male teacher candidates?

**Academic and Praxis Scores by Gender**

The academic differences of male and female teacher candidates, as found by Drudy (2006), suggests that females, as compared to males, are more likely to graduate from initial teacher education courses with honors. Although the research was conducted in Ireland, the findings suggest that perhaps the difference may be due to a feminine culture of teachers, which has resulted in a disadvantage for males (Drudy, 2008), a situation that may be prevalent in elementary education programs in the United States.

Pre-service teachers applying to initial licensure in many states across the United States are required to take and pass a licensure test. The Praxis, a test administered to pre-service teachers applying for initial licensure, requires a minimum score to pass. The Praxis series of tests have replaced the Nation Teacher Examinations (NTE). For
teachers of the primary or elementary grades, two tests are specific to elementary education: Elementary Education Pedagogy and Elementary Education Content Knowledge. Three states (Connecticut, North Carolina and South Carolina) require the Elementary Pedagogy Praxis for initial licensure, while twenty-five states require the Elementary Education Content Knowledge Praxis for initial licensure in early childhood education. Data from Educational Testing Service (ETS), which administers the Praxis series, found that there is a difference in the mean scores of males and females who pass the two tests required for Elementary Education. Females who pass the Elementary Education Pedagogy test have higher scores than males, while males who pass the Elementary Education Content Knowledge test have higher scores than females (U.S. Department of Education, 2010).

The data for the Elementary Education Pedagogy comprises scores from seven states for 2000 through 2007. The total percentage of male teacher candidates completing the test ranges from 9.5% to 10.6%. On the Elementary Education Pedagogy test, the mean scores for females who pass is higher than mean scores for males who pass (U.S. Department of Education, 2010).

The data for the Elementary Education Content Knowledge includes three years (2004-2006) and eighteen states. Males comprise 11.3% of the population of test takers. Opposite of the findings on the Elementary Education Pedagogy, males who pass the Elementary Education Content Knowledge test have scores that are higher than females. Two areas that must be considered is the type of tests and the number of states reported in the Praxis data.
The Elementary Education Pedagogy test is comprised of four essays while the Elementary Education Content Knowledge Test is comprised of 120 multiple-choice questions. Although the data is reflective of some states requiring the Praxis for initial licensure (seven states for the Elementary Education Pedagogy Test; 18 states for the Elementary Education Content Knowledge), it must be noted that California, Florida, Michigan, New York and Texas do not use the Praxis series for teachers, but rather have state specific licensure tests (U.S. Department of Education, 2010).

**Review of the Current State of Teaching by Gender**

Reported in 2004, there is a decline in the number of male teachers in education. In 1869, a little under 40% of all teachers were male (Johnson, 2008). In 1961, 31% of the teacher workforce in the United States was male (Snyder & Dillow, 2011; Fratt, 2004). As of 2001, the percent of male teachers has dropped to 21% (Fratt, 2004). In elementary education, male teachers represent less than 10% (Johnson, 2008; Porter, 2008). The status of males in elementary (primary) education is consistent around the globe, where males represent only about 5% of the workforce (Rentzou, 2011).

**Review of the Current State of Administration by Gender**

The position of principal in public education, as reported in the Digest of Educational Statistics 2010 (Snyder & Dillow, 2011), was once dominated by males. In 1993-1994, the total number of male principals was 52,110 as compared to the total number of female principals at 27,500. The increase of female administrators has been steady over the course of the past decade. In the 2007-2008 academic year, female and male K-12 principals were moving toward equity, with males (44,950) dipping slightly below the number of female administrators (45,520). In private schools, females have
maintained a majority since before 1993-1994. While males have remained the minority in private schools, in 2007-2008 females were reported as 14,890 whereas male principals were reported as 13,070 in private schools (Snyder & Dillow, 2011).

The role of principals in elementary schools, grades K-8, while once a male majority, is now moving towards a female majority. Over the past decade, the percentage of females in leadership positions in elementary education has increased from 41% in 1993 to 56% in 2004 (Kowalski, McCord, Peterson, Young, & Ellerson, 2011).

**Similarity-Attraction and Selection**

In considering gender of teachers, we must consider the gender of teacher applicants first. Past research has been conducted on similarity-attraction between applicants and administrators responsible for recruitment and hiring. Research has compared candidates and administrators on gender (Stallard, 1990; Young, 2005). Data collected from the principals’ perspective has mixed findings. Some found similar pairings based on gender, suggesting a greater chance of applicants being offered an interview as compared to dissimilar pairings (Young, 2005), while others found no significant difference in ratings based on gender (Stallard, 1990). Young (2005) used three variables to study the impact of teacher selection: gender of administrator, gender of applicant, and position sought by applicant (teacher or counselor). Using a step-down candidates who were similar (based on sex) to the administrator. The aim of this study is similar to Young’s (2005) research in investigating similarity-attraction between candidates and principals based on gender.

Research has been conducted on similarity-attraction from perspectives other than principal selecting teachers. Research has also been conducted from the teacher
candidate perspective. In recruitment, findings suggest that the similarity-attraction theory does not hold true for gender. There is no significant difference in how teacher applicants rate recruitment messages when paired with similar and dissimilar administrators based on gender (Young, Place, Rinehart, Jury, & Baits, 1997). However, Young et al. (1997) found similarity-attraction did hold true for similar pairings based on race. Finally, taking a different perspective on similarity-attraction from the administrative perspective (teachers acting as pretend administrators), Young and Marroquin (2006) reported findings that failed to fit within the similarity-attraction theory. Although not a focus of this study, similarity-attraction from the teacher (acting as an administrator responsible for hiring) and candidate perspectives add to the dialogue of similarity-attraction.

Considering the high level of female administrators in elementary schools and the findings of research on similarity-attraction, one might predict that female administrators would rate females higher and be more inclined to interview female candidates as compared to male candidates. Past research that has looked at gender in teacher selection has failed to address selection of elementary classroom teachers.

**Degree Types**

Another variable presented in research on teacher selection has been degree type. In Jury’s (1993) study, the degree type was varied between undergraduate and graduate. Half of the hypothetical teacher candidates held an undergraduate degree only, while half held a master’s degree. Two other variables were also examined: age (29 years old, 49 years old, or not given), and type of academic preparation (Holmes Group and traditional
preparation). Jury found no difference in the rating of candidates with a master’s degree as compared to those with only a bachelor’s degree.

Henrikson (1989) varied degree type by undergraduate institution: large public research university (University of Illinois) or small, private liberal arts university (Illinois Wesleyan University). She found a main effect for the selection of elementary music teachers. Those with degrees from the large public research university were rated higher than those from the small, private liberal arts university. Unlike prior studies, the dependent variable used was a line scale decision where number or values were not given.

Degree type, in this study, is not defined as both graduate and undergraduate, rather as an undergraduate degree obtained online versus an undergraduate degree obtained in a traditional brick-and-mortar setting. The growth of online degrees and opportunities for education online has begun to raise the question, which is the preference of administrators selecting elementary teachers, candidates with traditional degrees or candidates with online degrees?

**Online Learning**

Online learning was originally created as means for educating without boundaries and constraints of time. The concept of online learning focuses on breaking down barriers for students who may not reside near a college or university. The origins of online learning go back to distance learning (Bejerano, 2008). Distance learning is often confused with online learning, however distance learning can include the use of the Internet or “online learning” plus use other means of educating students (e.g. video tapes, mailed materials, etc.).
The technology boom of the 1990’s lead to the increase of distance learning though online learning. This has been particularly advantageous for members of the military who are stationed either a large distance away from universities or overseas (Lorenzo, 2008). As compared to traditional learning, where technology is not employed, online learning is defined as being 80% or more of the content delivered online (Allen & Seaman, 2006; 2011). In the past decade, online has seen significant growth from 1,602,970 students enrolled in at least one online class in the Fall of 2002, to 6,142,280 students enrolled in at least one online class commencing in the Fall of 2010 (Allen & Seaman, 2011). The growth of online and the increase of graduates with degrees that are comprised either in part by online classes or whole degree programs online through virtual universities, requires a closer look at the preference of future employers, specifically principals.

In respect to time, online learning has allowed individuals who hold daytime or evening jobs the flexibility of working within their schedule, rather than the traditional college hours. Some authors have argued that online learning is more student-centered in that the learner has the option of studying and working on assignments when the time is convenient to the learner rather than the instructor (O’Lawrence, 2005). The difference between online and traditional degrees have been questioned by many. Four key difference are often scrutinized: whether or not online learners are getting the best opportunity or equal opportunity to learn as compared to their traditional classroom counterparts; a higher failure rate for online students who are not self-disciplined (Adams, DeFleur, & Heald, 2007; Bejerano, 2008); the restrictive nature of online learning that does not allow for instructors to be mentors; and the perceived lower value
of an online degree as compared to a traditional degree (Adams & DeFleur, 2006). Although learning outcomes, student attitudes, grades and satisfaction with online learning have been compared (Ali, Hodson-Carlton, & Ryan, 2004; Allen & Seaman, 2011; Rodrigues, 2004), the focus of this study is the dispositions and potential for employment of teacher candidates who hold online degrees as defined through the evaluations of candidates from administrators responsible for hiring. The value of an online degree has come into question and been considered in research that investigates employer comparisons of candidates with online degrees and candidates with traditional degrees (Adams & DeFleur, 2006; Adams, DeFleur, & Heald, 2007).

**Hiring Preferences**

Although limited research to date has considered the preference of hiring or selecting teacher candidates who have completed online degrees, the findings suggest that a preference does exist for teacher candidates who have gained their credentials through traditional brick and mortar education as compared to online (Huss, 2007a, 2007c). The research, predominantly conducted by Jonathan Huss, has used mixed method approaches and has been conducted with different levels of school principals (elementary, middle, high school and mixed levels).

**Elementary level.** At the elementary level, Huss (2007d) used a random cluster sample of principals from Ohio, Kentucky and Indiana who were surveyed about online degrees in education and their (principal’s) perceptions and dispositions regarding candidates with online degrees. The quantitative portion of the research was a descriptive study focused on the acceptability of online degrees for elementary school teacher candidates. Of the one hundred elementary principals surveyed, 59% responded that
they would be “very concerned”, 37% responded that they would be “somewhat concerned,” and four percent said they would not be concerned if an elementary teacher candidate applying for a job had obtained a degree online. Over 95% of the principals felt that an online degree, when compared to the traditional degree, was not as credible (Huss, 2007d).

The qualitative portion of the research conducted by Huss (2007d) with elementary principals found themes that explained the views of the principals that online-teacher candidates were not as preferred as traditional brick-and-mortar candidates. Specifically expressed was the social aspect of teaching, that is, teacher candidates might not have experienced or been exposed to learning situations that could help “to develop their (teacher candidates’) cooperative and collegial skills” (Huss, 2007d, p. 49). Concern was also raised that the disposition of the teacher candidates would be unknown, as the candidates would not be interacting in person with professors. The principals surveyed, also questioned the ethics of online learning, how plagiarism can be controlled in an online format, and the potential for mistaken identity. Another area of concern was the motivation of teacher candidates to complete degrees online. Comments from the principals raised issues that teacher candidates might not be able to function with others.

One area, which was not addressed by Huss (2007d) but present in a report commissioned by the Western Governor’s University (Lorenzo, 2008), is the actual preparation for certification. As presented in the report, students from Western Governor’s University, a university completely online, achieved a passage rate for elementary education majors on the Praxis elementary pedagogy exam of 94%, with 32% of the students scoring in the top 15% nationally. Although the passage rate is high, the
The concern of this study is not the credibility but rather the acceptability of online degrees from the perspective of elementary principals hiring teachers.

**Middle school level.** At the middle school level, Huss (2007a) conducted similar research using a mixed method design. A random clustered sample of Middle School Principals from Ohio, Kentucky and Indiana were surveyed and asked to comment on questions concerning candidates with online degrees. Huss’ findings suggest, similar to those presented in his research at the elementary level (Huss, 2007d), that middle school principals prefer candidates with traditional degrees. For the qualitative portion of the research, themes were consistent with those presented in Huss’ 2007d research with elementary principals. A few new themes were found in his 2007a research with middle school principals: an uncertainty of candidate’s pedagogical knowledge as learned online and credibility of the candidates with online degrees.

**High school level.** Using a qualitative approach with seven high school principals from two large school districts in Kentucky, Huss (2007b) posed prompts to understand the perspectives and dispositions of the seven principals responsible for hiring new teachers. His open-ended questions focused on the reaction and opinions of the principals with regards to hiring teacher candidates who had “completed a web-based online teacher preparation program to attain his/her secondary certification” (2007b, p. 25). Questions posed also included the perceived advantages and disadvantages from the administrators’ perspective, as well as what experiences the administrators had with online learning. Themes from the research were consistent with prior research (Huss, 2007a) which included online learning as missing a social aspect to teaching, a mistrust and misunderstanding of student teaching, a lack of interaction with teacher candidates.
that could result in unknown dispositions, unknown ethics of online learning, and concern about why candidates would select online learning. The author suggests that the principals are “reluctant to embrace online pre-service teacher preparation at this time” (Huss, 2007b, p. 28). One point of interest in the research was that only one of the principals had experience with online learning, having taken a class online. Due to the nature of the research being qualitative, the findings are not generalizable but rather specific to the experiences of the seven principals who were purposely selected to participate. The limitations of Huss’ studies (2007a, 2007b, 2007c, 2007d) suggest the need for further investigation using an approach to permit generalizations.

**Principals from all levels.** Huss (2007c) conducted a similar study to previous ones, in that he used a qualitative approach to investigate the attitudes of administrators at all grade levels (elementary and secondary). When asked about their level of concern for candidates who have completed a degree online, of the 326 principals who participated, 48% of the principals reported being “somewhat concerned” while 52% reported being “very concerned” about potential employees (Huss, 2007c). In a similar study conducted by Huss (2007c), in which principals from all grade levels were surveyed, the findings are similar in the concern for candidates with online degrees: “somewhat concerned” 39% and “very concerned” 59%. In both studies (Huss 2007a and Huss 2007c), 95% of the respondents stated that in their opinion, “an online degree does not carry as much credibility as a teaching degree obtained in a traditional manner offline” (para. )

Utilizing a qualitative approach, Bolton (2010) used a survey with 100 participants and structured follow-up interviews with 20 principals from California (16 elementary principals, 1 middle/junior high principal and 3 high school principals). His
research began with identifying participants who had dispositions towards either propriety or for-profit institutions, or online teacher credential programs. From his research, he found that when asked about the likelihood of hiring a teacher from an online teacher credential program; 26.7% were “not likely” and 4% were “not at all” likely to hire applicants from an online teacher credential program (2010, p. 94). One principal stated, in regards to online credentials, “In my head it just sounds less than” (p. 101).

Concerning types of institutions, when asked the likelihood of hiring from a propriety institution; 35% were “not likely” to hire” and 5% were “not at all” likely to hire (p. 99). In follow-up interviews, one principal who stated she was “not at all” likely to hire an applicant from a proprietary institution, explained that “she will often begin the paper screening of applicants by looking for those who attended the more prestigious schools like the University of California schools and then ‘work her way down’ ” (p. 98).

Principals in interviews were also asked which type of candidate was most likely to be hired of the four choices given. A candidate who attended a traditional (face-to-face) program that was non-profit was selected most often (70%). The findings from Bolton’s research, suggest that principals are skeptical of applicants who have credentials from online institutions; proprietary or not. Bolton found there was a limited number (5.9% as “very likely”, 8.9% as “somewhat likely”) who would consider applicants with online credentials.

**Principals with online degrees.** Research within the field of education has been done that considers principal candidates who hold online degrees (Richardson, McLeod, & Dikkers, 2011). The research and findings are similar to studies conducted by Huss. A mixed method approach is used that includes both qualitative and quantitative design
and findings suggest a preference for principal candidates who hold a degree comprised of classes taken at a traditional university over online learning. Dissimilarities between prior research in education and the Richardson et al. (2011) study include the selection of principals as opposed to teachers by Human Resource Directors. Themes from the study include: applicants with an online degree not being considered, candidates with online degrees being viewed as less qualified, interviews for candidates with online degrees being conducted differently than with their counterparts who hold traditional degrees, a need for additional research into online programs, and demanding additional on-the-job-experiences for candidates with online degrees.

**Higher education.** Empirical studies have been conducted at the higher education level. DeFleur and Adams (2004) found a difference in the acceptance of students to graduate programs based on the type of undergraduate degree obtained (traditional on campus, all online, or half online/half on campus). Graduate programs preferred to accept graduates students who had obtained their undergraduate degree by completing all coursework on campus. In 2005, Adams and DeFleur conducted a study to find the acceptability of a doctoral degree earned online from the perspective of search committee administrators. From the responses of the administrators, 98% stated “I would be most likely to recommend hiring this applicant” when the applicant had a degree that was comprised of traditional coursework only, while “Only one of the search committee chairs (representing 1%) was willing to recommend an applicant with a degree earned totally online for a position within his or her institution” (Adams & DeFleur, 2005, p. 78). However, in the case of community colleges, Guendoo (2008) found that
individuals responsible for hiring were just as likely to consider online doctoral degree applicants as those who received their doctoral degree from a traditional institution.

**Other fields.** Other fields in which online degrees and traditional degrees were compared include healthcare (Adams, DeFleur, & Heald, 2007) and business (Adams & DeFleur, 2006; Seibold, 2007). In the fields of healthcare and business, the findings suggest that consideration for degrees is significantly different. In the case of healthcare, the findings by Adams, DeFleur and Heald (2007) suggest traditional degrees are favored over online degrees where 95% of employers responded with a preference for degrees that were not obtained online only. In business, Adams and DeFleur (2006) used job advertisements from eight major cities around the United States. Of the 269 participants that rated hiring candidates for open positions within their companies, 96% reported recommending applicants with a traditional degree while only four percent recommended those with an online degree. Adams & DeFleur’s findings include the type of undergraduate degree as being a major consideration when weighing or comparing candidates. Seibold’s (2007) qualitative themes suggest that online degrees are not preferred over traditional degrees.

**Summary**

Teacher selection research has been established from the early 1980’s with research conducted by Young and Allison (1982) and extending to present day studies (i.e. Vail, 2010). Past research in teacher selection has focused on variables that identify discrimination as defined by the Age Discrimination in Employment Act, 1976 and Title VII of the Civil Right’s Act (i.e. race, color, religion, sex, and national origin). The focus of this study is the preference or bias for selection of elementary teachers based on
applicant gender. One possible theory for discrimination based on gender is that female teacher candidates are selected more often than males due to the role of teaching being defined as “women’s work.” An alternate theory, which could be explained by rationale of males choosing not to teach, is that the market itself is female dominated. That is, males are not selected as often due to a limited number of male applicants. In this study, market demands are overlooked, as the paper candidates are half male and half female.

Other rationales supporting the preference of principals to select a candidate based on gender could include gender of applicants as impacting student achievement or the achievement of female teacher candidates over male teacher candidates. Research, however, suggests that the gender of teacher does not impact student achievement (Carrington & McPhee, 2008; Chudgar & Sankar, 2008). Of the two Praxis test required for licensure in elementary education, neither gender appears to outperform the other overall; males who pass performed better than females who passed on Elementary Education Content Knowledge Praxis test, while females who passed performed better than males who passed on the Elementary Education Pedagogy Praxis test (U.S. Department of Education, 2010).

Teaching remains a female dominated profession in the classroom, while the principalship has slowly become more female. Males once represented the majority, however recent reports show that females have become the majority (Snyder & Dillow, 2011). A possible explanation for the high percentage of female teachers and the preference for female candidates over male candidates could be similarity-attraction. Female principals are attracted to candidates who are most similar to them.
The final variable, degree type, has limited research. The findings in education suggest a preference for candidates with traditional degrees over online degrees (Huss, 2007a, 2007b, 2007c, 2007d). However, the studies have not looked at nationwide random samples. In fields other than education, a preference by gatekeepers to hire applicants who hold a traditional degree as compared to an online degree has been identified (Adams & DeFleur, 2006; Adams & DeFleur, & Heald, 2007; Seibold, 2007).

This study will combine variables (applicant gender and principal gender) that have been studied in the past at high levels (high school) with the variable of degree type that has limited studies in the tri-state (Indiana, Kentucky, and Ohio).
CHAPTER III

METHODS

Research Question

The purpose of this research was to identify the differences in building principals’ ratings of elementary teacher candidates based on three variables; gender of the teacher candidate, gender of the administrator, and candidate’s education (online or traditional), while also considering a similarity-attraction model for explaining the preference for teacher candidates based on gender similar to that of the administrator. The research was guided by three main research questions and three additional questions that were analyzed using a 2 x 2 x 2 ANOVA. Significant findings were further analyzed using a step-down ANOVA. Similar to past research on selection preferences for middle school principals, conducted by Young & Young (2010) and for selection of a high school principal by Young, Young, and Oto (2011), the research design addressed selection as a process.

In past research regarding teacher selection, (e.g. Place, 1989; Reis, Young & Jury, 1999; Young, 2005; Young & Marroquin, 2006; Young & Oto, 2004) resumes were used as paper credentials for teacher candidates. Research conducted by Young and Chounet (2003) compared three different types of medium (traditional mailed credentials, electronic mode of credentials presentation in the form of a CD-ROM, or credentials
posted on the web) accessible to teacher candidates applying for a position. The findings of Young and Chounet’s research suggest that school administrators preferred to review candidates who sent traditional mailed credentials for vacant positions rather than candidates who sent either CD-ROM or used a webpage (2003). Due to the preference of principals in Young and Chounet’s study, this study relied on traditional paper credentials sent through the mail.

**Teacher Selection and Design**

The design of teacher selection studies has used consistent dependent variables, specifically the six item criteria (Jury, 1993; Lou, 1995; Vail, 2010; Young & Allison, 1982; Young & Schmidt, 1988). A few studies have used only five criteria rather than six, dropping the question concerning candidate’s knowledge about curricular material and adding the dependent variable of likelihood of an interview (Young, 2005; Young & Fox, 2002; Young & Oto, 2004). Consistent with prior research, the design of this study used the six criteria and the likelihood of an interview as the dependent variables. In selection of administrators (Young & Young, 2010) and the selection of teachers (Young & Fox, 2002), it has been suggested that selection is a process and should be studied as such. Young and Young (2010) and Young and Fox (2002) have argued for the use of a step-down ANOVA as a follow up for significant findings.

With the exception of a few studies (i.e. Lou, 1995; Place, 1989, Henrikson, 1989), the majority of researchers have consistently had administrators (principals or superintendents) evaluate only one hypothetical candidate to maintain a higher return rate. Place (1989) argued that the evaluation of one candidate is not consistent with the actual practice of administrators evaluating multiple candidates for a given position, but
recognized that the amount of time required to evaluate more than one candidate could deter administrators from participating in the research. Following the design of previous studies, this study used the evaluation of only one candidate.

Others areas in which consistency in design for this study has been utilized in previous studies of teacher selection is the use of a factorial design ANOVA for analysis of the data (i.e. Jury, 1993; Stallard, 1990; Young & Fox, 2002). The alpha level (.05) has also been consistent in past research (e.g. Jury, 1993; Place, 1989; Young & Fox, 2002) and this study.

**Population**

The defined population was comprised of all public school elementary principals within the United States. Statistical power, as suggested by the G*Power Program, along with the return rate of similar studies that ranged from 22% (Vail, 2010) to 60% (Young, 2005, Young & Fox, 2002), determined a sample size of 600. The alpha level was set (.05), consistent with prior studies (i.e. Young & Fox, 2002). Market Data Retrieval (MDR), an organization specializing in collecting data, supplied the researcher with a list of names and mailing addressed for elementary principals. Similar to past studies on teacher selection, a national sample was used (e.g. Jury, 1993; Stallard, 1990; Vail, 2010). A split (50% female and 50% male) random sample was used.

**Procedure**

Each elementary school principal was mailed an initial packet containing; (1) a cover letter, (2) a job description, (3) a reference letter, (4) a resume for a hypothetical teacher candidate, (5) self-biographical form, (6) a candidate evaluation form, and (7) a pre-stamped return envelope. The cover letter included an explanation that the research
being conducted was part of a dissertation (see Appendix A). Contact information for the researcher along with the chair of the dissertation was also included. Participants were assured anonymity as stated by the cover letter. All participants interested in obtaining a summary of the study findings, regardless of participation, were directed to contact the researcher via email.

All elementary principals received the same job description, for a first grade teacher (see Appendix B). The job description included a description and desired teacher behaviors that are consistent with job descriptions used in prior studies (i.e. Lou, 1995; Place, 1989; Stallard, 1990; Vail, 2010). Unlike prior studies that have studied secondary education teacher candidates, the job description for this study included requirements of a degree in early childhood education and features of the position that are more specific to elementary education. A letter of reference (see Appendix C) was also included that verbalizes support for the candidate from a previous supervisor. The reference letter was similar to those in prior studies (i.e. Lou, 1995; Vail, 2010) but was adapted to be more specific to elementary education. All packets contained only one resume (see Appendix D), as principals were asked to evaluate only one candidate. Resumes of candidates were adapted from prior studies (Vail, 2010). The resumes were consistent between candidates with experience, education and certification in early childhood education.

The elementary principals were directed to review the job description prior to reviewing and evaluating the hypothetical candidate. The evaluation form (see Appendix E) included the six questions regarding teacher criteria and the scale for likelihood of offering an interview as part of the selection process. Principals were also directed to complete a demographic form (see Appendix F). Seven demographic
questions were asked of the elementary principals: (1) age, (2) gender, (3) years of experience as an administrator, (4) number of students in their school, (5) status of employing elementary teachers within their district, (6) if resumes are used as part of teacher selection within their district, and (7) if the board typically supports the principal’s decisions in teacher selection. The first six demographic questions were adapted from past research (Vail, 2010). A distinct difference between this study and Vail’s (2010) was the omission of the question on the demographics regarding type of district. As this is not the focus of this study, the question was removed.

Although the list of administrators supplied from MDR included a list of female and male administrators, it was my concern that there was potential for administrators, other than those identified by MDR, to complete the evaluation of hypothetical candidates. For example, a principal whose name was provided by MDR may have left the district either due to retirement, reassignment or absence due to being on leave. Therefore, the principal who received the packet may not be the identified individual and may not be the same gender as the principal listed by MDR. The demographic questions include the gender of the administrator as a means to validate which gender is filling out the form.

After the initial mailing, a low return rate (6.2% for surveys completed and 8.1% for all returned surveys) prompted me to send out a second mailing and to randomly contact a small sample of participants by telephone. A new cover letter was used for the second mailing (see Appendix G). The second mailing produced a return rate of 14.6% for surveys completed and 17.5% for all returned surveys. With both mailings, a
response rate of 20.8% for completed surveys and 25.6% for all returned surveys was achieved.

**Variables**

**Independent Variables**

The resumes of elementary teacher candidates manipulated two of the three independent variables. The gender on the resumes varied between male and female and the type of bachelor’s degree varied between traditional and an online degree. The names selected for the hypothetical applicants were field-tested for accuracy in recognizing the names as specific to the gender: Jacob as male and Isabella as female. A pilot study was conducted with graduate students from the University of Dayton who were enrolled in a graduate level education course. Twenty-two graduate students were given a questionnaire (see Appendix H) that asked the respondents to identify the gender for each name given. Six names were provided; the names were selected from Social Security Administration (2011) top baby names by gender of 2010.

For the bachelor’s degree obtained, the traditional degree was stated on the candidate resume as State University Traditional while the online degree was stated as Online University. The university names identifying the type of undergraduate degree type (online or traditional) were also field tested by graduate students in coordination with the field-testing of gender specific names (see Appendix H). Data from the field test supported the use of Online University and State University Traditional being specific about the type of learning environment in which the teacher candidate obtained their bachelor’s degree.
A second pilot study was conducted with thirty-eight graduate students from a Midwestern University. All participants were enrolled in graduate level education courses. The participants were presented with a packet identical to those received by principals participating in the study; (1) a cover letter, (2) a job description, (3) a reference letter, (4) a resume for a hypothetical teacher candidate, (5) self-biographical form, and (6) an evaluation form. After completing the evaluation form and self-biographical form, packets were collected. Similar to other research on teacher selection (Young & Fox, 2002), the variables were validated by having the participants answer two questions regarding the candidate they evaluated; (1) the candidate’s gender and (2) the type of degree the candidate held (online or traditional). Of the thirty-eight participants in the second pilot study, 38 (100%) correctly recalled and identified the gender of the applicant they had evaluated. For the type of institution the applicant attended, 34 (89.4%) correctly recalled and identified the type of institution (online or traditional). Two participants who were randomly assigned a candidate with online degree recalled and incorrectly identified the candidate as having attended a traditional institution. While in reverse, two participants who were randomly assigned a candidate with a traditional degree, recalled and incorrectly identified the candidate as having attended an online institution.

In the pilot study as well as in this study, participants were randomly assigned candidates who varied on applicant gender and degree type. In this study, for the third independent variable, gender of administrator, a split sample was used as provided by Market Data Retrieval.
Dependent Variables

Two dependent variables were addressed; (1) participating principals’ ratings of candidates on six criteria areas that combined to create a composite score, and (2) participating principals’ ratings of likelihood to invite hypothetical candidates for an interview. For the first dependent variable, rating of candidate on six criteria area, similar to past studies (i.e. Jury, 1993; Lou, 1995; Vail, 2010; Young & Allison, 1982; Young & Chounet, 2003; Young & Schmidt, 1988) principals’ ratings of six areas were gathered; (1) candidate’s knowledge of the curricular areas, (2) candidate’s ability to transmit knowledge, (3) candidate’s likelihood to contribute to overall school program, (4) candidate’s ability to maintain a disciplined teaching environment, (5) candidate’s ability to create a friendly class environment, and (6) candidate’s potential for professional growth. Each criteria item was evaluated and scored on a four point scale, where poor=1, fair=2, good=3, and excellent=4. A total composite score was calculated using the sum of all six criteria scores for total possible point score range of 4 to 24.

The second dependent variable, used in past research (Young, 2005; Young & Fox, 2002; Young & Oto, 2004), the likelihood of being offered an interview, was measured using a scale of 1 to 10. A rating of 1 was associated with the applicant not being offered an interview and 10 was associated with the applicant being offered an interview.

Prior studies have utilized the use of the two dependent variables and established both the internal consistency and validity of the criteria used (e.g. Lou, 1995). A Cronbach Alpha was reported as ranging from .78 to .86 (Lou, 1995; Young & Fox, 2002, Young & Oto, 2004, Young, 2005). Young & Chounet’s (2003), past research in
teacher selection found a coefficient of consistency of 0.89 for the composite score from the six criteria.

**Constant Conditions**

The paper credentials (resumes) of the teacher candidates included the independent variables (gender and degree type). In the case of constant conditions, the resumes of applicants held constant educational degree and licensure, endorsement, teaching experience, and undergraduate G.P.A. The gender of the applicant was reflective of their first name (Jacob or Isabella); the surname and middle initial were held constant (C. Evans).

**Data Analysis**

The study utilized a 2 x 2 x 2 completely crossed factorial design analyzed using an ANOVA and followed-up with a step-down ANOVA. Degree type was varied two ways (online degree and traditional degree), the gender of the applicant varied two ways (male and female), and the gender of the principal evaluating the applicant varied two ways (male and female). A total of eight different variations of resumes along with gender of the principal were produced.

Prior research conducted by Young & Young (2010) and Young, Young, and Oto (2011) on selection of principals by superintendents used a step-down analysis to sequentially lay out the dependent variables thought to impact the superintendent’s preference. Research in the field of teacher selection, Young (2005), also employed a step-down analysis to compare decisions of high school principals regarding selection of teacher and counselor candidates. The authors of all three studies presented in their literature review the ranking of the variables based on prior studies. The step-down
analysis, as defined by Roy (1958), suggests that the variables within an ANOVA are arranged in an order based on level of importance. Disagreement exists between authors Finch (2007) and Stevens (2002) as to the use of empirical evidence to support the ordering of variables. As presented by Finch (2007), a step-down analysis does not use statistics to determine the order of variables, rather theoretical importance. Stevens (2002), states that “there must be some theoretical rationale or empirical evidence to dictate a given ordering” of variables (p. 374).

For this study, the rationale supporting the use of step-down ANOVA is the process of candidate evaluation rather than an event. The theory in this study assumed principals considering hypothetical candidates would first rate the applicant based on the six criteria presented as the first dependent variable. The theory assumes, as supported by the past research conducted by Young (2005) on teacher selection and Young and Young (2010), as well as Young, Young, & Oto (2011), that evaluation of teacher candidates is a process that begins with the evaluation of individual criteria and results in the final decision to extend an interview.

**Hypotheses**

Evaluation of candidates with the composite score as the dependent variable;

1. There is a statistically significant three-way interaction between the variables: gender of applicant, gender of administrator and type of degree in effects on the composite score rating of hypothetical teacher candidates.

2. There is a statistically significant two-way interaction between the variables gender of the applicant and the gender of the administrator in effects on the composite score rating of hypothetical teacher candidates.
3. There is a statistically significant two-way interaction between the variables gender of the applicant and the type of degree in effects on the composite score rating of hypothetical teacher candidates.

4. There is a statistically significant two-way interaction between the variables gender of the administrator and the type of degree in effects on the composite score rating of hypothetical teacher candidates.

5. There is a main effect for gender of the applicant in effect on the composite score for hypothetical teacher candidates.

6. There is a main effect for gender of the administrator in effect on the composite score for hypothetical teacher candidates.

7. There is a main effect for type of degree in effect on the composite score for hypothetical teacher candidates.

Evaluation of candidates with the likelihood of an interview rating as the dependent variable;

8. There is a statistically significant three-way interaction between the variables: gender of applicant, gender of administrator and type of degree in effects on the likelihood of an interview.

9. There is a statistically significant two-way interaction between the variables gender of the applicant and the gender of the administrator in effects on the likelihood of an interview.

10. There is a statistically significant two-way interaction between the variables gender of the applicant and the type of degree in effects on the likelihood of an interview.
11. There is a statistically significant two-way interaction between the variables gender of the administrator and the type of degree in effects on the likelihood of an interview.

12. There is a main effect for gender of the applicant in effect on the likelihood of an interview.

13. There is a main effect for gender of the administrator in effect on the likelihood of an interview.

14. There is a main effect for type of degree in effect on the likelihood of an interview.

Using the dependent variable of composite score as a covariate, a step-down ANOVA was run with the likelihood of an interview rating:

15. There is a statistically significant three-way interaction between the variables: gender of applicant, gender of administrator and type of degree in effects on the likelihood of an interview when the composite score is used as a covariate.

16. There is a statistically significant two-way interaction between the variables gender of the applicant and the gender of the administrator in effects on the likelihood of an interview when the composite score is used as a covariate.

17. There is a statistically significant two-way interaction between the variables gender of the applicant and the type of degree in effects on the likelihood of an interview.
18. There is a statistically significant two-way interaction between the variables gender of the administrator and the type of degree in effects on the likelihood of an interview when the composite score is used as a covariate.

19. There is a main effect for gender of the applicant in effect on the likelihood of an interview when the composite score is used as a covariate.

20. There is a main effect for gender of the administrator in effect on the likelihood of an interview when the composite score is used as a covariate.

21. There is a main effect for type of degree in effect on the likelihood of an interview when the composite score is used as a covariate.
CHAPTER IV
REPORT OF FINDINGS

The purpose of the research study was to determine the effect of candidate gender, candidate degree type (online or traditional), and the effect of administrator gender on the evaluation of teacher candidates and the likelihood of candidates being offered an interview.

Demographics of the Sample

Names and addresses were purchased from the company Market Data Retrieval (MDR). The study sample was comprised of 600 elementary principals throughout the nation. Participants were randomly selected (300 male principals and 300 female principals) and randomly assigned one of four resume conditions (male candidate with an online degree, male candidate with a traditional degree, female candidate with an online degree, and female candidate with a traditional degree). Of the 600 names provided by MDR, five of the mailings were returned, as addresses were either insufficient or undeliverable. Five of the remaining 595 addresses were not elementary schools. One mailing was returned, as the principal listed was no longer employed in the district. Thus the list of 600 participants was limited to 589 valid names, addresses, and elementary schools. Of the 589 elementary principals assumed to be successfully contacted and employed as elementary level principals, 151 (25.6%) of the 589 participants responded.
Among the 589 participants, 123 (20.84%) of the evaluations were completed, including ratings on both the six criteria and the likelihood of an interview. A total of 28 participants failed to complete the entire evaluation, thus making a composite score incomplete or providing no rating on the likelihood of an interview. Similar to other research (Henrikson, 1989; Jury, 1993; Lou, 1995) surveys not completed were not included in the data analysis. In this study, the demographics for those who did not complete the surveys are presented separately for discussion purposes, see Appendix I. Written-in responses by the 28 participants regarding why they failed to complete the survey are included in Appendix J.

Two chi squares were run to determine if equal balances existed within the returned evaluations. The first chi square was run to determine if a balance existed between the return rate for each resume condition x gender of administrator. A significant chi square was not found for resume conditions and the gender of the administrator $\chi^2(3, N = 123) = 4.95, p > .05$, as presented in Table 1. Of the 123 participants, 59 (47.9%) were male administrators and 64 (52.0%) were female administrators. A second chi square was run to determine if a balance existed between the return rate for the gender of candidates x gender of the administrator. A significant chi square was not found $\chi^2(1, N = 123) = 1.70, p > .05$, as presented in Table 2.
Table 1

*Evaluation Based on Resume Conditions and Principal Gender (N = 123)*

<table>
<thead>
<tr>
<th>Resume Conditions</th>
<th>MCT</th>
<th>MCO</th>
<th>FCT</th>
<th>FCO</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male principal</td>
<td>15*(25.4%, 50.0%, 12.1%)</td>
<td>15*(25.4%, 37.5%, 12.1%)</td>
<td>18*(30.5%, 64.2%, 14.6%)</td>
<td>11*(18.6%, 44.0%, 8.9%)</td>
<td>59**(47.9%)</td>
</tr>
<tr>
<td>Female principal</td>
<td>15*(23.4%, 50.0%, 12.1%)</td>
<td>25*(39.0%, 62.5%, 20.3%)</td>
<td>10*(15.6%, 35.7%, 8.1%)</td>
<td>14*(21.8%, 56.0%, 11.3%)</td>
<td>64**(52.0%)</td>
</tr>
<tr>
<td>Total</td>
<td>30**(24.3%)</td>
<td>40**(32.5%)</td>
<td>28**(22.7%)</td>
<td>25**(20.3%)</td>
<td>123</td>
</tr>
</tbody>
</table>

Legend: MCT= male candidate traditional degree; MCO= male candidate online degree; FCT= female candidate traditional degree; FCO= female candidate online degree
*(Row percentage, column percentage, and total percentage)*
***(Total percentage)***
Table 2

*Evaluations by Gender of Candidate and Principal (N = 123)*

<table>
<thead>
<tr>
<th>Resume conditions</th>
<th>Male candidates</th>
<th>Female candidates</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male principal</td>
<td>30 *(50.8%, 42.8%, 24.3%)</td>
<td>29 *(51.7%, 54.7%, 23.5%)</td>
<td>59 **(47.9%)</td>
</tr>
<tr>
<td>Female principal</td>
<td>40 *(62.9%, 57.1%, 32.5%)</td>
<td>24 *(37.5%, 45.2%, 19.5%)</td>
<td>64 **(52.0%)</td>
</tr>
<tr>
<td>Total</td>
<td>70 **(56.9%)</td>
<td>53 **(43.0%)</td>
<td>123</td>
</tr>
</tbody>
</table>

*(Row percentage, column percentage, and total percentage)

**(Total percentage)**

Of the 123 principals who responded with completed six criteria evaluations and indicated the likelihood of an interview, 122 also completed the demographic questionnaire. The demographics collected included (1) age, (2) gender, (3) years of experience as a school administrator, (4) approximate number of students in the school, (5) employing status of elementary teachers within the district, (6) whether or not resumes are used as part of the interview process, and (7) whether or not recommendations for hiring teachers are ordinarily accepted. A total of 59 male and 64 female principals completed and returned the questionnaire. For the age question, principals were asked to identify their age in one of three ranges. Of those 123 completing both the evaluation of the candidate and the demographic sheets, 22 identified themselves as being under 40 years old, 63 identified themselves as being between 40 and 55 years old, and 37 identified themselves as being 56 years old or older. Reports from 1993-1994 stated that 7% of elementary principals were under the age of 40.
(NAESP, 2006). The percentage continued to grow to 10% reported in the 1999-2000 academic year, and 15% in the 2003-2004 academic year (NAESP, 2006). The percentage of those under the age of 40 has increased over the past decade and the findings of this study are congruent with the increasing trend: Of the 123 who completed and returned the survey, 17.9% of those surveyed reported they were under the age of 40.

During the 1993-1994 academic year, it was reported that seven years of experience as an elementary principal was average, while in 2003-2004 it had increased to eight years (NAESP, 2006). This study found the average years to be slightly higher. A recent study of high school principals and teacher selection found the average number of years of experience to be 12.2 years (Vail, 2010). In studies of elementary principals and teacher selection, the average number of years found in 2003 by Young and Chounet was 12.35 years of administrative experience, with a range of 1 to 29 years of experience. In this study, the years of experience as an administrator ranged from 1 year to 31 years, with 10.64 years as an average and a standard deviation of 7.66. Student populations within the building ranged from 10 students to 1,300 students, with an average of 440.18 students per building and a standard deviation of 263.07. Demographic data are presented in Table 3.

Principals were asked to report the status of employing elementary teachers in their district. A total of 58 identified staffing of elementary teachers as a surplus, while 62 identified the status as enough and 3 identified the status as a shortage. Past studies on teacher selection have reported that resumes are part of the screening process in teacher selection (Young & Oto, 2004; Young, 2005). In this study, 121 (98.4%) of the 123 principals reported that resumes are part of the screening process. The final
demographic question asked participants if their recommendations for hiring teachers are ordinarily accepted. For this study, of the 123 participants, 122 reported that their recommendations are ordinarily accepted. One participant did not answer the question, rather the participant wrote in “Don’t know yet, we haven’t hired since I was principal.” Demographic information, for the 28 participants who returned the survey but did not complete the survey in its entirety, is presented in Appendix I.

Table 3

Demographic Data of the Participants who Completed the Survey (N = 123)

<table>
<thead>
<tr>
<th>Information</th>
<th>Frequency (%)</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) under 40 years</td>
<td>22 (17.9%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) between 40</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and 55 years</td>
<td>63 (51.2%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3) 56 years old</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and older</td>
<td>37 (30.1%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4) Male</td>
<td>59 (47.96%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(5) Female</td>
<td>64 (52.03%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admin Exp</td>
<td>10.64</td>
<td>7.66</td>
<td></td>
<td>1--31</td>
</tr>
<tr>
<td>School size</td>
<td>440.18</td>
<td>263.07</td>
<td></td>
<td>10--1300</td>
</tr>
</tbody>
</table>

Examination of the Variables

Two dependent variables were addressed in the study: the evaluation of candidates on six criteria and the likelihood of offering an interview. For the six criteria, principals were asked to rate candidates on a Likert type scale. The six criteria included
(1) candidate’s knowledge of the curricular areas, (2) candidate’s ability to transmit knowledge, (3) candidate’s likelihood to contribute to overall school program, (4) candidate’s ability to maintain a disciplined teaching environment, (5) candidate’s ability to create a friendly class environment, and (6) candidate’s potential for professional growth. Participating principals were asked to score the hypothetical candidates on each criteria item, on a four point scale, where poor = 1, fair = 2, good = 3, and excellent = 4. A total composite score was then compiled using the six criteria; each individual criteria item was added together to create a composite score. The composite score served as the first dependent variable. The frequency of rating of the candidates on the six criteria questions are presented in Table 4.
Table 4  

*Frequency of Ratings of Candidates on Six Criteria (N = 123)*

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Poor</th>
<th>Fair</th>
<th>Good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Candidate’s knowledge of the curricular area</td>
<td>12 (9.75%)</td>
<td>31 (25.20%)</td>
<td>63 (51.21%)</td>
<td>17 (13.82%)</td>
</tr>
<tr>
<td>(2) Candidate’s ability to transmit knowledge</td>
<td>18 (14.63%)</td>
<td>37 (30.08%)</td>
<td>59 (47.96%)</td>
<td>9 (7.31%)</td>
</tr>
<tr>
<td>(3) Candidate’s likelihood to contribute to overall school program</td>
<td>9 (7.31%)</td>
<td>31 (25.20%)</td>
<td>52 (42.27%)</td>
<td>31 (25.20%)</td>
</tr>
<tr>
<td>(4) Candidate’s ability to maintain a disciplined teaching environment</td>
<td>14 (11.38%)</td>
<td>41 (33.33%)</td>
<td>62 (50.40%)</td>
<td>6 (4.87%)</td>
</tr>
<tr>
<td>(5) Candidate’s ability to create a friendly classroom</td>
<td>13 (10.56%)</td>
<td>37 (30.08%)</td>
<td>65 (52.84%)</td>
<td>8 (6.50%)</td>
</tr>
<tr>
<td>(6) Candidate’s potential for professional growth</td>
<td>9 (7.31%)</td>
<td>17 (13.82%)</td>
<td>59 (47.96%)</td>
<td>38 (30.89%)</td>
</tr>
</tbody>
</table>

The means and standard deviations for each of the six criteria are presented in Table 5. On average, candidates were rated the lowest on criteria item (2) transmitting
knowledge and on criteria item (4) maintaining a disciplined teaching environment, while
the highest rated criteria was item (6) potential for professional growth.

Table 5

Means and Standard Deviations (SD) of Ratings of Candidates on Six Criteria (N = 123)

<table>
<thead>
<tr>
<th>Criterion</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Candidate’s knowledge of the curricular area</td>
<td>2.69</td>
<td>.83</td>
</tr>
<tr>
<td>(2) Candidate’s ability to transmit knowledge</td>
<td>2.47</td>
<td>.83</td>
</tr>
<tr>
<td>(3) Candidate’s likelihood to contribute to overall school program</td>
<td>2.85</td>
<td>.88</td>
</tr>
<tr>
<td>(4) Candidate’s ability to maintain a disciplined teaching environment</td>
<td>2.48</td>
<td>.76</td>
</tr>
<tr>
<td>(5) Candidate’s ability to create a friendly classroom</td>
<td>2.55</td>
<td>.77</td>
</tr>
<tr>
<td>(6) Candidate’s potential for professional growth</td>
<td>3.02</td>
<td>.86</td>
</tr>
</tbody>
</table>

Scale: 1=Poor, 2=Fair, 3=Good, 4=Excellent

Previous studies have found a Cronbach Alpha ranging from .78 to .89 (Lou, 1995; Young & Chounet, 2003; Young & Fox, 2002; Young & Oto, 2004; Young, 2005). In this study, the internal consistency of the six criteria was found to be \( \alpha = .94 \). Stallard (1990) stated in her study that the high reliability coefficient (\( \alpha = .84 \)) supported “the appropriateness of using the composite score for analysis” (p. 47). Stallard’s suggestion to use a composite is similar to findings of other studies (Place, 1989; Young & Schmidt, 1988). The inter-correlations between each of the six criteria are presented in Table 6. The inter-correlation matrix shows that the criteria were highly inter-correlated; with item (4) candidate’s ability to maintain a disciplined teaching environment and item (5),
candidate’s ability to create a friendly learning environment, having the highest (.84) inter-item correlation.

The two items that scored the lowest on average by participants were items (2) candidate’s ability to transmit knowledge ($\bar{X} = 2.47$) and (4) candidate’s ability to maintain a disciplined teaching environment ($\bar{X} = 2.55$). If item (2) or item (4) were to be deleted from the Cronbach Alpha Coefficient, the result would be an alpha of .92, or an alpha of .93 respectively. In either case, the deletion of these two items would result in a Cronbach Alpha only somewhat lower than the initial six-item Cronbach Alpha ($\alpha = .94$).

Table 6

*Inter-Item Correlations of Items on Six Criteria for Teachers (N = 123)*

<table>
<thead>
<tr>
<th></th>
<th>Item 1</th>
<th>Item 2</th>
<th>Item 3</th>
<th>Item 4</th>
<th>Item 5</th>
<th>Item 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 1</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 2</td>
<td>.81</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 3</td>
<td>.79</td>
<td>.81</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 4</td>
<td>.68</td>
<td>.76</td>
<td>.68</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 5</td>
<td>.65</td>
<td>.72</td>
<td>.69</td>
<td>.84</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Item 6</td>
<td>.62</td>
<td>.67</td>
<td>.71</td>
<td>.63</td>
<td>.66</td>
<td>*</td>
</tr>
</tbody>
</table>

Legend: Item 1=Candidate’s knowledge of the curricular area, Item 2=Candidate’s ability to transmit knowledge, Item 3=Candidate’s likelihood to contribute to overall school program, Item 4=Candidate’s ability to maintain a disciplined teaching environment, Item 5=Candidate’s ability to create a friendly classroom environment, Item 6=Candidate’s potential for professional growth
**Composite Score**

For the composite score, male candidates were rated an average of 16.35 (SD = 4.24), while female candidates were rated an average composite score of 15.73 (SD = 4.40). The mean composite score for female administrators was 16.48 (SD = 4.62), as compared to male administrators 15.66 (SD = 4.05). Principals rated the resumes from online learners results a mean composite score of 16.29 (SD = 4.33). Principals rated the resumes of traditional learners results a mean composite score of 15.86 (SD = 4.31). Composite score means and standard deviations are displayed in Table 7. Table 8 presents the means and standard deviations for the main effects composite scores.

**Table 7**

*Composite Score Means and Standard Deviations (SD) (N = 123)*

<table>
<thead>
<tr>
<th>Interaction</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male principal x male candidate x online degree</td>
<td>16.40</td>
<td>3.85</td>
</tr>
<tr>
<td>Male principal x male candidate x traditional degree</td>
<td>15.93</td>
<td>3.32</td>
</tr>
<tr>
<td>Male principal x female candidate x online degree</td>
<td>15.45</td>
<td>4.84</td>
</tr>
<tr>
<td>Male principal x female candidate x traditional degree</td>
<td>14.94</td>
<td>4.46</td>
</tr>
<tr>
<td>Female principal x male candidate x online degree</td>
<td>16.32</td>
<td>5.24</td>
</tr>
<tr>
<td>Female principal x male candidate x traditional degree</td>
<td>16.80</td>
<td>3.93</td>
</tr>
<tr>
<td>Female principal x female candidate x online degree</td>
<td>16.78</td>
<td>2.57</td>
</tr>
<tr>
<td>Female principal x female candidate x traditional degree</td>
<td>16.00</td>
<td>5.98</td>
</tr>
</tbody>
</table>


Table 8

*Composite Score Means and Standard Deviations (SD) (N = 123)*

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Principal gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>15.66</td>
<td>4.05</td>
</tr>
<tr>
<td>Female</td>
<td>16.48</td>
<td>4.52</td>
</tr>
<tr>
<td><strong>Candidate gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>16.35</td>
<td>4.24</td>
</tr>
<tr>
<td>Female</td>
<td>15.73</td>
<td>4.40</td>
</tr>
<tr>
<td><strong>Candidate degree</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online</td>
<td>16.29</td>
<td>4.33</td>
</tr>
<tr>
<td>Traditional</td>
<td>15.86</td>
<td>4.31</td>
</tr>
</tbody>
</table>

**Interactions and main effects.** Using the composite score, there was no significant finding detected for the three-way interaction of candidate gender, administrator gender, and degree type. Nor were there significant findings reported for any of the two-way interactions. Findings are presented in Table 9. There was no main effect detected for composite scores based on candidate gender, administrator gender, or degree type.
Table 9

*Analysis of Variance for Composite Score (N = 123)*

<table>
<thead>
<tr>
<th>Variables</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admin gender (A)</td>
<td>1</td>
<td>18.05</td>
<td>18.05</td>
<td>6.64</td>
<td>.56</td>
</tr>
<tr>
<td>Candidate gender (B)</td>
<td>1</td>
<td>9.22</td>
<td>9.22</td>
<td>1.85</td>
<td>.47</td>
</tr>
<tr>
<td>Candidate degree type (C)</td>
<td>1</td>
<td>2.94</td>
<td>2.94</td>
<td>2.45</td>
<td>.82</td>
</tr>
<tr>
<td>A x B</td>
<td>1</td>
<td>4.58</td>
<td>4.58</td>
<td>1.71</td>
<td>.41</td>
</tr>
<tr>
<td>A x C</td>
<td>1</td>
<td>.807</td>
<td>.807</td>
<td>.30</td>
<td>.68</td>
</tr>
<tr>
<td>B x C</td>
<td>1</td>
<td>3.07</td>
<td>3.07</td>
<td>1.14</td>
<td>.47</td>
</tr>
<tr>
<td>A x B x C</td>
<td>1</td>
<td>2.67</td>
<td>2.67</td>
<td>.13</td>
<td>.71</td>
</tr>
</tbody>
</table>

*p<.05

**Likelihood of an Interview**

For the second dependent variable, participants were asked how likely they would be to offer the candidate an interview on a scale from 1 (poor) to 10 (excellent). The means and standard deviation for the scale based on each resume condition are presented in Table 10. The means ranged from 6.71 for female principals rating female candidates with online degrees to 5.27 for male principals rating female candidates with a traditional degree.
Table 10

*Likelihood of an Interview Means and Standard Deviations (SD) (N = 123)*

<table>
<thead>
<tr>
<th>Interaction</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male principal x male candidate x online degree</td>
<td>6.20</td>
<td>2.73</td>
</tr>
<tr>
<td>Male principal x male candidate x traditional degree</td>
<td>6.33</td>
<td>2.49</td>
</tr>
<tr>
<td>Male principal x female candidate x online degree</td>
<td>5.72</td>
<td>3.31</td>
</tr>
<tr>
<td>Male principal x female candidate x traditional degree</td>
<td>5.27</td>
<td>3.67</td>
</tr>
<tr>
<td>Female principal x male candidate x online degree</td>
<td>6.04</td>
<td>3.44</td>
</tr>
<tr>
<td>Female principal x male candidate x traditional degree</td>
<td>6.33</td>
<td>2.82</td>
</tr>
<tr>
<td>Female principal x female candidate x online degree</td>
<td>6.71</td>
<td>2.67</td>
</tr>
<tr>
<td>Female principal x female candidate x traditional degree</td>
<td>5.80</td>
<td>3.15</td>
</tr>
</tbody>
</table>

On the likelihood of an interview scale, male candidates were rated an average of 6.20 ($SD = 2.92$), while female candidates were rated an average of 5.84 ($SD = 3.21$). Female administrators’ rating of likelihood of an interview was 6.22 ($SD = 3.04$), as compared to male administrators at 5.86 ($SD = 3.05$). Principal’s rated online learners interview potential average score of 6.16 ($SD = 3.05$), while rating traditional learners 5.91 ($SD = 3.05$). Likelihood of an interview ratings main effects means and standard deviations are presented in Table 11.
Table 11

*Likelihood of an Interview Means and Standard Deviations (SD) (N = 123)*

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Principal gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>5.86</td>
<td>3.05</td>
</tr>
<tr>
<td>Female</td>
<td>6.22</td>
<td>3.04</td>
</tr>
<tr>
<td>Candidate gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>6.20</td>
<td>2.92</td>
</tr>
<tr>
<td>Female</td>
<td>5.84</td>
<td>3.21</td>
</tr>
<tr>
<td>Candidate degree</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online</td>
<td>6.16</td>
<td>3.05</td>
</tr>
<tr>
<td>Traditional</td>
<td>5.91</td>
<td>3.05</td>
</tr>
</tbody>
</table>

**Interactions and main effects.** Using the likelihood of an interview rating, the three-way interaction between the variables of candidate gender, administrator gender, and candidate degree type was not significant. No significant findings were reported for any of the two-way interactions. Findings are presented in Table 12. There was no main effect detected for likelihood of an interview based on candidate gender, administrator gender, or degree type when comparing the composite score. As presented in Table 12, the analysis failed to detect main effect for any of the variables.
Table 12

*Analysis of Variance for Likelihood of an Interview (N = 123)*

<table>
<thead>
<tr>
<th>Variables</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admin gender (A)</td>
<td>1</td>
<td>3.26</td>
<td>3.26</td>
<td>.73</td>
<td>.57</td>
</tr>
<tr>
<td>Candidate gender (B)</td>
<td>1</td>
<td>3.45</td>
<td>3.45</td>
<td>.34</td>
<td>.62</td>
</tr>
<tr>
<td>Candidate degree type (C)</td>
<td>1</td>
<td>1.57</td>
<td>1.57</td>
<td>.30</td>
<td>.69</td>
</tr>
<tr>
<td>A x B</td>
<td>1</td>
<td>4.99</td>
<td>4.99</td>
<td>7.13</td>
<td>.22</td>
</tr>
<tr>
<td>A x C</td>
<td>1</td>
<td>.16</td>
<td>.16</td>
<td>.23</td>
<td>.71</td>
</tr>
<tr>
<td>B x C</td>
<td>1</td>
<td>5.74</td>
<td>5.74</td>
<td>8.21</td>
<td>.21</td>
</tr>
<tr>
<td>A x B x C</td>
<td>1</td>
<td>.70</td>
<td>.70</td>
<td>.07</td>
<td>.78</td>
</tr>
</tbody>
</table>

*p<.05

Step-Down ANOVA

Although the analysis failed to find significant F values for main effects (candidate gender, candidate degree type, principal gender), two-way interactions (candidate gender x candidate degree type, candidate gender x principal gender, candidate degree type x principal gender) or three-way interactions (candidate gender x candidate degree type x principal gender) for either the composite score or the likelihood of an interview scale, a step-down ANOVA was run to confirm the findings.

Interactions and main effects. The analysis failed to detect two or three way interactions between the variables (principal gender, candidate gender, and candidate degree type), as presented in Table 13. The means and standard deviations for the eight interactions are shown in Table 14. Similar to the findings in previous sections, the
analysis failed to find a main effect for any of the variables, as presented in Table 13.

Means for the step-down ANOVA main effects are presented in Table 15.

Table 13

*Analysis of Variance for Step-Down ANOVA (N = 123)*

<table>
<thead>
<tr>
<th>Variables</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admin gender (A)</td>
<td>1</td>
<td>.51</td>
<td>.51</td>
<td>.28</td>
<td>.64</td>
</tr>
<tr>
<td>Candidate gender (B)</td>
<td>1</td>
<td>.003</td>
<td>.003</td>
<td>.001</td>
<td>.97</td>
</tr>
<tr>
<td>Candidate degree type (C)</td>
<td>1</td>
<td>.05</td>
<td>.05</td>
<td>.02</td>
<td>.90</td>
</tr>
<tr>
<td>A x B</td>
<td>1</td>
<td>.92</td>
<td>.92</td>
<td>44.21</td>
<td>.06</td>
</tr>
<tr>
<td>A x C</td>
<td>1</td>
<td>.88</td>
<td>.88</td>
<td>55.21</td>
<td>.13</td>
</tr>
<tr>
<td>B x C</td>
<td>1</td>
<td>1.8</td>
<td>1.8</td>
<td>96.83</td>
<td>.057</td>
</tr>
<tr>
<td>A x B x C</td>
<td>1</td>
<td>.01</td>
<td>.01</td>
<td>.006</td>
<td>.93</td>
</tr>
</tbody>
</table>

*p<.05*
Table 14

*Step-down ANOVA Means and Standard Deviations (SD) (N = 123)*

<table>
<thead>
<tr>
<th>Interaction</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male principal x male candidate x online degree</td>
<td>6.20</td>
<td>2.73</td>
</tr>
<tr>
<td>Male principal x male candidate x traditional degree</td>
<td>6.33</td>
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</tr>
<tr>
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<td>5.72</td>
<td>3.31</td>
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<tr>
<td>Male principal x female candidate x traditional degree</td>
<td>5.27</td>
<td>3.67</td>
</tr>
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<td>3.44</td>
</tr>
<tr>
<td>Female principal x male candidate x traditional degree</td>
<td>6.33</td>
<td>2.82</td>
</tr>
<tr>
<td>Female principal x female candidate x online degree</td>
<td>6.71</td>
<td>2.67</td>
</tr>
<tr>
<td>Female principal x female candidate x traditional degree</td>
<td>5.80</td>
<td>3.15</td>
</tr>
</tbody>
</table>

Table 15

*Step-down ANOVA Means (N = 123)*

<table>
<thead>
<tr>
<th></th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>6.16</td>
</tr>
<tr>
<td>Female</td>
<td>6.05</td>
</tr>
<tr>
<td>Candidate gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>6.06</td>
</tr>
<tr>
<td>Female</td>
<td>6.05</td>
</tr>
<tr>
<td>Candidate degree</td>
<td></td>
</tr>
<tr>
<td>Online</td>
<td>6.08</td>
</tr>
<tr>
<td>Traditional</td>
<td>6.03</td>
</tr>
</tbody>
</table>

With a return of 123 usable responses, the statistical power for a small-size effect was .09. Previous studies have used a medium-sized effect size as defined by Cohen (1977), \( f = .25 \) (Lou, 1995; Place, 1989; Young & Chounet, 2003). For a medium effect
size, with the return of 123, the resulting power was .46. In either case, small or medium effect size, this study lacked power and the likelihood of a type II error occurring was high. As Cohen (1977) states, “increase in sample size increases statistical power” (p. 7). Thus to increase the statistical power of this study, the sample should have been larger.

Summary

The first seven null hypotheses of this study were analyzed with an ANOVA for the composite criteria score. For the interactions (three-way or two-way), no significant findings were detected. For the first hypothesis, (1) There is a statistically significant three-way interaction between the variables: gender of applicant, gender of administrator and type of degree in effects on the composite score rating of hypothetical teacher candidates, as presented in Table 9, the analyses failed to detect an interaction.

For hypothesis (2), There is a statistically significant two-way interaction between the variables gender of the applicant and the gender of the administrator in effects on the composite score rating of hypothetical teacher candidates, the analyses failed to find an interaction as presented in Tables 9. The second two-way interaction was tested by the third hypothesis-(3) There is a statistically significant two-way interaction between the variables gender of the applicant and the type of degree in effects on the composite score rating of hypothetical teacher candidates. Findings presented in Table 9 demonstrate that the analyses failed to find an interaction. The fourth hypothesis-(4) There is a statistically significant two-way interaction between the variables gender of the administrator and the type of degree in effects on the composite score rating of hypothetical teacher candidates, Table 9, the analysis failed to detect an interaction.
Hypothesis (5), (6), and (7) tested the main effects for gender of applicant, gender of the administrator, and the type of degree. In all three cases, the analyses failed to detect a significant difference between the average composite scores rated by male and female principals, a significant difference in the average composite scores of male and female candidates, and a significant difference in the average composite score of candidates with online and traditional degrees, findings are presented in Table 9. In all three cases (gender of the applicant, gender of the administrator, and degree type), no main effects were found.

The second set of seven hypotheses used the dependent variable of likelihood of an interview rating. Similar to the findings for the first seven hypotheses, data analysis with an ANOVA did not detect significant findings. For the interactions, no significant interactions were detected. The interaction of all three variables were tested by the hypothesis -(8) There is a statistically significant three-way interaction between the variables: gender of applicant, gender of administrator and type of degree in effects on the likelihood of an interview, presented in Table 12 the analysis failed to detect an interaction between the variables.

Two-way interactions were tested by three different hypothesis- (9) There is a statistically significant two-way interaction between the variables gender of the applicant and the gender of the administrator in effects on the likelihood of an interview, (10) There is a statistically significant two-way interaction between the variables gender of the applicant and the type of degree in effects on the likelihood of an interview, and (11) There is a statistically significant two-way interaction between the variables gender of the
administrator and the type of degree in effects on the likelihood of an interview. In all three cases, the analysis failed to detect interactions as shown in Table 12.

As presented in Table 12, main effects were analyzed for each of the variables by hypothesis 12, 13, and 14. For the hypothesis -(12) There is a main effect for gender of the applicant in effect on the likelihood of an interview, (13) There is a main effect for gender of the administrator in effect on the likelihood of an interview, and (14) There is a main effect for type of degree in effect on the likelihood of an interview, the analysis failed to detect main effects.

For the final seven hypotheses, a step-down ANOVA was performed where the composite of the six criteria questions were entered as the covariate and the likelihood of an interview rating was used as the dependent variable. Similar to the first two data analysis, no significant findings were detected for interactions (three-way or two-way).
For the fifteenth hypothesis, (15) There is a statistically significant three-way interaction between the variables: gender of applicant, gender of administrator and type of degree in effects on the likelihood of an interview when the composite score is used as a covariate, the analysis failed to detect an interaction as presented in Table 13.

For the sixteenth hypothesis, (16) There is a statistically significant two-way interaction between the variables gender of the applicant and the gender of the administrator in effects on the likelihood of an interview when the composite score is used as a covariate, the analysis failed to detect an interaction as shown in Table 13.

Presented in Table 13, the analysis failed to detect an interaction between the gender of the applicant and applicant degree type as was tested by the hypothesis -(17) There is a statistically significant two-way interaction between the variables gender of the applicant
and the type of degree in effects on the likelihood of an interview. The analysis also failed to detect an interaction between gender of the administrator and the candidate degree type, as was tested by the hypothesis- (18) There is a statistically significant two-way interaction between the variables gender of the administrator and the type of degree in effects on the likelihood of an interview when the composite score is used as a covariate.

Main effects were analyzed for each variable by hypothesis- (19) There is a main effect for gender of the applicant in effect on the likelihood of an interview when the composite score is used as a covariate, (20) There is a main effect for gender of the administrator in effect on the likelihood of an interview when the composite score is used as a covariate, and (21) There is a main effect for type of degree in effect on the likelihood of an interview when the composite score is used as the covariate. In all three cases, the analysis failed to detect a main effect, as presented in Table 13.

The failure to find a significant difference for all of the hypotheses must be considered in light of the potential for a type II error due to low power and effect size (medium). As Tapia and Marsh (2002) state, “If a test is not significant, it is important to know if this is because there is no effect or because the research design did not detect it” (p. 4). In this study, with a medium effect size, the power of this analysis was only a .46. Trusty, Thompson, and Petrocelli (2004) refer to the effect size as the “estimate of practical significance” (p. 108). In considering the effect as practical significance, a medium effect size for this study roughly states that this study lacks strength due to the low return rate, making the practical application of the findings suspect.
CHAPTER V
CONCLUSIONS AND RECOMMENDATIONS

Summary

The purpose of this study was to identify preferences for hiring elementary teacher candidates by principals based on gender of applicants (male or female), candidate degree type (online or traditional), and gender of the principal (male or female). As hiring is a process with multiple parts, this study investigated the paper (resume) screening of candidates. The population was elementary school principals. The sample was comprised of 589 elementary principals nationwide. The principals were randomly selected and randomly assigned candidates who varied on gender and degree type. Of the 589 participants, 151 (26.5%) returned the survey. Of these, 123 (20.8%) returned usable completed surveys.

Previous studies have focused on either using criteria to rate candidates or using a scale that gives the likelihood of an interview (Jury, 1993; Vail, 2010; Young & Allison, 1982). Few studies have used both (Young, 2005; Young & Fox, 2002; Young & Oto, 2004). Researchers Young (2005), Young and Young (2010), Young, Young, and Oto (2011) have used both items to analyze and compare findings in selection of teachers and administrators. In those cases, a step-down ANOVA was used and the first set of criteria served as the covariate for the second dependent variable, likelihood of an interview. In
the case of Henrikson (1989), a different scale was used in that participants were asked to mark on a line their likelihood of an interview. Studies comparing candidates based on gender have used either one (Jury, 1993; Lou, 1995; Newby, 1994; Place, 1989; Stallard, 1990; Young & Schmidt, 1988) or both (Young & Chounet, 2003; Young & Fox, 2002; Young, 2005) of the evaluations mentioned (criteria and likelihood of an interview). Studies concerning teachers’ degree types (Bolton, 2010; Huss, 2007a, 2007b, 2007c, 2007d) have not used the evaluation instrument previously used in teacher selection studies. The studies conducted by Huss (2007a, 2007c) have used questionnaires that focused on a few questions regarding teacher selection and online degrees. This study is unique in that degree types have been investigated for the first time in combination with the teacher evaluation instrument that has been commonly used to compare candidates on other variables (i.e. age, gender, experience, GPA).

As selection is a process, the analysis was conducted using a step-down ANOVA. First, candidates were rated on six criteria: (1) Candidate’s knowledge of the curricular areas, (2) Candidate’s ability to transmit knowledge, (3) Candidate’s likelihood to contribute to overall school program, (4) Candidate’s ability to maintain a disciplined teaching environment, (5) Candidate’s ability to create a friendly class environment, and (6) Candidate’s potential for professional growth. Similar to previous studies, the criteria were part of an instrument used by Young and Allison (1982). A composite score was compiled for each candidate evaluation. The scores were then compared using an ANOVA. The analysis failed to find a difference for any of the variables: gender of applicant, gender of principal, or applicant degree type.
Candidates were also rated on the likelihood of being offered an interview. The scale ranged from 1 (poor) to 10 (excellent). An ANOVA failed to identify a significant relationship with any of the three variables as main effects or interactions. Finally, the data were analyzed using a step-down ANOVA, in which the presumed process of evaluating a candidate was explored. It was assumed that first the participants rated the candidates on the six criteria and then decided the likelihood of an interview. Using the composite scores of the six criteria as the covariate, the data were analyzed. The results indicated that candidate’s gender, degree type, and the gender of the principal were not influential in the evaluation of candidates. Male and female candidates were not rated differently, candidates with online degrees were not rated differently than candidates with traditional degrees, and female principals did not rate candidates (male or female) differently than male principals.

Discussion

Teacher selection remains critical to school success. As the importance of teachers has been documented as a factor in student success (Darling-Hammond, 2000b, 2007; Haycock & Crawford, 2008; O’Donovan, 2010; Penske & Haycock, 2006), the selection of teachers must be thoroughly investigated. Past research has addressed variables such as age, experience and gender of applicants. Studies have focused on the impact of bias (based on applicant age and gender) that violates federal laws (Place, 1989; Young & Chounet, 2003; Young & Oto, 2004).

Research on selection has focused mainly on teachers of higher-grades, those above elementary levels (Jury, 1993; Lou, 1995; Newby, 1994; Place, 1989; Stallard, 1990; Wallich, 1984; Young & Alison, 1982; Young & Johnson, 1987; Young, Jury, Bon
Reis, 1997; Young & Oto, 2004). For this study, selection was explored at the elementary level. Three variables were investigated in this study: elementary teacher candidate’s gender, elementary principal’s gender, and elementary teacher candidate’s degree type.

**Gender of the Applicant**

Unique to elementary education, as compared to higher-grade levels, is the dominance of female teachers. As has been documented, fewer than 10% of teachers at the elementary level are male. The majority of teachers are reported to be female (Johnson, 2008). Recognizing the mass exodus in the late 1800s of males from the teaching profession and the feminization of education, this study was framed by the historical statements of teaching as “women’s work”. However the findings are not reflective of teaching as a female profession, rather males and females are evaluated equally as potential teacher candidates. Although research as recent as 2008 has documented student teachers’ perceptions of the “ideal primary teacher” being a female (Drudy), and male elementary teachers in the UK were quoted as feeling marginalized in their profession due to their gender (Foster & Newman, 2005), the results of this study suggest that view may not be held by elementary principals.

Discrimination based on gender has been investigated in studies conducted by Henrikson (1989), Place (1989), Stallard (1990), Wallich (1984), Young (2005), and Young and Schmidt (1988). Findings have been mixed. Henrikson (1989), Place (1989), and Stallard (1990) found that candidate gender had no effect on the evaluation of candidates, while Young (2005) found a preference for candidates based on their gender and the gender of the principal: female administrators were more likely to offer an
interview to female applicants while male administrators were more likely to offer an interview to male candidates. Young and Schmidt (1988) found a two-way interaction for gender and age. In comparing age and gender, females were preferred when they were younger and males were preferred when they were reported as older.

This study failed to find that discrimination occurred based on gender of applicants. Despite the current state of teaching at the elementary level being predominantly female, female applicants in this study were not rated on the six criteria or the likelihood of an interview significantly differently than male applicants. These findings are similar to those of Henrickson’s study of elementary music teacher candidates, Place’s study of chemistry teacher candidates, Stallard’s study of physics and physical education teacher candidates, and Wallich’s study of social studies teacher candidates.

Gender of the Principal

The demographics of the elementary principalship have changed over the course of the past decade. In 1993 males represented more than half the population of elementary principals, whereas in 2004 male elementary principals as a proportion had declined and female elementary principals increased to above 50% (Kowalski, McCord, Peterson, Young, & Ellerson, 2011). This study focused on a possible theory that due to the majority of administrators being female that perhaps teacher selection was skewed towards the selection of female applicants based on similarity attraction. Young’s 2005 study found a preference for high school teacher and counselor candidates based on similarity attraction between the gender of the administrator and the gender and of applicant (Young, 2005). This study created equal representation of administrators
based on gender as well as the candidate representation. Resume conditions were randomly assigned in a split sample (50% female administrators and 50% male administrators with 50% female candidates and 50% male candidates). The analysis failed to detect a difference in the rating of candidates based on the gender of the administrator, nor any interactions between administrator gender and candidate gender. Unlike Young’s 2005 study, preference was not found for similar pairings. Nor was preference found for dissimilar pairings.

**Applicant Degree Type (Online or Traditional)**

As online education continues to grow, the impact of the preference for candidates with online degrees has yet to be fully investigated. Previous studies (Bolton, 2010; Huss, 2007a, 2007b, 2007c, 2007d) have found a documented preference for teacher candidates who hold traditional degrees. In the field of education, at the elementary level, Huss (2007d) found that principals from Ohio, Kentucky and Indiana did not feel online degrees were as credible as traditional degrees. Of those surveyed by Huss (2007d), only four percent stated they would not be concerned if an applicant had an online degree. Currently, Western Governor’s University (WGU), offers online degrees in teacher education. On their website, in regard to initial licensure or certification, WGS states:

Completion of a WGU teaching degree program or teacher preparation program will qualify you to apply for licensure in all 50 states and all U.S. territories because the state-approval and accreditation status of our programs meet state requirements for licensure eligibility. Each state has specific requirements that
must be met in addition to completing your WGU degree online. (Western Governor’s University, 2012)

The findings of this study are inconsistent with previous studies, as the analysis failed to detect a difference in the rating of candidates with online degrees compared to candidates with traditional degrees. In Huss’ study (2007b), qualitative findings stated that “perceptions demonstrated throughout the interviews suggest these building principals are reluctant to embrace online pre-service teacher preparation at this time” (Huss, 2007b, p. 28). The data from this study failed to find a difference in the rating of candidates based on degree type. Of the five percent of participants who failed to complete the entire survey, none of the written comments mentioned concerns regarding the type of degree (online or traditional) the candidate held.

Although time could be an explanation for the differences in findings between Huss’s 2007 study and this study (2012), consideration must be given to Bolton’s 2010 study. His findings support Huss’s findings that there was a preference to hire candidates who held a traditional degree over those who hold an online degree. This study appears to be the first in the field to document that a difference was not detected in the rating of candidates with online degrees as compared to those with traditional degrees. However, caution must be given in generalizing the findings as the low statistical power leaves potential for error.

The return rate (25.6%) was low compared to previous studies on teacher selection that have been around 60% (Young 2005; Young & Fox, 2002) but fell within the range of more recent studies that were closer to 19.2% of usable returned surveys (Vail, 2010). A potential type II error must also be considered. Due to the findings, the
researcher failed to reject the null hypothesis and it is assumed that there is no relationship between the variables. However, potentially due to the low return rate, it may be possible that the study lacked power and thus a relationship does exist between the variables.

**Implications for Practice**

The research failed to reveal a significant difference in the rating of elementary teacher candidates based on gender of applicant, gender of administrator, or applicant degree type. The results that male and female candidates are not evaluated significantly different are consistent with the aim of Civil Rights Act of 1967 that protects against discrimination based on gender. In regard to degree type, the findings of this study suggest that administrators (principals) may believe that the two types of degrees (online and traditional) are equivalent.

Finally, the gender of the administrator may not play a role in the selection process, that is, male administrators rate male and female candidates similarly and female administrators rate male and female candidates similarly. Similarity attraction does not hold for this study. The findings failed to document that administrators have an attraction to candidates based on their gender or the gender of the applicant.

**Implications for Research**

The number of evaluations used to compare the resume conditions was impacted by the low return rate but also by the 4.75% (28) surveys returned with only portions of the survey completed. In reviewing past research projects on teachers selection, it was noted that other researchers had experienced surveys returned with portions not completed (Jury, 1993; Lou, 1995). However, in comparing the projects of researchers
who had used the same teacher candidate evaluation instrument, there was no mention of reasons for incomplete surveys. This study includes a section on the comments made by participants who did not complete the survey in its entirety. Future studies should consider those comments and use them as guidance for including additional information in the candidate resume and letters of recommendation.

The response rate was in issue for the study. Future studies should consider improving the response rate by either using multiple mailings including a postcard to remind participants to return completed surveys. Other suggestions might include email reminders and options for completing the candidate evaluation online.

In addition, the use of the instrument employed in prior studies has yielded a consistently high Cronbach Alpha. In this study the six criteria questions hung well together (α = .94). In reviewing the evaluations that were not completed in their entirety, one suggestion would be for future studies to eliminate those questions that yielded a lower response rate by those who only completed portions of the survey. Reviewing the number of non-responses to question four, 21 (75% of 28) participants did not answer the question. The removal of question (4) would not highly impact the cronbach alpha of the five other criteria items (α = .93). Comments held a consistent theme, that lack of information made the evaluation of the candidate on ability to create a friendly classroom environment impossible.

If participants felt compelled to write in additional comments regarding their hesitation to evaluate candidates on specific criteria, perhaps the response by future researchers should be a redesign of the instrument for their studies or an inclusion of
additional materials that demonstrate candidates’ ability to create a friendly learning environment.

**Limitations**

One of the major limitations of this study was the return rate. At just over 25% of teacher evaluations returned, the usable percentage was limited to 20.8%. Using a power analysis for a small effect size, for a conservative approach, made the likelihood of a potential type II error very high. Prior studies in teacher selection have employed a medium effect size (Lou, 1995; Place, 1989; Young & Chounet, 2003). For this study, a medium effect size resulted in the potentials for a type II error occurring. In either case, small or medium effect size, the potential for a type II error was higher than normally accepted.

As the findings of this study are reflective of only those who chose to respond to the survey in its entirety, generalizing the findings must be done with caution. The demographics of the 4.75% who returned the survey were similar to those of the 20.8% who returned completed surveys. However the incomplete surveys were not used in the analysis of the variables. Therefore the findings cannot be generalized to the 4.75% who did not complete the entire survey or those that chose not to participate in the study.

The evaluation tool used in this study has been used in prior studies, predominantly at the high school level. This study was aimed at elementary education, which makes the comparison of these findings to prior studies limited.
Recommendations

This study was designed to explore teacher selection at the elementary level. As previous studies have been focused at the secondary level (Jury, 1993; Lou, 1995; Newby, 1994; Place, 1989; Stallard, 1990; Wallich, 1984; Young & Alison, 1982; Young & Oto, 2004), this study was designed to investigate the often-overlooked elementary level. Only three studies have previously studied the elementary level (Henrickson, 1989; Young & Chounet, 2003; Young & Schmidt, 1988), however the studies have not focused on general education teachers, gender of teacher applicants, or teacher degree type. As this study might be the first to explore gender of applicants with general education degrees at the elementary level, it is recommended that future studies more thoroughly explore this area.

Degree type (online or traditional) has become an area for investigation as online learning continues to grow. It is recommended that future studies focus more closely on the difference in hiring preferences based degree types. It is also recommended that future researchers consider the type of degrees and learning experiences (online or traditional) that participants hold. This study did not ask principal participants to state if their undergraduate or graduate degree was obtained online or in a traditional setting.

Although this study does include new findings specific to elementary level teacher selection and online degrees, it is important to consider limitations of the study; sample size, power, and study design. Prior studies on teacher selection have found return rates ranging from 20% (Vail, 2010) to 60% (Young, 2005). This study suffered from a low return rate of 25.6%, with only 20.8% of the teacher evaluation surveys being completed. The power of this study was therefore weak. Future studies are required that
would have a higher return rate or larger sample size, thus limiting the potential for a type II error.

The design of this study, where participants rated only one candidate, was different compared to prior studies that required participants to evaluate multiple candidates (Lou, 1995; Place, 1989). Although the argument could be raised that the evaluation of only one candidate requires less time and could impact return rates, the evaluation of multiple candidates is more reflective of the actual evaluation of more than one candidates for open positions. As was documented in the demographic sections, 47.2% of the principals felt that there was a surplus of candidates for positions within their building while 50.4% felt there was enough, thus making hiring a process that considers multiple candidates rather than just one. Future studies may want to consider using a between-within approach in that participants would evaluate multiple candidates for an open position, this would result in an increase in power.

In this study the name of applicants were selected to be gender specific and, in the pilot study, all participants were able to correctly identify the names as either male or female. Regarding the institution where the applicant received a degree, a few participants were unable to identify the institutional names as either online or traditional. A recommendation for future studies is to create multiple opportunities for evaluators to note the degree type.

Finally, a recommendation for future studies is to include more points of reference for evaluators. Of those who did respond to the survey, 4.75% did not complete the survey in its entirety. Comments were handwritten by participants that centered on a lack of information for rating the candidates. Although past studies have
used similar packets of information for teacher selection studies, it has not been noted in previous studies that some participants would prefer more information. Future studies may want to consider including information on teacher candidates’ discipline policies, lists of references or philosophy statements.
REFERENCES


doi:10.1080/02607470801979558


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Jury, J. C. (1993). Effects of age, type of academic preparation and level of degree on employment screening decisions made by high school principals (Unpublished doctoral dissertation). The Ohio State University, Columbus, Ohio.


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ncipal%2F2006%2FS-
Op42.pdf&ei=XhWIT4ChGYy_gQf49MXeAQ&usg=AFQjCNGG_xmRnh7ZuA
_RLoVggFCn2brGTw


Western Governer’s University. (2012). *Becoming a licensed teacher through the WGU Teachers College.* Retrieved from http://www.wgu.edu/education/teaching_license


February 20, 2012
Dear Elementary School Principal,
Principals are asked to perform many tasks. The selection of teachers is one of the most important. Teacher selection consists of at least two processes: (1) screening, and (2) interviewing. Research, however, on the screening process leading up to the final interview has been limited, specifically at the elementary level. I hope to add to existing knowledge of the teacher screening and selection process. I understand the daily demands of your time are important. As such, this study is designed to take only a few minutes. I sincerely hope you will choose to assist in this research.

Specifically, you are asked to read the enclosed position description and to evaluate the candidate as if you were screening for a vacant position in your building. After you complete the evaluation of the candidate, you are asked to please return the candidate evaluation form along with your self-biographical (demographics) form in the enclosed self-addressed envelope.

The confidentiality of your response is assured because your name is not requested. All individual responses will be treated anonymously. There is no compensation for responding nor is there any known risk. In order to ensure that all information will remain confidential, please do not include your name on the candidate evaluation or self-biographical forms. The return of the survey constitutes your informed consent.

Thank you for taking the time to assist me in my educational endeavors. Completion and return of the forms will indicate your willingness to participate in this study. The data collected will provide useful information regarding selection of elementary teachers. If you would like a summary copy of this study please contact me via email at Lmccue1@udayton.edu and a Word document will be emailed to you. If you require additional information or have questions, please contact me, at (937) 304-8558, or my academic advisor, Dr. A. Will Place, at (937) 229-2640.

Thank your for your time and consideration.

Sincerely,
A. William Place

***Adapted from Vail, 2010

Lesley McCue
APPENDIX B

JOB DESCRIPTION

TITLE: First Grade Teacher

REPORTS TO: Building Principal

DESCRIPTION:
To instruct students effectively and affectively.
To supervise, test and grade students as well as develop curriculum with other district personnel.

FEATURES OF THE POSITION:
Twenty (20) to Twenty-four (24) students
Medium-sized school (K-3 Building with 400 students)
Moderately conservative community
Challenging students
Strong parental support within the community

DESIRED TEACHER BEHAVIOR:
Friendly, but firm
Strong teaching skills
Intelligent
Dynamic
Sociable
Positive model
Wide range of interests
Dedicated to teaching
Extra-curricular involvement/experience

REQUIRED CERTIFICATION AND DEGREE
Undergraduate or advanced degree in early childhood education with a state certification/licensure to teach early childhood (K-3) and additional training and certification for instruction in reading.

***Adapted from Jury, 1993; Lou, 1995; Place, 1989; Stallard, 1990; Vail, 2010
APPENDIX C

REFERENCE LETTERS

Reference Letter for Jacob C. Evans

To Whom it May Concern:

I am writing this letter on behalf of Mr. Jacob C. Evans, a candidate for a first grade teaching position. Mr. Evans was a teacher in our elementary school this past year. He was given the responsibility of teaching a diverse group of first graders and tutoring second grade students who were identified to be struggling readers.

Jacob exhibited a thorough knowledge of the subject matter. He was able to plan and organize several leveled reading groups. He seemed to meet individual students’ needs as well.

Mr. Evans maintained a professional relationship with students, faculty, and the community at all times. He was well thought of and appreciated by colleagues and supervisors for his work in the classroom, as well as the textbook review committee, literature review committee, and reading assessment committee.

Overall, I would rate Jacob Evans high as a first grade teacher. I would not hesitate to hire Jacob again should he ever apply to our district in the future.

Sincerely,

A. Principal

***Adapted from Vail, 2010***
Reference Letter for Isabella C. Evans

To Whom it May Concern:

I am writing this letter on behalf of Ms. Isabella Evans, a candidate for a first grade teaching position. Ms. Evans was a teacher in our elementary school this past year. She was given the responsibility of teaching a diverse group of first graders and tutoring second grade students who were identified to be struggling readers.

Isabella exhibited a thorough knowledge of the subject matter. She was able to plan and organize several leveled reading groups. She seemed to meet individual students’ needs as well.

Ms. Evans maintained a professional relationship with students, faculty, and the community at all times. She was well thought of and appreciated by colleagues and supervisors for her work in the classroom, as well as the textbook review committee, literature review committee, and reading assessment committee.

Overall, I would rate Isabella Evans high as a first grade teacher. I would not hesitate to hire Isabella again should she ever apply to our district in the future.

Sincerely,

A. Principal

***Adapted from Vail, 2010***
APPENDIX D

CANDIDATE RESUMES

Resume 1 - Male Candidate with Online Degree

Personal Data
Name: Jacob C. Evans
Address: 6625 Broadway Blvd, Capital City, State*
Telephone: (###) 555-4567
Email: jacob.evans@onlineuniversity.edu

Educational Background
Bachelor’s Degree: B.S. – Online University
Undergraduate G.P.A.: 3.50
Major: Early Childhood Education    Minor: Reading Intervention

Certification/Licensure
Pre K- Grade 3
K-12 Reading Endorsement

Teaching Experience
Classroom Teacher – Capital City School District, Capital City, State*
    Subject – Grade 1
Long Term Substitute – Capital City School District, Capital City, State *
    Subject – Grade 1
Student Teaching - Capital City School District, Capital City, State*
    Subject - Grade 1
Teacher Observation – Capital City School District, Capital City, State *
    Subject – Reading Intervention Grades k-2

Professional Organization
Local Educational Association
State Educational Association

Future Ambitions
1. To complete a Master’s Degree
2. To become a better teacher
* For the purpose of this research, please assume the state to be your own
***Adapted from Vail, 2010
CANDIDATE RESUME

Resume 2 - Male Candidate with Traditional Degree

Personal Data
Name: Jacob C. Evans
Address: 6625 Broadway Blvd, Capital City, State*
Telephone: (###) 555-4567
Email: jacob.evans@stateuniversitytraditional.edu

Educational Background
Bachelor’s Degree: B.S. – State University Traditional
Undergraduate G.P.A.: 3.50
Major: Early Childhood Education Minor: Reading Intervention

Certification/Licensure
Pre K- Grade 3
K-12 Reading Endorsement

Teaching Experience
Classroom Teacher – Capital City School District, Capital City, State*
Subject – Grade 1
Long Term Substitute – Capital City School District, Capital City, State*
Subject – Grade 1
Student Teaching - Capital City School District, Capital City, State*
Subject - Grade 1
Teacher Observation – Capital City School District, Capital City, State*
Subject – Reading Intervention Grades k-2

Professional Organization
Local Educational Association
State Educational Association

Future Ambitions
3. To complete a Master’s Degree
4. To become a better teacher

* For the purpose of this research, please assume the state to be your own
***Adapted from Vail, 2010
CANDIDATE RESUME

Resume 3 – Female Candidate with Online Degree

Personal Data
Name: Isabella C. Evans
Address: 6625 Broadway Blvd, Capital City, State*
Telephone: (###) 555-4567
Email: isabella.evans@onlineuniversity.edu

Educational Background
Bachelor’s Degree: B.S. – Online University
Undergraduate G.P.A.: 3.50
Major: Early Childhood Education   Minor: Reading Intervention

Certification/Licensure
Pre K- Grade 3
K-12 Reading Endorsement

Teaching Experience
Classroom Teacher – Capital City School District, Capital City, State*
   Subject – Grade 1
Long Term Substitute – Capital City School District, Capital City, State *
   Subject – Grade 1
Student Teaching - Capital City School District, Capital City, State*
   Subject - Grade 1
Teacher Observation – Capital City School District, Capital City, State *
   Subject – Reading Intervention Grades k-2

Professional Organization
Local Educational Association
State Educational Association

Future Ambitions
1. To complete a Master’s Degree
2. To become a better teacher

* For the purpose of this research, please assume the state to be your own
***Adapted from Vail, 2010
CANDIDATE RESUME

Resume 4 – Female Candidate with Traditional Degree

Personal Data
Name: Isabella C. Evans
Address: 6625 Broadway Blvd, Capital City, State*
Telephone: (###) 555-4567
Email: isabella.evans@stateuniversitytraditional.edu

Educational Background
Bachelor’s Degree: B.S. – State University Traditional
Undergraduate G.P.A.: 3.50
Major: Early Childhood Education Minor: Reading Intervention

Certification/Licensure
Pre K- Grade 3
K-12 Reading Endorsement

Teaching Experience
Classroom Teacher – Capital City School District, Capital City, State*
   Subject – Grade 1
Long Term Substitute – Capital City School District, Capital City, State *
   Subject – Grade 1
Student Teaching - Capital City School District, Capital City, State*
   Subject - Grade 1
Teacher Observation – Capital City School District, Capital City, State *
   Subject – Reading Intervention Grades k-2

Professional Organization
Local Educational Association
State Educational Association

Future Ambitions
1. To complete a Master’s Degree
2. To become a better teacher

* For the purpose of this research, please assume the state to be your own
***Adapted from Vail, 2010
APPENDIX E

CANDIDATE EVALUATION FORMS

Form 1 – Male Candidate with Online Degree

Please review and rate the resume candidate (Jacob C. Evans) graduate from (Online University) on the following criteria;

Candidate’s knowledge of the curricular area

___Poor       ________Fair       ______ Good      _____ Excellent

Candidate’s ability to transmit knowledge

___Poor       ________Fair       ______ Good      _____ Excellent

Candidate’s likelihood to contribute to overall school program

___Poor       ________Fair       ______ Good      _____ Excellent

Candidate’s ability to maintain a disciplined teaching environment

___Poor       ________Fair       ______ Good      _____ Excellent

Candidate’s ability to create a friendly classroom environment

___Poor       ________Fair       ______ Good      _____ Excellent

Candidate’s potential for professional growth

___Poor       ________Fair       ______ Good      _____ Excellent

What are the chances you would offer this candidate an interview (please circle)

(Poor) 1   2   3   4   5   6   7   8   9   10 (Excellent)

Please mail this document along with the self-biographical information, back in the stamped, self-addressed envelope. Do not include your name. If you would like a summary copy of this study please contact me via email and an electronic copy will be emailed to you; Lmccue1@udayton.edu

***Adopted from Young & Allison, 1982
CANDIDATE EVALUATION FORM

Form 2 – Male Candidate with Traditional Degree

Please review and rate the resume candidate (Jacob C. Evans) graduate from (State University Traditional) on the following criteria:

Candidate’s knowledge of the curricular area

___ Poor       _______ Fair       _____ Good      _____ Excellent

Candidate’s ability to transmit knowledge

___ Poor       _______ Fair       _____ Good      _____ Excellent

Candidate’s likelihood to contribute to overall school program

___ Poor       _______ Fair       _____ Good      _____ Excellent

Candidate’s ability to maintain a disciplined teaching environment

___ Poor       _______ Fair       _____ Good      _____ Excellent

Candidate’s ability to create a friendly classroom environment

___ Poor       _______ Fair       _____ Good      _____ Excellent

Candidate’s potential for professional growth

___ Poor       _______ Fair       _____ Good      _____ Excellent

What are the chances you would offer this candidate an interview (please circle)

(Poor) 1     2      3     4     5     6     7     8      9    10 (Excellent)

Please mail this document along with the self- biographical information, back in the stamped, self-addressed envelope. Do not include your name. If you would like a summary copy of this study please contact me via email and an electronic copy will be emailed to you; Lmccue1@udayton.edu

***Adopted from Young & Allison, 1982
CANDIDATE EVALUATION FORM

Form 3 – Female Candidate with Online Degree

Please review and rate the resume candidate (Isabella C. Evans) graduate from (Online University) on the following criteria;

Candidate’s knowledge of the curricular area

___ Poor _______ Fair _______ Good _______ Excellent

Candidate’s ability to transmit knowledge

___ Poor _______ Fair _______ Good _______ Excellent

Candidate’s likelihood to contribute to overall school program

___ Poor _______ Fair _______ Good _______ Excellent

Candidate’s ability to maintain a disciplined teaching environment

___ Poor _______ Fair _______ Good _______ Excellent

Candidate’s ability to create a friendly classroom environment

___ Poor _______ Fair _______ Good _______ Excellent

Candidate’s potential for professional growth

___ Poor _______ Fair _______ Good _______ Excellent

What are the chances you would offer this candidate an interview (please circle)

(Poor) 1  2  3  4  5  6  7  8  9  10 (Excellent)

Please mail this document along with the self-biographical information, back in the stamped, self-addressed envelope. Do not include your name. If you would like a summary copy of this study please contact me via email and an electronic copy will be emailed to you; Lmccue1@udayton.edu

***Adopted from Young & Allison, 1982
CANDIDATE EVALUATION FORM

Form 4 – Female Candidate with Traditional Degree

Please review and rate the resume candidate (Isabella C. Evans) graduate from (State University Traditional) on the following criteria;

Candidate’s knowledge of the curricular area

___Poor       ________Fair       _____ Good      _____ Excellent

Candidate’s ability to transmit knowledge

___Poor       ________Fair       _____ Good      _____ Excellent

Candidate’s likelihood to contribute to overall school program

___Poor       ________Fair       _____ Good      _____ Excellent

Candidate’s ability to maintain a disciplined teaching environment

___Poor       ________Fair       _____ Good      _____ Excellent

Candidate’s ability to create a friendly classroom environment

___Poor       ________Fair       _____ Good      _____ Excellent

Candidate’s potential for professional growth

___Poor       ________Fair       _____ Good      _____ Excellent

What are the chances you would offer this candidate an interview (please circle)

(Poor) 1      2      3      4      5      6      7      8      9      10 (Excellent)

Please mail this document along with the self- biographical information, back in the stamped, self-addressed envelope. Do not include your name. If you would like a summary copy of this study please contact me via email and an electronic copy will be emailed to you; Lmccue1@udayton.edu

***Adopted from Young & Allison, 1982
APPENDIX F
SELF-BIOGRAPHICAL INFORMATION

1. Your age (Under 40) ; (40-55) ; (56 and over)

2. Your gender (Male) ; (Female)

3. How many years have you been a school administrator?

4. Approximate number of students in your school

5. What is the status of employing elementary teachers in your district?
   (Surplus) ; (Enough) ; (Shortage)

6. Are resumes used as part of a screening process for applicants interested in teaching positions? (Yes) ; (No)

7. Is your recommendation for hiring teachers ordinarily accepted?
   (Yes) ; (No)

***Adopted from Vail, 2010***
APPENDIX G

SECOND MAILING COVER LETTER

March 27, 2012
Dear Elementary School Principal,

My name is Lesley McCue and I am an elementary teacher on unpaid leave for professional study. My district has been gracious to allow me the opportunity to fulfill my dream of completing a doctoral degree. Recently I contacted you to participate in my study by evaluating a hypothetical elementary teacher candidate. Many have graciously responded and if you are one of these please accept this note as an indication of my sincere thank you. If you have not yet responded, would you please consider taking the time to participate?

I recognize the busy schedule of an elementary level administrative. Therefore, this request is designed to take as little of your time as possible. The time and effort by your colleagues who have already participated will be made more meaningful with your participation. I sincerely hope you will choose to assist in my research and help me to complete my degree.

Let me please repeat my request: you are asked to read the enclosed position description for a first grade teaching position and to evaluate one hypothetical candidate as if you were screening for a vacant position in your district. After completing the evaluation of the candidate, please return the completed evaluation form in the enclosed self-addressed envelope.

The confidentiality of your response is assured because your name is not requested. All individual responses will be treated anonymously. There is no compensation for responding nor is there any known risk. In order to ensure that all information will remain confidential, please do not include your name on the candidate evaluation form. The return of the survey constitutes your informed consent. If you would like a summary copy of this study please contact me via email at Lmccue1@udayton.edu and a Word document will be emailed to you.

Research in the field of teacher selection at the elementary level is limited. This study, with your participation, will help add to the limited body of knowledge. If you have any questions regarding the research, please contact me, at (937) 304-8558, or my academic advisor, Dr. A. William Place, at (937) 229-2640.

Again, I want to than you for your time, effort, and cooperation in this research project. Your contribution to research on the selection process will be of benefit to all of us in elementary education.

Sincerely,
Lesley McCue

University of Dayton

***Adopted from Vail, 2010
APPENDIX H

PILOT STUDY OF NAME AND INSTITUTION TYPE

Please select the gender(s) of each name given:

1. Jacob .................................................. ____ (Male) ____ (Female)
2. Ethan.................................................. ____ (Male) ____ (Female)
3. Michael.............................................. ____ (Male) ____ (Female)
4. Isabella............................................. ____ (Male) ____ (Female)
5. Sophie.............................................. ____ (Male) ____ (Female)
6. Emma............................................... ____ (Male) ____ (Female)

Please select the type of institution for each University given:

1. Online University .................... ____ (Online) ____ (Traditional Brick-and-mortar)
2. State University ....................... ____ (Online) ____ (Traditional Brick-and-mortar)
3. Brick and Mortar University ....... ____ (Online) ____ (Traditional Brick-and-mortar)
4. Online State University............ ____ (Online) ____ (Traditional Brick-and-mortar)
5. State University Traditional ...... ____ (Online) ____ (Traditional Brick-and-mortar)
6. State University All-Online...... ____ (Online) ____ (Traditional Brick-and-mortar)
7. Virtual University.................... ____ (Online) ____ (Traditional Brick-and-mortar)
8. Face-to-Face University........... ____ (Online) ____ (Traditional Brick-and-mortar)
APPENDIX I

DEMOGRAPHICS OF 28 PARTICIPANTS

Demographics for those who did not complete the survey in its entirety, as shown in Table I1, (either failing to rate on one or all of the six criteria, and/or failing to state a likelihood of an interview), were similar based on age, years of experience, and school size, to the demographics of those who did complete the survey. Of the 28 participants who did not complete the survey in its entirety but did return the survey, one participant did not answer any of the questions. Of those who did not complete the entire candidate evaluation form, three identified themselves as being under 40 years old, 15 identified themselves as being between 40 and 55 years old, nine identified themselves as being 56 years old or older, and one participant did not respond, as presented in table I1.
Table II

Demographic Data of the Participants who Returned Incomplete Surveys (N = 28)

<table>
<thead>
<tr>
<th>Information</th>
<th>Frequency (%)</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) under 40 years</td>
<td>3 (10.7%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) between 40 and 55 years</td>
<td>14 (50.0%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3) 56 years old and older</td>
<td>9 (32.1%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4) Male</td>
<td>11 (39.3%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(5) Female</td>
<td>16 (57.1%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admin Exp</td>
<td>10.81</td>
<td>7.11</td>
<td></td>
<td>1--24</td>
</tr>
<tr>
<td>School size</td>
<td>363.96</td>
<td>199.96</td>
<td></td>
<td>2--970</td>
</tr>
</tbody>
</table>

*One respondent did not complete the demographic portion

The years of experience as an administrator ranged from one year to 24 years, with 10.81 years as an average and a standard deviation of 7.11 years. Student populations within the building ranged from two students to 970 students, with an average of 363.96 students and a standard deviation of 199.96. Principals reported employment status with seven participants stating a surplus, 15 stating enough, 5 stating a shortage, and one failing to report. Of the 28 participants who completed the demographic questions, 27 reported that resumes were used and that their recommendations were used as part of the hiring process. One participant failed to answer any of the questions in either the section, the evaluation of the candidate or in the demographic section. Gender was similar between both groups (those who completed the
survey and those who completed only parts) in that females represented more than half in each group.
APPENDIX J

RESPONSES OF 28 PARTICIPANTS

Of the 28 participants failing to complete the entire evaluation of the candidate, 18 (64.28%) included comments specific to the two criteria that were rated lowest by participants who completed the entire survey. For the question regarding the candidate’s ability to transmit knowledge (2), one commented “While she has the knowledge not clear in info if she can transmit.” The other criteria question that elicited a low mean, (4) maintaining a disciplined teaching environment, spurred comments that were specific to the need for more information; “No idea really from information given,” “My gut tells me these are good-excellent. I would need to interview him, observe him in the classroom or have a reference from a direct supervisor that addresses these two areas (discipline and friendly classroom environment),” “Not sure, no mention of classroom management,” “Where’s evidence of this,” “Unable to determine with confidence, assume,” “Unknown,” “Not enough information. Nothing provided speaks to his classroom management or relationships with students.”

Some comments were written by participants that referred to two or more of the six criteria, including numbers (2) and (4): “Not enough information on resume to make a decision on these questions,” “Can’t tell by the resume. I could only answer based on conversation,” “Not enough information,” “I don’t have enough information without application packet to rate these areas. I would likely interview this applicant for a first grade position because (1) he has taught first grade, (2) he has a reading endorsement,”
“Unknown based on application. Interview process would answer these questions for me,” “I wouldn’t determine based on resume. I would ask questions of the candidate,” “I feel that I am unable to make a decision about whether to offer this candidate an interview. This one letter of reference and minimal resume is not enough information. The sentence which states ‘He seemed to meet individual student needs as well’ was also troubling to me. In this age of accountability this is not a very decisive word. I would look for specific information that matches the initiatives we are implementing as a district. I would also look at how this candidate compares to others in the candidate pool,” “This is impossible to do without specific questions and responses on research based practices, equity issues, gender bias, etc…Teaching is about relationships and the references for any teacher candidate would reveal more than you have provided,” and “No evidence.”

Table J1 contains the number of responses and non-responses of the twenty-eight respondents who did not complete the survey in its entirety. As presented in the table, question (4) Candidate’s ability to maintain a disciplined teaching environment, was completed by only seven of the twenty-eight respondents.
Table J1

*Responses and Non-responses of those Returning Incomplete Surveys (N = 28)*

<table>
<thead>
<tr>
<th>Question</th>
<th>Responses</th>
<th>Non-Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Candidate’s knowledge of the curricular area</td>
<td>17</td>
<td>11</td>
</tr>
<tr>
<td>(2) Candidate’s ability to transmit knowledge</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>(3) Candidate’s likelihood to contribute to overall school program</td>
<td>20</td>
<td>8</td>
</tr>
<tr>
<td>(4) Candidate’s ability to maintain a disciplined teaching environment</td>
<td>7</td>
<td>21</td>
</tr>
<tr>
<td>(5) Candidate’s ability to create a friendly classroom</td>
<td>10</td>
<td>18</td>
</tr>
<tr>
<td>(6) Candidate’s potential for professional growth</td>
<td>22</td>
<td>6</td>
</tr>
<tr>
<td>(7) Likelihood of an interview</td>
<td>21</td>
<td>7</td>
</tr>
</tbody>
</table>

Considering the likelihood of an interview being offered, seven participants did not rate the candidate on likelihood of an interview. Of the seven who did not complete the question, four completed all other portions of the survey. Two comments were written regarding the section likelihood of an interview: “I would feel better if (I) could speak with her. This evaluation form doesn’t work well with the little data given,” and “Based on experience at grade level and positive recommendations.” Both rated the candidates, giving them a 5 and 8 respectively on the likelihood of an interview.

Of the seven questions used to rate the candidate (six criteria questions and likelihood of an interview), ten of the twenty-eight respondents completed all but one
question. Three respondents did not answer any of the questions and one respondent answered all of the questions but selected multiple answers (i.e. check both good and excellent for the six criteria).

Table J2

*Number of Surveys Disaggregated by Total Completed Questions (N = 28)*

<table>
<thead>
<tr>
<th>Number of questions completed by participants</th>
<th>Number of surveys</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 questions completed</td>
<td>3</td>
</tr>
<tr>
<td>1 question completed</td>
<td>3</td>
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<tr>
<td>2 questions completed</td>
<td>2</td>
</tr>
<tr>
<td>3 questions completed</td>
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</tr>
<tr>
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<tr>
<td>5 questions completed</td>
<td>6</td>
</tr>
<tr>
<td>6 questions completed</td>
<td>10</td>
</tr>
<tr>
<td>7 questions completed*</td>
<td>1</td>
</tr>
</tbody>
</table>

*One respondent completed all seven questions but selected multiple answers for each question.