THE RELATIONSHIP BETWEEN
APPLICANT AGE AND EVALUATOR AGE IN PRE-INTERVIEW
SCREENING OF TEACHER APPLICANTS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By

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*****

The Ohio State University
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ABSTRACT

Past research in teacher selection has suggested that applicant age is a factor in selection decisions. This research project investigated the possible interactions of social psychological precepts concerning social distance and attraction-similarity with applicant and evaluator ages, to determine whether these interactions might contribute to age preferences during the pre-interview or screening phase of the selection process.

Randomly selected Ohio public elementary school principals, of specific ages (39, 40, 59, and 60 years of age) served as subjects. The principals received a position description for an elementary school teaching position and a resume from a hypothetical applicant for the position. Each resume was exactly the same, except for the applicant’s age (39 or 59 years of age and a No Age Control), which was stated on the resume. The principals and resumes were randomized so that some principals received resumes from applicants of their own ages and others received resumes from applicants older or younger than themselves.

Subjects were asked to study the position description and hypothetical applicant resumes and to evaluate the applicant on five measures of teacher knowledge and abilities (communications ability, likelihood for overall contribution to the school,
student discipline, creation of a friendly learning environment, and potential for professional growth). The ratings on these items were summed to form a composite score for this dependent variable. In addition, principals rated the applicants on the single item likelihood of the applicant being granted an interview.

Results indicated that older principals rated applicants significantly higher on the specific measures of teacher knowledge and abilities than did younger principals. Additionally, there was no significant difference in ratings from older and younger principals, in terms of the global probability of granting the applicant an interview. There was no support for the hypothesized interaction of social distance and similarity-attraction in the screening decision process, relative to either applicant age or evaluator age. Implications of these finding for future research and practical applications are discussed.
Dedicated to my parents, Waldo and Jen Alice Bowman
and to a very special friend, Kiyoe Harada
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CHAPTER 1

INTRODUCTION

Generally accepted goals of public education are clear: to provide an environment in which effective learning can take place, to provide the tools to allow our youth to make practical use of the information, concepts, and theories they are taught, and to ensure that the students are fully prepared to take their places as functional members of society. To achieve these goals, it is of paramount importance that only the best personnel (teachers, administrators, support personnel) enter the educational system. This can be accomplished through the process of personnel selection.

Normally, the selection process consists of several distinct phases: a recruiting phase, a pre-interview phase, an interview phase, and a post-interview phase. At times, however, the process consists of only one phase, usually an interview. The interview constitutes a prototype for job hunting (Dipboye, 1992). At the same time, the selection processes that include more than one phase are usually constructed around the interview.

In the recruiting phase of the selection process, information about the specific position is made available to potential applicants. Applicants submit required information including transcripts, resumes, and letters of recommendation during the pre-interview phase. The interview phase allows applicants to meet with district representatives to allow
further assessment of the applicants' skills. Interview evaluations and ratings from pre-
interview screening decisions are combined in the post-interview phase, and a final hiring
decision is made.

Decisions are made at specific points in the selection process that determine
whether or not applicants remain in competition for a vacant position. These decisions
must be based on the best job-related information available. Theoretically, these decisions
will result in only the best applicants remaining in the selection process.

Research in educational personnel selection has been confined primarily to teacher
selection. There have been many studies dealing with facets of this process, including
methods and processes of recruitment and selection techniques such as interviews and
assessment of applicant demographic, scholastic, and reference materials (Winter, 1995;
Young & Heneman, 1986; Young & McMurry, 1986; Young & Place, 1988; Young &
Pounder, 1985; Young & Schmitt, 1988). These studies have identified specific factors
that can influence the selection process.

Factors that have been identified include both job-related and individual
characteristics. Also, studies have found that some of the individual characteristics of
applicants can influence selection decisions to a greater extent than job-related factors
(Golightly, Huffman, & Byrne, 1972; Pulakos & Wexley, 1983; Rogers & Sincoff, 1978;
Young & Allison, 1982; Young & Schmidt, 1988). These findings have created concerns
for those educational administrators involved in personnel selection.

One reason for this concern is the danger of litigation, relating to the many federal
and state regulations and guidelines to which school districts must adhere. One of the
most active areas of litigation deals with personnel decisions. Such legislation as the Civil Rights Act of 1964 (Title VII) and the Age Discrimination in Employment Act of 1967 has had a major impact on all aspects of personnel selection including selection within the educational system.

In light of this increased litigation, it is essential that school districts have the best selection procedures that can be devised under these statutes. One way to ensure that the district selection procedures are in compliance with the statutes is through research designed to increase understanding of the selection process and to determine areas in which current procedures need to be changed.

A body of research and litigation indicates that the chronological age of an applicant has a negative effect on chances of selection for employment in the private sector (Arvey, 1979; Sposato v. Ambach [1982]; Singer & Sewell, 1989; Usery v. Tamiami Trails Tours, Inc., [1976]). Court decisions and research have indicated that older applicants and employees are often hindered relative to selection, receipt of favorable evaluations or consideration for promotion (Waldman & Avolio, 1986). Similar findings have been observed in teacher selection research (Young & Allison, 1982; Young & Voss, 1986).

However, chronological age is not the only factor of concern in the selection process. Another potential area of concern involves the potential selection effect due to the interpersonal similarity or dissimilarity between applicants and decision makers, relative to a variety of additional demographic factors (sex, race, etc.). This is a valid
concern, because research has shown that similarity or dissimilarity between applicants and decision-makers can influence selection decisions (Triandis & Triandis, 1967; Senger, 1971).

Virtually all teaching and support personnel are hired based on the principal’s recommendation. For this reason it is important that the selection methods used by principals be studied and understood. This study contributes new knowledge to this selection process. Specifically, this study attempts to determine whether or not similarity between applicants and principals, relative to chronological age, is a factor in the selection of elementary school teachers.

Problem

The selection system used by a school district must meet federal and state guidelines. During the application process for the position of an elementary teacher, a great deal of biographical and experiential information is collected and analyzed by the principal. Research has indicated that many older applicants are discriminated against in the selection process because of their chronological age (Young & Allison, 1982; Young & Place, 1988; Young & Pounder, 1985; Young & Schmidt, 1988).

These findings are important because age is not a job-related factor in education, and the use of age in selection decision-making is discriminatory and illegal. In addition, research has suggested that the demographic similarity or dissimilarity of an evaluator to
an applicant can affect selection decisions (Singer, 1986; Golightly, Huffman, & Byrne, 1972). These positive or negative indications of similarity cannot be considered among applicants’ objective, job-related characteristics.

If perceptions or stereotypes are entering the decision-making process, the decisions made, either positive or negative, are not being based on the appropriate information and can lead to future consequences in teacher and administrator quality and litigation. This study attempts to determine whether perceptions or stereotypes concerning chronological age affect principals’ screening decisions for applicants for an elementary teaching position. In this case, similarity or dissimilarity between applicants and evaluators (principals) will be operationalized by specific applicant and evaluator ages.

Hypotheses

Considerable prior research has been conducted in the area of teacher selection. A number of these studies have included applicant chronological age as an independent variable. In addition, many of these studies have suggested that similarity in chronological age between applicants or employees and raters (administrators or managers) led to higher ratings. However, none have matched applicant and evaluator chronological ages to test these findings.
The directed, alternative hypotheses being tested in this study are:

\( H_{A1} \) - Younger hypothetical applicants for an elementary school teaching position will be rated higher than older hypothetical applicants by elementary school principals.

\( H_{A2} \) - Younger elementary school principals will rate hypothetical applicants for a teaching position higher than older elementary school principals will rate hypothetical applicants for a teaching position.

\( H_{A3} \) - Older elementary school principals will rate older hypothetical applicants for a teaching position higher than younger hypothetical applicants, and younger elementary school principals will rate younger hypothetical applicants for a teaching position higher than older hypothetical applicants.

Definitions of Terms

1. Age discrimination-the denial of privileges as well as other unfair treatment of employees on the basis of chronological age, which is prohibited by
federal law under the Age Discrimination in Employment Act of 1967, 
amended in 1978 to protect employees up to the age of 70 years. The term 
also covers unfair treatment in the employee selection process.

2. Bona fide occupational qualification-a statutory provision that permits 
discriminatory practices in employment where the discrimination against 
the protected class is reasonably necessary to the normal operation of the 
particular business.

3. Chronological age-the calendar age of an individual (in years), as opposed to 
some other measure of age, such as mental age.

4. Disparate impact-a term describing a type of discrimination in which the 
actions of the employer, consciously or unconsciously, lead to discrimination 
against a member or members of a protected group. Not only the act of 
discrimination, but also the outcome of the discrimination is considered.

5. Disparate treatment-a type of discrimination in which the intentions of the 
employer lead to discrimination, such as discriminatory words or signs.
6. Focal position—the job for which the applicant is being considered. In this study, the focal position is elementary teacher.

7. Macroanalysis—the study of the selection process, concentrating on the relationship between an independent variable(s) (predictor), e.g., an interview, and a dependent variable (criterion), e.g., teaching performance. Most macroanalytic research concerned the interview, because early selection processes consisted of only one step, the interview (Young, 1985; Young & Ryerson, 1986).

8. Microanalysis—the study of the selection process in terms of identifying factors that do not directly affect the dependent variable(s) (e.g., teaching performance) but still affect the decision-making process through their effects on the independent variable(s) (e.g., an interview). Investigations from this research perspective have identified specific factors, such as chronological age, race, and sex that indirectly affect the selection process in both the pre-interview and the interview phases of the selection process. This research perspective has largely supplanted the macroanalytic approach to selection research (Young, 1985; Young & Ryerson, 1986).
9. Model-a representation or description of something (e.g., a set of relationships) that aids in understanding or studying it, such as a set of assumptions about relationships used to study their interactions.

10. Paradigm-a scientific discipline's general orientation or way of seeing and understanding its subject matter.

11. Prima facie evidence-evidence of something, in this context, discrimination, that doesn't require further support to establish a valid case.

12. Public school principal-the chief administrator of a school. In this study, the subjects are public elementary school principals.

13. Resume-a summary of experiences and qualifications, pertaining to a hypothetical applicant.

14. Selection process-the sequence of events that deals with the selection of a candidate to fill a vacancy. It includes: announcing the position, identifying the group of personnel to target for the position, recruiting, screening, and making the final selection decision. The screening phase of the selection process is the focus of this study.
CHAPTER 2

LITERATURE REVIEW

Within the private sector, personnel selection is defined as the process by which decisions are made about who will or will not be employed by an organization. More specifically, personnel selection is used to identify applicants with the necessary knowledge, skills, abilities, and other characteristics that will help an organization achieve its goals (Noe, Hollenbeck, Gerhart, & Wright, 1994). The same definition holds for personnel selection in a school district.

Harris and Monk (1979) stated that the selection and employment of highly qualified personnel in a school district or other educational institution was one of the most difficult of all administrative responsibilities. In addition, Bolton (1969) observed that the administrative responsibility associated with selection afforded the educational administrator an opportunity to play an important role in the improvement of the school system. Bolton also indicated that this administrative responsibility afforded an example of the decision process in which the process itself could be studied systematically and the results generalized to many administrative tasks.

Applicants and organizations view the selection process differently. From the perspective of the applicant, the selection process is a series of "hurdles" that must be
navigated to arrive at a position the applicant values, for emotional, motivational, or economic reasons. On the other hand, organizations use the selection process to select the most viable applicant.

In business, the best applicant will be the most economically productive and will aid in maximizing output and company profits. In school districts, however, the organizational perspective is different. School districts attempt to hire the best teachers in order to maximize educational benefits to the students.

Personnel selection is only one of the family of administrative decisions made by school districts (Landy & Shankster, 1994). Like many other decisions made by organizations, the personnel selection process varies from district to district. In most school districts the selection process is generally composed of a series of distinct phases. A school district generally utilizes a four-phase selection process: (1) recruitment phase, (2) pre-interview phase, (3) interview phase, and (4) post-interview phase.

In the recruitment phase, information about the vacant position is distributed in order to attract the attention of potential applicants. The information is distributed in a number of ways, including advertisements posted in schools or in professional journals. Particularly in an educational context, information is also spread by word of mouth from educator to educator.

During the pre-interview phase, interested applicants submit required information about themselves, including resumes, applications, transcripts, and letters of recommendation (Macan & Dipboye, 1990). These materials are screened by district
administrators, and applicants who fail to meet the district’s minimum standards are removed from further consideration. Those applicants whose paper credentials are evaluated favorably advance to the interview phase.

The interview phase gives the district representatives a chance to meet face-to-face with applicants and to assess further the applicants’ suitability for the vacant position through the selection interview. The selection interview is the most frequently used tool in the selection process (Dipboye, 1992). “Indeed, interviewing, along with love, death, and taxes, may qualify as one of life’s universal experiences” (Dipboye, 1992, p. 4).

In the post-interview phase, the results or ratings from interviews and from pre-interview evaluations are combined in some predetermined way. The decision-makers then evaluate these combined results to reach a final hiring decision. Decisions made in each phase are critical, because the number of applicants to be considered decreases from phase to phase. Only the best applicants should be still in contention when the final hiring decision is made.

Each phase of the selection process should be independent from the other phases. However, considerable research suggests that decision-makers create impressions involving non-job-related applicant characteristics during the pre-interview phase (Baskett, 1973; Graves, 1993; Raza & Carpenter, 1987). Research indicates further that these impressions carry over to the interview phase and may affect the interview outcome (Macan & Dipboye, 1990).

Dipboye (1992) suggested that early research concerned with the selection process focused primarily on the interview phase. Researchers were interested in the predictive
ability of the interview, that is, how good the interview was in predicting an applicant’s future job performance. Usually, the interview was correlated with some criterion of past, present, or future performance, such as sense of humor, intelligence test scores, or performance ratings. Unfortunately, the correlations arrived at were low and indicated that the interview failed to be a strong predictor of future job performance (Wagner, 1949).

A different perspective for studying the interview was proposed by Mayfield (1964). He advocated focusing on the decision-making process within the interview rather than on the interview’s predictive ability. The research goals were to identify those factors that affected the decision-making process and to determine why the process was affected. This line of research continues, with many factors having been identified, including sex, age, and race (Arvey, 1979).

Another sizable body of research has been created that concentrates on the pre-interview phase of selection. Many of these studies have focused on so-called “paper people” (Gorman, Clover, & Doherty, 1978). Paper people research protocols involve facsimiles of paper credentials that applicants would be expected to turn in. In these studies, the credentials are created by investigators and reviewed by subjects.

Usually, there is a requirement that the subjects make some prediction concerning the applicant, such as performance on an interview, score on a defined test, or hireability for a specific position. In many cases, these studies attempt to determine whether this type of screening can take the place of or simulate the results from an interview (Gorman, Clover, & Doherty, 1978). This research stream has included many screening studies in
the area of educational selection, dealing almost exclusively with teacher selection (Young & Joseph, 1989; Young & McMurry, 1986; Young & Schmidt, 1988). Regardless of the phase of the selection process being studied, the process must follow specific guidelines. Federal legislation, agency guidelines, and court rulings have strictly defined how selection must be accomplished.

Legal Aspects of The Selection Process

To become successful, school districts and other types of organizations should hire the most effective employees possible. Organizations fulfill this requirement by using selection processes to evaluate applicants and by hiring those who receive the highest evaluations. This method of selection and hiring has been affected significantly by reinterpretation of current legislation as well as by enactment of new legislation prohibiting discrimination in the workplace. Also, court decisions related to workplace discrimination have had a great effect on selection procedures.

The ultimate goal of this legislation and judicial activity has been to insure that all persons are given an equal opportunity for employment (Arvey & Faley, 1992). Persons covered by these acts and amendments to them are classified as protected class individuals. Such individuals are given protection from discrimination in the employment process unless the characteristics associated with the protected class status have proven to be bona fide occupational qualifications for the position (Young & Ryerson, 1986).
Specific characteristics defining the protected classes result from constraints beyond a person's control, such as race, religion, sex, or age (Arvey & Faley, 1992). Whereas most of the guidelines created to implement the anti-discrimination legislation require that all applicants are provided an equal opportunity for hiring, promotion, etc., some guidelines require “affirmative action” on the part of the employers (Arvey & Faley, 1992). Under these guidelines, employers are required to actively recruit protected class members. Also, the employers must provide some manner of preferential treatment in hiring or promotion and must create a schedule defining a time frame within which they will meet a specific protected class employment goal.

Early federal court decisions legitimized the system of limited preferential treatment by organizations, but recent court decisions have begun to indicate a waning in the utility of affirmative action plans (Reis, 1996). Both state and federal legislation provide for specific rights for applicants in the selection process (Young & Ryerson, 1986). Although the states enact some legislation concerning the work environment, the legislation, guidelines, and court decisions having the most profound impact on workplace selection are those enacted and promulgated by the federal government.

Legislation, Statutes, and Court Decisions

The federal legislation most directly affecting personnel selection includes Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act of 1967, and Section 504 of the Vocational Rehabilitation Act of 1973. In addition to the statutes,
executive orders, such as Executive Order 11246 (1965) and portions of the Constitution significantly affect the personnel selection process.

Legislation affects selection indirectly through guidelines issued by federal agencies created to oversee implementation of the legislation. On the other hand, executive orders and the Constitution affect selection directly, through specific language contained in the documents. All of these federal statutes and executive orders provide special rights for protected class members in the selection process (Young & Ryerson, 1986).

Title VII of the Civil Rights Act of 1964 specifically prohibits discrimination in employment based on race, sex, color, religion, and national origin (Arvey & Faley, 1992; Harris & Monk, 1979; Young & Ryerson, 1986). The act was amended in 1972 to include school districts. "The objective of Congress in enacting Title VII of the Civil Rights Act of 1964 was to achieve equality of employment opportunity and to remove artificial, arbitrary, and unnecessary barriers that had previously operated invidiously to favor some groups of employees over others" (Harris & Monk, 1979, p. 225).

The Age Discrimination in Employment Act of 1973 (ADEA) prohibits discrimination in employment against any person between the ages of 40 and 64. The act was amended in 1986 and the upper age limit was raised to 69. As currently amended, this piece of legislation effectively eliminates any mandatory retirement age (Arvey & Faley, 1992).

Some anti-discrimination measures affect only organizations doing business with the government. The Vocational Rehabilitation Act of 1973 requires government contractors to take affirmative action in hiring handicapped employees. Section 504 of the
act defines “handicapped” and details the steps employers must take to accommodate handicapped employees. While the act does not require the hiring of unqualified handicapped applicants, it prohibits discrimination in employment based solely on a handicap.

Also specifically targeting government contractors, Executive Order 11246 (1965) forbids discrimination in employment based on race, sex, color, religion, or national origin. It also requires affirmative action on the part of employers to insure that protected class individuals are hired in numbers sufficient to meet self-defined goals (Arvey & Faley, 1992; Harris & Monk, 1979). In addition, the Fifth and Fourteenth Amendments to the U. S. Constitution provide protection against discrimination without “due process.”

Implementation of the legislation (Title VII, ADEA, Vocational Rehabilitation Act) and Executive Order 11246 was facilitated by the creation of the Equal Employment Opportunity Commission (EEOC) and the Office of Federal Contract Compliance Programs (OFCCP). These executive branch agencies formulated and promulgated guidelines that detailed how the anti-discrimination programs would be structured and monitored. The guidelines were set forth in a publication entitled the Uniform Guidelines on Employee Selection Procedures. The latest update of the Uniform Guidelines was issued in 1978.

Since the enactment of this legislation and executive orders and their implementation through agency guidelines, the number of discrimination complaints and lawsuits has increased dramatically. Just in the area of age discrimination, the number of complaints has increased from approximately 5,000 in fiscal year 1979 to over 19,000 in
fiscal year 1982. This increase in numbers of complaints has been paralleled by a simultaneous increase in age-related lawsuits (Faley, Klieman & Lengnick-Hall, 1984).

Practical and Statistical Legal Considerations

When a lawsuit is filed charging employment discrimination under one of the anti-discrimination statutes or executive orders, the protected class person bringing the lawsuit (plaintiff) must demonstrate only *prima facie* evidence of discrimination. *Prima facie* evidence can be established either under the doctrine of disparate treatment or under the doctrine of disparate impact (Young & Ryerson, 1986). The major difference between the two doctrines involves the question of employer intent.

Under the doctrine of disparate treatment, the plaintiff must demonstrate that the employer (defendant) intended to discriminate. This can be accomplished with evidence such as signs bearing discriminatory statements or evidence that verbal or written discriminatory statements were made by officials of the organization (Arvey & Faley, 1992; Young & Ryerson, 1986). The U. S. Supreme Court established a four-part test to demonstrate discrimination through disparate treatment in *McDonnell Douglas Corp. v. Green* (1973). This four-part test dealt with applicant protected class status, applicant qualifications, and company rejection of qualified protected class applicants, while continuing to advertise the vacant position. In certain instances, where “smoking gun” evidence of this type of discrimination exists, the test can be modified or discarded.
Charges and lawsuits are brought under the doctrine of disparate impact when intentional or unintentional employer actions lead to the exclusion of disproportionate numbers of protected class individuals. The effects or consequences of the actions, not their intentions, are the critical factors in bringing charges under this doctrine. The Supreme Court first enunciated the doctrine of disparate impact in *Griggs v. Duke Power Co.* (1967).

Generally, demonstrating a *prima facie* case of discrimination through disparate impact requires statistical analyses. The use of statistics was specifically encouraged in one case. "Statistics often tell much, and courts listen" (*United States v. Iron Workers, Local 86 [1971]*).

Several types of statistical analyses have been used to establish *prima facie* cases under disparate impact. It is necessary to assess the "actual impact" of the employers' practices by comparing the effects of the practices (hiring, promotion, etc.) on protected class individuals relative to their impact on the general population. Therefore, all of these analyses involve sample and population comparisons.

The most commonly used analysis is called statistical flow analysis. This procedure is "based on the assumption that differences in the proportions between/among protected groups and non-protected groups, related to various human resource activities, should not exceed a certain percentage" (Arvey & Faley, 1992, p. 73). The *Uniform Guidelines* provide the standard for this analysis.

This standard is termed the "80/20 Rule," which states: "A selection rate for any racial, ethnic, or sex subgroup which is less than four-fifths (4/5) (80%) of the rate for the
group with the highest rate will generally be regarded as evidence of adverse impact...” (Uniform Guidelines, 1978, p. 38297). The use of this rule is strictly enforced when applicant pools are small.

The other two analyses recognized by courts for establishing discrimination through disparate impact are termed applicant stock analysis and concentration analysis. Both of these analyses are based on percentages of protected class individuals employed, compared with the percentage of protected class individuals in the relevant job market (the distance a reasonable person would be willing to travel to take a job). The analyses differ in that concentration analysis deals with a comparison based on a wide job category, while applicant stock analysis deals with comparisons involving a specific job (Arvey & Faley, 1992).

One interesting point about disparate impact is that critics of the doctrine stated that the language of Title VII made no specific mention of the doctrine (Sharf, 1988). They maintained that the Supreme Court established disparate impact contrary to the letter of the legislation, and that lawsuits were meant to be filed only under the doctrine of disparate treatment (intentional discrimination). This theory has not met with much support, as many cases since Griggs have been heard and ruled on under the doctrine of disparate impact (Sharf, 1988).

A standard format is followed when a case of discrimination is heard in court, regardless of the doctrine under which the case is brought. First, the plaintiff’s side presents its case, attempting to demonstrate prima facie evidence of discrimination. The defendant then has the opportunity to show that there is a sound business reason for the
business decision. Non-discriminatory reasons can include applicant or employee misconduct and proven applicant or employee unreliability. In addition, the employer can claim that the action is a bona fide occupational qualification, a discriminatory activity that is necessary for the continued operation of the business.

The plaintiff then has the opportunity to show that the reasons given for the employer's actions are pretextual. This means that the reasons offered by the defendant actually hide a discriminatory motive or are simply unworthy explanations. The court must then decide whether or not discrimination has taken place (Arvey & Faley, 1992).

It is clear that all phases of a selection process are subject to the mandates and guidelines of anti-discrimination legislation and executive orders. Every selection process begins with the submission of personal information documents in the pre-interview phase. Generally, these documents include applications, resumes, transcripts, and letters of reference.

Ideally, school district administrators screen these materials and select only the most qualified applicants to undergo interviews. The screening process can be discriminatory if the information used to select applicants for interviews is non-job-related and has a disproportionate impact on a protected class group. Screening is a largely subjective process, and the administrators' decisions may be influenced by applicant characteristics, such as age, sex, and race.

There is no clear indication as to how much these characteristics influence screening or interview decisions. However, research suggests that such influence occurs,
resulting in discrimination (Young & Joseph, 1989; Young & Place, 1988; Young & Voss, 1986). School administrators must be very careful of their conduct during all phases of the selection process. Legal guidelines must be followed precisely at all times.

Historical Aspects of Selection Research

The best way to assure that an organization will have a work force composed of high quality individuals is through an efficient selection process. An efficient process must reflect high reliability and validity. This quest for high reliability and validity has led researchers to study the selection process and its components for many years.

The selection process has evolved over a period of several decades. During that time, there have been many modifications to the process. Many of these modifications have been brought about by attempts to improve reliability and validity assessment within the selection process. To enable better comprehension of current thoughts and trends in selection research, it is necessary to understand the historical evolution of this research.

Essentially all organizations use selection processes that include an interview. Dipboye (1992) claimed that the interview was so common that it was a prototype for job hunting. Thus, it is not surprising that the selection interview has been the focus of much past selection research.
Early Selection Research on the Interview-Macroanalysis

The aim of much of this early selection research has been to assess the ability of the interview to predict future job performance. Several major reviews of selection literature concurred that the interview has low reliability and validity (Arvey & Campion, 1982; Mayfield, 1964; Ulrich & Trumbo, 1965; Wagner, 1949; Wright, 1969). Wagner (1949) reviewed 106 studies that focused on the interview as a means of assessing other traits.

However, of the 106 studies reviewed, only 25 were based on quantitative experimentation. The remaining 81 studies were opinion-based, containing no objectively-derived data. These early studies attempted to develop or evaluate measures that were thought to have predictive abilities for future job performance.

Although other applicant characteristics were assessed in early studies, such as sense of humor, cheerfulness, soundness of judgment, and frankness, the major thrust of this work was to assess intelligence through the interview. The studies used criterion-related validity correlational techniques to relate intelligence assessments from interviews to actual scores on intelligence tests. Wagner reported that the reliabilities from the studies reviewed ranged from .23-.97, with a median reliability value of .57. The validities for these studies ranged from .09-.94, with a median validity value of .27. These values indicate low levels of interview validity and large amounts of overall variability in interview reliability and validity.
In a 1933 study cited by Wagner, the investigator (Corey) had a subject pool of girls ranked relative to intelligence and several other traits by their good friends. The agreement in rankings on the traits was very good among the subjects’ friends. Then each of the subjects was interviewed by a stranger who ranked each subject on the same traits. In this case, variability in ranking was significantly wider, leading the investigator to conclude, “If intimate friends...can judge the traits of one another accurately, then strangers making judgments on the basis of an interview cannot” (Corey’s study (as cited in Wagner, 1949, p.20)).

In contrast, Wagner cited a study completed in 1947 (Rundquist) by the U.S. Army Adjutant General’s Office. Officers being considered for retention in the post-World War II Army were interviewed by a five member board to evaluate each candidate on the factor, “social interaction.” Additional stipulations were that all candidates must be unknown to the board members, and the board members were not allowed access to candidates’ records.

The final interrater ratings had a reliability of .87 and a validity of .37. Also, the addition of the interview results to the overall assessment of additional traits increased the multiple correlation coefficient. This led the investigator to conclude that the interview was “fairly” valid and added to the total process.

Wagner (1949) also reviewed several articles concerned with using the interview alone to make a prediction of candidates’ overall chances for job success, instead of using
the interview as one part of an overall selection process. The researchers hypothesized that using the interview in this way would allow valid selection decisions to be made without having to utilize sophisticated statistical techniques.

Sophisticated techniques, such as multiple regression, weigh inputs from each phase of the selection process and mathematically lead to optimal selection decisions. Using only the interview to weigh a number of applicant factors would be analogous to using statistics to make the selection decision. Wagner commented that the use of this one-step selection procedure raised the question as to whether an individual could make a selection decision as well, based only on the interview, as an individual could using a multi-phase procedure and statistics. With few exceptions, the studies cited produced low reliabilities and validities.

A wide range of studies were cited by Wagner as examples of this single-phase procedure. In several, sales candidates were ranked, following interviews, by sales managers or executives. Later, the rankings were compared with actual sales performance data, and the results were very disappointing. In addition, the rankings of the interviews showed considerable variation.

Similar results were seen from a study that used the interview to predict success as pilots (Dunlap’s & Waltman’s study (as cited by Wagner, 1949, p. 27)). Interviewers (N=3) acted as a panel and interviewed candidates for flight training after previewing Personal History Inventories provided by the candidates. Although interrater correlations were high, with averages ranging from .53-.70, comparisons of interviewers’ ratings with actual flying ability produced predictions of success in flight training that were only
slightly higher than chance. The authors concluded that although there was some level of reliability and validity to be gained from interviews, the cost in time and money rendered the interview of little practical value.

Wagner reached several conclusions which remain viable. These included the observation that a lot of confusion existed as to what could or could not be determined from an interview. Also, interviews should be standardized for a particular position. In addition, the interview was valuable only if the candidate information was considered and weighed properly, and that this information was job-related.

Later Selection Research on the Interview-Microanalysis

Mayfield (1964) restated many of the past criticisms found in the selection literature, noting that interview research data, since Wagner's review, had continued to produce low reliability and validity results. Mayfield suggested that one reason for low reliability and validity was a significant lack of comparability among interview studies. The author suggested this low level of comparability was caused by a lack of common research designs.

Mayfield discussed changes in approach to interview research. He suggested that dividing the interview into units might prove fruitful. This approach was termed microanalysis, and Mayfield indicated that this approach might provide information about factors related to the decision-making process in the interview. The new approach was in
contrast to the then current approach, termed macroanalysis, that dealt with the interview as a single entity and with the results obtained through the interview.

In addition, Mayfield listed conclusions upon which future research could be based. These included the efficacy of using microanalytic research designs, high levels of interrater reliability, and the low reliability and validity of unstructured interview formats. He concluded also that different interviewers weighed the same information differently and that adding interview ratings to valid test results generally did not significantly change the overall prediction of candidate job performance.

The next major interview research review was published by Ulrich and Trumbo (1965). In terms of interview reliability and validity, the authors placed considerable emphasis on the distinction between face-to-face contact and the additional types of data with which interview ratings were combined in arriving at selection decisions. They noted that this obvious dichotomy appeared not to have been considered in earlier interview validation studies.

Ulrich and Trumbo (1965) suggested it was necessary to determine the relative contribution of each type of data to the reliability and validity of the interviewers' predictions. The authors implied that most of the studies that purported to be validating the interview were validating the interviewers’ predictions, not the interview itself. Thus, those studies provided no valid data regarding the relative contribution of the interview to the overall selection process.

Wright's (1969) review of interview research focused primarily on microanalytic research. However, he indicated that even with the increase in the use of this recent
approach to interview research, the macroanalytic approach continued to be popular. Wright suggested that validity studies should concentrate on the macroanalytic approach. He felt the microanalytic approach fragmented the interview and made it difficult to interpret interrelationships among factors identified through microanalysis.

In their review of interview research, Arvey and Campion (1982) noted that some recent studies had produced reliability and validity data that portrayed the interview in a more positive frame. They presented data showing that interviews performed by panels held considerable promise. Also, studies that used a structured interview format based on a job analysis showed considerable improvement in reliability and validity. This was particularly true when the coefficients were corrected for artifacts, such as range restriction on the predictor.

Arvey and Campion cited several studies in which reliability and validity coefficients were moderate to high (reliability coefficients ranging from .76-.90, and validity coefficients ranging from .26-.66) (Landy’s study and Anstey’s study (as cited by Arvey and Campion, 1982)). The authors of these studies concluded that the interview was “valid” for certain interpersonal measures such as fluency or intersocial behavior, even if there was still doubt about its “statistical validity.” However, Arvey and Campion contended that interviews were not “truly valid,” in spite of recent research that indicated improvement in reliability and validity of interviews. They suggested, however, that the interview would continue to be popular because of practical considerations such as small applicant pools.
A more recent review by Harris (1989) reinforced the contention that interview validity had improved over time. More recent studies assessed interview validity from three perspectives, and results from each research approach provided evidence of improved validity. These research perspectives included: (1) increased use of meta-analysis on data from related studies, (2) continued development and use of the structured interview format, and (3) renewed interest in research concerning individual differences in interviewer validity.

In all of these research streams, validity coefficients showed marked improvement over earlier studies. The use of meta-analysis allowed researchers to compensate for small sample sizes in related studies. This statistical technique allowed data from many small studies to be combined and analyzed as a single data set. Corrected validity coefficients ranged from .47-.62 in cited studies (Wiesner’s and Cronshaw’s study and McDaniel’s study (as cited by Harris, 1989)).

Also, increased use of structured interviews showed the importance of job analysis. Use of specific, job-related questions based on job analyses significantly improved the validity of interview results. In addition, the use of improved types of interview formats such as situational interviews covering job-related knowledge, situational questions, job simulations, and work requirements showed increased levels of validity (Harris, 1989).

Recent studies confirmed also that interviewers differed in the way they assimilated and used data from interviews (Graves & Karren, 1996). Interviewers weighed the same
data differently and used data that were not job-related to make selection decisions. These interrater differences in data handling accounted for some of the increase in interview validity, but the increases were not generalized across all interviewers.

Graves and Karren reviewed selection interviews as they were practiced in most organizations. The authors confirmed earlier findings that, normally, different interviewers do not base decisions on the same factors. In instances when interviewers used the same factors, different weights were placed on the same factors by different interviewers. Also, different interviewers used different numbers of factors to reach decisions.

Differences in interviewers’ decision criteria also affected the interviewers’ effectiveness. Graves and Karren (1996) found that recruiters (interviewers) who relied primarily on interpersonal skills and oral communications skills to make their judgments were rated as more effective by hiring supervisors than were interviewers who used other criteria. The authors concluded that more effective interviewers focused on factors that were relevant for predicting applicant job attitudes and behaviors.

Interviewers’ hiring standards also varied greatly. Studies have found wide variation in positive hiring recommendations among interviewers. Graves and Karren (1996) concluded that interviewers who were extremely harsh or extremely lenient in their hiring recommendations tended to have less validity in their interview predictions than interviewers who were more moderate in their recommendations.
Grave’s and Karren’s review also pointed out that different interviewers’ actual decision processes did not match their preferred decision processes. The difference was due to the extent to which individual interviewers considered appropriate job-related factors in reaching selection decisions. Ultimately, the authors concluded that interview decisions were very idiosyncratic and were affected by a variety of factors.

A selection decision “is the culmination of a series of preliminary decisions which constitute the selection process” (Bolton, 1969, p. 329). Considerable research has utilized simulations to take the place of actual organization-applicant interactions in reaching preliminary decisions. The simulations have been accomplished through the use of manipulated applicant credentials, audio tapes, and videotapes in controlled settings.

Studies based on simulations rather than interviews have gained in popularity but are being examined very closely in terms of generalizability (threats to external validity). Singer and Sewell (1989) reported that increased attention is being paid to the issues of external validity or generalizability in recent research into organizational behavior.

Maximum generalizability of results is predicated on random sample selection. If random selection or assignment is not possible, generalizability of results is compromised. Arvey and Campion (1982) and Harris (1989) discussed two methodological issues that were related to generalizability and that had received considerable attention from researchers.
The issues were "the use of college students in interviews and the use of paper-and-pencil stimulus 'interviews'" (Arvey & Campion, 1982, p. 294). The authors cited numerous studies dealing with both issues. However, the outcomes of the cited studies failed to provide clear resolution for either issue.

Arvey and Campion (1982) indicated that the results of recent studies suggested the use of students as interviewers was not a significant threat to generalizability. In contrast, Singer and Sewell (1989) conducted a study in which managers and students served as "interviewers" and watched a videotape of an interview. The interviewee was either an old or a young applicant for a high- or low-status position. Results indicated there were major differences in terms of ages of applicants selected for each position, depending on whether managers or students were making the selection decisions. In addition, the results showed that manager and student samples produced completely different selection performance evaluations and hiring decisions concerning the same applicant.

The authors suggested that the differences in selection decisions between students and managers were not due totally to age-related stereotypes. Rather, Singer and Sewell attributed the selection differences to an interaction of factors including attitude stereotyping, selector age, selector position, and status of the vacant position. In the Singer and Sewell study, there was clearly a lack of generalizability of results due to the differences in selection decisions made by the students and the managers.
In spite of the results of this and other research, there is a lack of conclusive data indicating that the use of students in these studies affects generalizability significantly. A similar statement cannot be made relative to the generalizability of pencil-and-paper stimulus interviews. Most of the studies related to the use of pencil-and-paper substitutes for interviews have suggested low generalizability.

Gorman, Clover, and Doherty (1978) had graduate students and experienced managers predict undergraduate students’ scores on a test, from information furnished by either a combination of test data (denoted as “paper people” data) and an interview or from the paper people data alone. Their results confirmed those from other studies that the predictions made on the basis of paper-people data alone were significantly different from decisions made on the basis of the paper people data and interview combination. The authors stated, “The two studies together suggest to us that there are profound differences between ‘interviews’ of paper people and interviews of real people. ...we consider these differences to be so profound and so pervasive that it seems unlikely that the scientific community will learn anything about the process of interviewing real people from the paper people analog” (Gorman, Clover, & Doherty, 1978, p. 191).
Pre-interview Screening Research

Among his recommendations for improving interview research, Wagner (1949) suggested increasing the use of ancillary information. Unfortunately, ancillary information was not defined, although a few of the studies reviewed involved previewing materials such as application blanks. Ulrich and Trumbo (1965) reported agreement with Wagner in the use of ancillary data, based on more recent studies.

However, neither review discussed the effects of previewing applicants’ credentials (ancillary information) on the interview outcome. In addition, little attention has been paid to the effect of previewing applicants’ credentials on the final post-interview selection decision.

Normally, interviewers have access to a considerable amount and variety of applicant information before interviews take place. This information includes test scores, transcripts, letters of reference, and application forms. Studies have found that interviewers rely on this information in preparing interview questions (Ryan & Sackett, 1987).

This reliance on pre-interview screening of applicant credentials is prevalent in the private sector, but the weight given to the credentials is not as great as might be expected. Although they often expect to see credentials prior to the interview, both interviewers and
personnel managers place less importance on the paper qualifications than on the interview itself (Atkins & Kent, 1988; Dipboye, 1992).

One study cited by Gorman et al. reported that 73% of personnel managers believed that an interviewer's opinion influenced a final hiring decision more than an applicant's resume. Also, over 90% of personnel managers in another study stated they had more confidence in the interview than in any other source of applicant information. Similar results continue to be reported despite the repeated data showing "that of all selection devices, the interview is probably the least reliable" (Gorman, Clover, & Doherty, 1978, p. 166).

Considerable research has shown that previewing applicant credentials influenced the interview. Springbett (1958) found that interviewers were more likely to give poor ratings to applicants after finding negative information during pre-interview screening of credentials. In addition, data indicate the interviewers were more prone to act on negative information than on positive information.

Pre-interview screening of applicant credentials has been shown to create mindsets in interviewers which carry over into the interviews. Dipboye, Arvey, and Terpstra (1977) and Dipboye, Fromkin, and Wiback (1975) stated that males were favored in interviews because pre-interview resume screening often created stronger dispositional attitudes in favor of males, just as inclusion of the photograph of an attractive female applicant had the same effect in their favor. Dipboye et al. suggested that previewing may produce
initial conclusions about applicant abilities. Further, it is postulated that the interviewer becomes committed to and must defend these conclusions during the interview, leading to biased hiring judgments (Knouse, 1989).

Herriot (1981) suggested that pre-interview screening of applicant credentials could lead to what he termed “the fundamental attribution error.” Too much emphasis is placed on the applicant’s disposition and not enough emphasis is placed on the situation. Any out-of-role behavior by the applicant, during the interview, creates an unfavorable impression of the applicant if the interviewer’s initial impression was favorable.

Pre-interview screening has drawn additional scrutiny because studies have identified non-job-related factors that affect the interview decision-making process. These factors include demographic characteristics such as applicant age, sex, and race (Haefner, 1977; Singer, 1986; Young & McMurry, 1986; Young & Schmidt, 1988). In addition, non-demographic characteristics such as interviewers’ moods have been shown to affect their interview decisions (Baron, 1987, 1993). The recent emphasis on documenting factors affecting the interview decision-making process has drastically altered the methodological approach to selection research.

Early selection research dealt primarily with the interview from a macroanalytic research perspective. That is, the goal of the research was to maximize the validity of the interview by studying the relationships between it, as a predictor of job performance, and other criteria of job performance, such as test scores. The resulting validities tended to be
quite low, and these findings led to the introduction of the microanalytic approach to selection research.

Using this research approach, again concentrating on the interview, investigators identified many non-job-related factors that indirectly affected selection interview decisions. Additional research has suggested that pre-interview screening of applicant materials (resumes, applications, etc.) can create biases among interviewers. In addition, studies have indicated that different interviewers utilize different information to reach decisions. Overall, although selection research has continued for many decades, definitive answers concerning how or why the process works continue to elude investigators.

Methodological Aspects of Selection Research

Throughout its history, selection research has been conducted along two research streams: the macroanalytic research stream and the microanalytic research stream. The goal of macroanalytic research was to study the selection process, generally consisting of only the interview, as a total entity and to determine the reliability and the validity of the interview (Young, 1985). Correlation studies assessed the relationship between the interview as a predictor of job performance and some criterion of job performance, such as a score on an intelligence test (Young & Ryerson, 1986).
Essentially all early selection research was macroanalytic. The studies cited by Wagner (1949) were concerned primarily with the relationship between various applicant characteristics such as intelligence or attitude and interview performance. Although this research continues, the macroanalytic technique has failed to produce the expected results. It has not enabled researchers to maximize the amount of variance in the criterion of job performance that could be explained by the variance in the selected predictor of job performance, namely the interview.

In addition, macroanalytic research has not provided significant information relative to why or if the interview is a valid selection tool. Wagner (1949) concluded that in spite of the considerable amount of interview research completed prior to his review, a great deal of confusion continued to exist as to what could and could not be accomplished by the interview. In a later review of selection literature, Mayfield (1964) noted that selection research since Wagner's review had continued to produce low interview reliability and validity coefficients.

Mayfield suggested that researchers should modify their approach to selection research. Instead of studying the interview as one entity, the author suggested that the interview be split into small units. By doing this, Mayfield indicated that the decision-making process within the interview could be studied more effectively.

This new research approach was termed microanalytic. The goal of this research methodology was to identify factors affecting the decision-making process within the
selection interview (Young, 1985, Young & Ryerson, 1986). Mayfield and Carlson (1966) reported the results of one of the first microanalytic studies.

Mayfield's and Carlson's study dealt with insurance managers' rankings and interrater agreements in the selection of potential insurance salespeople. Results suggested that non-job-related factors were influencing the managers' ratings of "applicants." Mayfield and Carlson concluded that those unidentified factors were causing attenuation of the true validity coefficients relating the rankings to potential job performance as insurance salespersons.

The findings attracted considerable attention and led to the initiation of a large number of studies attempting to identify specific factors that could affect the decision-making process. In many cases, researchers undertook studies in accordance with Mayfield's and Carlson's suggestions. These suggestions included manipulating only one or two potential factors in a given study and determining whether main effects or interaction effects of the factors were affecting the decision-making process.

The microanalytic approach led to the introduction and use of new techniques such as videotapes, audio tapes, paper people, and other interview simulations (Arvey, 1979; Bolton, 1969; Gorman, Clover, & Doherty, 1978; Kinicki & Lockwood, 1985; Macan & Dipboye, 1990). Several non-job-related factors have been identified that influence selection decisions. These factors include race, sex, age, physical disability status, interviewer attitude, and interviewer mood. The job-relatedness of these factors is
significant because by law only factors that are directly job-related and have no disproportionate impact on protected class groups can be used in the decision-making process.

The inclusion of any of these non-job-related factors creates a potentially discriminatory personnel selection process. While a great deal of microanalytic research has taken place in the private sector, selection research in education has also contributed significantly to the current knowledge base. In the educational setting, selection research has followed the same path, progressing from a macroanalytic approach to a microanalytic approach (Schalock, 1979; Young, Rinehart, & Place, 1988; Young & Ryerson, 1986).

As in private sector selection research, the methodology of early educational selection research was macroanalytic, that is, “to assess the relationship between an actual criterion measure representing teaching performance and a specific predictor of teaching performance” (Young & Ryerson, 1986, p. 24). Because, in most cases, the predictor of teaching performance was the interview, the goal was to validate the interview with some criterion of teaching performance (Young, 1985). The consistently low levels of interview validity resulting from those studies soon led educational selection researchers to change their focus from macroanalytic to microanalytic research methodologies.

Because of the consistently low levels of interview validity found in early studies, researchers postponed efforts directed toward establishing the validity of employability indices and redirected their efforts toward identifying factors responsible for influencing
decision-making (Young, 1985). Microanalytic research designs were experimental, generally simulation studies, as opposed to the correlation studies used in macroanalytic research. The microanalytic studies identified non-job-related factors affecting educational personnel decisions, including age, sex, and focal position under consideration (Young & Joseph, 1989; Young & Place, 1988; Young & Voss, 1986).

A Model of Selection Research

In an attempt to create an easily understood and straightforward representation of past and present teacher selection research, Young (1985) proposed a structural model, seen in Figure 1. Young called the model “The Shared Variance Model.” He used set theory to define the components of the model. Each circle (or set) represents the total variance of a component of the selection process.

Set A represents the total variance associated with the selection criterion, teaching performance. Set B represents the total variance associated with the selection predictor, the interview. Set C represents the total variance associated with factors influencing the decision-making process. Set D represents the total variance associated with screening decisions.
In addition, “each intersection of sets represents the amount of variance shared between two or more components of the selection process” (Young, 1985, p. 18). The intersections define the basic concepts behind both research streams within selection, macroanalytic research \((A \cap B)\) and microanalytic research \((B \cap C)\). Macroanalytic research is concerned with maximizing the amount of variance in job performance (teaching performance)-Set A, that can be explained by the variance in the interview decision-Set B.

On the other hand, microanalytic research deals with identifying factors that affect the decision-making process indirectly-Set C. This set does not intersect with Set A. In other words, these factors do not directly affect job performance. Rather, Set C intersects Set B and Set D, indicating that these factors affect final job performance decisions by affecting pre-interview screening decisions and interview decisions.

There are two reasons why Set C does not intersect Set A in the model-one practical and the other perceptual. In practical terms, an intersection between Set C and Set A would be illegal, by definition. State and federal statutes, guidelines, and regulations require that only job-related factors be considered in reaching a personnel selection decision. Factors identified in Set C include age, sex, race, and disability status, none of which are job-related and are therefore prohibited from being considered in selection decisions.
The second reason Set C does not intersect Set A concerns the questionable societal perception that selection decisions are based truly on only job-related factors. The prevailing societal belief is that non-job-related personal characteristics do not affect decisions. “In fact, federal and state rules and regulations are reflective of the value which society places on the respect of individual differences” (Reis, 1996, p. 37).

Set D (total variance associated with screening decisions) is considered separately from Set B (total variance associated with the interview) because different stimuli are used in the two decision phases. Screening decisions have been the focus of many separate studies. The studies involving screening decisions have been separate also from studies using paper people interview simulations.

As an example of the utility of Young’s model, consider the following situation. An investigator is interested in studying a decision related to some criterion of an applicant’s job performance (Set A) by using an interview (Set B) as a predictor of this job performance. However, the investigator suspects that some non-job-related factor (Set C) is indirectly affecting the decision based on the criterion of job performance.

The investigator performs an experimental procedure involving the interview (Set B), in which the non-job-related factor (Set C) is manipulated. The amount of variance in the interview decision that is accounted for by the manipulation of the non-job-related factor can be determined statistically (B ∩ C). When the remainder of the original study is
conducted, the effect of the non-job-related factor (B\(\cap\)C) can be removed statistically from the relationship between the criterion of job performance (Set A) and the interview (Set B). This increases the utility of the interview.

Theoretically, selection decisions should be made based solely on job-related issues. In an educational setting these issues would be related to teaching performance. In reality, however, research studies have identified many non-job-related factors that affect selection decisions.

These factors such as age, sex, and race affect both screening and interview decisions. Faley, Kleiman, and Lengnick-Hall (1984) reviewed literature pertaining to age discrimination in hiring and promotion selection. Their review indicated that older applicants were generally evaluated lower than younger applicants on both hiring and promotion decisions. This occurred even in situations where the older applicants had backgrounds and experience records as strong as, or stronger than the younger applicants’. Similar results have been found in educational environments, although essentially no evidence has been found that these factors (e.g., age, sex, race) adversely affected teaching performance (Young & Place, 1988).
The selection process requires decisions to be made during each phase. These decisions are based on cognitive principles. Researchers have attempted to define and explain these cognitive principles through the use of theoretical models.

Two theoretical models appear to contribute to the selection process. One is a social distance model first put forth by Bogardus (1925) that attempts to explain interpersonal relations from a cultural perspective. The other is Byrne’s (1961) social psychological model of interpersonal attraction, known as the Attention-Similarity Paradigm.

In the pre-interview phase of a selection process, applicants submit information that is evaluated in terms of suitability for the vacant position. This information, including application sheets, resumes, transcripts, and letters of reference, allows those making the selection to develop perceptions about the applicants. These perceptions tend to carry over into later phases of the selection process.

Because of the carry-over effect of these perceptions, it is important to study the pre-interview phase of selection specifically, in terms of the creation of perceptions about applicants by the evaluators (decision-makers). Evaluators may develop biases based on
applicants' paper credentials. These biases can be based on factors such as age, sex, race, particular college or university, etc., and may affect later decisions. Because none of these factors is job-related, use of them in the decision-making process is discriminatory.

A large body of research exists suggesting that these factors do impact decisions. This has led to additional research attempting to determine "how" and "why" these factors affect evaluators. Issues forming the bases of Social Distance Theory and the Attraction-Similarity Paradigm may help to answer these questions. For example, the age of an applicant may be a source of attraction or negative bias in the selection process for an elementary teacher. These theoretical models may play important roles in determining how and why principals perceive applicants as they do.

Social Distance Theory

Psychologists have studied the influence of social and personality factors on perception for many years. Some psychologists theorize that perception begins at birth with "wired-in programs." They theorize also that these programs are changed as individuals experience new and different stimuli (Forgus & Melamed, 1976).

One source of these perception-altering stimuli is the culture to which an individual belongs. "The human organism becomes selectively sensitized to certain arrays of stimuli
rather than others as a function of the individual's membership in one cultural group rather than another, whatever other factors are involved" (Hallowell, 1951, p. 168). Researchers have used this premise as the basis for many of the studies dealing with the relationship between cultural or group membership and discriminatory perceptions. This difference in the way specific cultures treat or look upon outsiders is the major element of social distance theory.

Social distance is related to the degrees and grades of understanding and feeling that persons experience toward each other (Bogardus, 1967). Measuring social distance is one technique that has been used to study the dynamics of social interaction and perception. The extent to which people are willing to accept others who differ from themselves into their own social group may constitute a measure of their 'social distance' (Triandis & Triandis, 1967).

Usually, research concerning social distance has been conducted by having subjects indicate their acceptance or exclusion of an individual at some level of interpersonal relationship, such as "allow in my country," "live in my town," "have as my neighbor," and "marry into my family" (Bogardus, 1967; Triandis & Triandis, 1960, 1967). In some instances, an individual might be accepted in the subject's hometown but not as a neighbor, or the individual might be accepted into the subject's country but at no closer level of relationship. The social distance between the evaluatee and the evaluator is
influenced by a combination of characteristics that reside in both individuals. These characteristics include race, religion, nationality, occupation, sex, social class, and education level (Triandis & Triandis, 1967).

Societal norms also play a role in social distance. Triandis and Triandis (1960) found that upper-class individuals showed less social distance than individuals from lower social classes. Persons in lower social classes tended to discriminate much more than other groups in terms of race. Also, persons who were insecure about their abilities or occupational prospects tended to show large social distance from others (Triandis & Triandis, 1967).

In addition, different cultures weigh factors differently in determining social distance. For instance, Greeks place more emphasis on religion than on occupation. In contrast, Japanese put much more weight on occupation and race than on nationality (Triandis & Triandis, 1967).

Social distance theory applies to both personal and professional relationships. Within organizations, people who work together do so with different levels of comfort and collegiality. A key assumption of social distance theory is that people will work more comfortably with co-workers who are similar to themselves.

The physical layout of an organization and the situational characteristics of an individual’s job have significant influences on the types of and extents of social interactions with co-workers (Rand & Wexley, 1975). Integrating these factors with
social distance theory is useful in explaining the interpersonal behaviors seen among workers in the same jobs or work areas and "outsiders." The dynamics of these interpersonal interactions differ, in terms of either physical or functional distance, depending on the perceived similarity or attraction between or among the individuals as well as their propinquity (opportunity for interaction) (Byrne, 1961).

This is particularly true in superior-subordinate relationships. Persons in superior positions who maintain a large social distance from their subordinates tend to have little intimate physical or functional contact with them. In these cases, perceived similarity or dissimilarity with subordinates is unimportant and in a hiring or other personnel selection situation, applicant performance and ability are of more importance than interpersonal dynamics (Reis, 1996).

Although social distance research has identified race, religion, nationality, and sex as factors which can affect social distance among individuals or cultures, other previously unidentified factors may exist. One of these additional factors may be applicant age. In some cultures, such as the Chinese or the Japanese, older individuals are treated with great respect and reverence, while in others such as the United States, older individuals do not receive such respect or treatment.

Singer (1986) reported a study in which different occupations were perceived to be identified with different age groups. Also, Young & McMurry (1986) used an interview simulation to show that principals preferred younger teachers for a position as a physical
education teacher. In addition, Rosen and Jerdee (1976a, 1979) studied managerial decisions concerning promotion and found that younger employees were universally accepted for promotions regardless of the expertise and experience of older employees.

In all cases, stereotypes concerning older employees were implicitly or explicitly named as the major cause for the age discrimination. This stereotyping tends to be a product of the American culture, and although the use of age as a criterion for a selection decision is discriminatory and illegal, it occurs regularly.

Propinquity influences interpersonal attraction indirectly (Baron & Byrne, 1984). In addition, propinquity affects and is affected by the social distance between individuals in an organization. Culturally-induced social distance norms affect selection decisions in organizations by biasing decisions in favor of applicants who are “culturally acceptable”, meaning that they have a small social distance from the decision-makers.

In addition, social distance helps define interpersonal dynamics within organizations, because people are more comfortable working with co-workers who are similar to them. In an educational setting, the close working relationship between a principal and a teacher may be the result of the small social distance between them, the perception of similarity between them, or a combination of both.
Attraction-Similarity Paradigm

A social psychological paradigm was introduced by Byrne (1961) to explain interpersonal dynamics in organizations. This paradigm was called the "Attraction-Similarity Paradigm." It resulted from research findings that people who shared common characteristics tended to be attracted to or perceived themselves to be similar to each other.

The paradigm consisted of four classes of variables that were believed to affect interpersonal attraction and evaluation (Pulakos & Wexley, 1983). These four classes of variables related to: (1) need for affiliation, (2) overt stimulus characteristics, (3) propinquity, and (4) reciprocal reward or punishment (Byrne, 1961). Within the Attraction-Similarity Paradigm, the four classes of variables interacted although each class of variables related to interpersonal attraction in a different way.

The need for affiliation relates to how much an individual needs to be in the company of others and helps to predict "individual differences in interpersonal behavior" (Byrne, 1961, p. 713). Overt stimulus characteristics refer to observable attributes that contribute to attraction. These characteristics include sex, age, race, physical attractiveness, voice, and type of clothing. Research suggests, for instance, that females
are selected for managerial positions less frequently than males, and younger females are preferred for teaching positions more frequently than older females (Rosen & Jerdee, 1979; Young & Schmidt, 1988).

The third class of variables deals with propinquity. Propinquity is related to the concept of physical proximity. The more often individuals are given the opportunity to be in close physical proximity, the greater the chances are that the individuals will develop an interpersonal attraction for each other. Byrne (1961) considered propinquity to be the most obvious and most studied of the variable classes.

The final class of variables is concerned with reciprocal reward and punishment. In terms of a relationship, these variables denote positive or negative aspects (similarity or dissimilarity). This class of variables is considered "the most crucial determining factor" of interpersonal attraction (Byrne, 1961, p. 713).

There is a relationship among these four classes of variables. The need for affiliation reflects the importance of interpersonal relationships to an individual. If that individual’s need for affiliation is strong, that person will tend to look for companionship. As the individual seeks companionship, overt physical stimulus characteristics will attract the person to another individual.

Further, when one individual is attracted to another by overt physical stimulus characteristics, the person being attracted will take every opportunity to be in close proximity to the other individual (propinquity), hoping to attract the other person’s
attention. Finally, if there is a mutual attraction, the individuals will spend time together and will determine their similarity or dissimilarity as individuals through discussions, actions, and observations.

Of the four classes of variables that comprise the elements of the Attraction-Similarity Paradigm, the one concerned with reciprocal reward and punishment (similarity and dissimilarity) is the one having the most effect on selection decisions (Rand & Wexley, 1975). As the positive and negative aspects of this class of variables manifest themselves, through information in an application, resume, and interview, a decision-maker will discern similarity or dissimilarity with the applicant. This similarity or dissimilarity will have an effect on the ultimate selection decision.

Attraction-Similarity Research

Using portions of the Attraction-Similarity Paradigm, researchers have studied organizational processes. Research has consistently found that favorable evaluation of a job applicant is strongly related to the degree of similarity between the applicant and the rater (Pulakos & Wexley, 1983). Also, researchers have investigated many attributes and characteristics that potentially affect interpersonal attraction, in terms of perceived similarity.
In a business-related study, Golightly, Huffman, and Byrne (1972) examined the relationship among attitude similarity between a loan applicant and a loan officer, favorable rating for a loan, and the amount of the loan. Subjects (business students) filled out attitude questionnaires and were presented later with a loan application and a similar attitude scale purported to have been completed by the loan applicant. The attitude scales for the loan applicants were either similar or dissimilar to those of the subjects. Results indicated that loan applicants whose attitudes were similar to those of the subjects received more favorable loan recommendations and recommendations for higher loan amounts.

Similarly, Senger (1971) used a semantic differential to measure attitude similarity between managers and subordinates. The managers were asked also to rank their subordinates in terms of competence. The highest-ranked subordinates were perceived to be most similar to their managers. The author provided a possible explanation for the findings. High level managers must rate or rank many individuals who are performing a wide variety of tasks. Senger suggested that because of the variety of jobs involved, managers were forced to base performance ratings or rankings on subjective factors including demographic characteristics. Under these circumstances, the subordinates perceived as most similar to the managers would be rated or ranked higher.

In addition to rankings of subordinates, performance ratings have been studied also, in terms of perceived similarity between superiors and subordinates. Pulakos and Wexley (1983) investigated the relationship of similarity, sex, and performance ratings
among manager-subordinate pairs. Attitude scales were completed by managers and subordinates, and they were asked also to complete performance ratings on each other. Results indicated that manager-subordinate pairs that perceived themselves to be more similar rated each other higher than pairs who perceived themselves to be less similar. In addition, among manager-subordinate pairs who perceived themselves as similar, female subordinates received higher ratings than male subordinates.

In another study, Miles (1964) attempted to determine whether or not managers who were perceived to be similar to their superiors received better job support and performance ratings. Attitude scales were completed by both groups, and superiors rated their managers on judgment, quality of suggestions, and number of suggestions made in a given time-frame. Superiors provided more perceived job support and gave higher performance ratings to managers whose attitudes were most similar to their own.

In addition to business-related procedures such as applying for loans or ranking performance ratings, the Attraction-Similarity Paradigm has been applied to the employment interview. Graves (1993) reviewed literature pertaining to sources of individual differences in interviewers' effectiveness. She concluded that perceived similarity may improve selection.

Graves suggested that similar individuals could communicate better. Also, interviewers might judge similar applicants on a wide variety of factors, while dissimilar applicants might be judged on only a few factors. Liking or disliking created by the
interviewer’s similarity or dissimilarity to the applicant results in positively or negatively biased information processing. Thus, interviewers’ judgments may be based on the extent to which they like or dislike applicants rather than applicants’ job-related skills and abilities (Graves, 1993).

Much of the interview-related attraction-similarity research has focused on more common demographic characteristics such as sex, age, and race. Rand and Wexley (1975) studied the effects of biographical similarity, applicant race, and interviewer need for affiliation on interview ratings. Only biographical similarity had a significant main effect. Interviewers rated applicants perceived to be similar to themselves higher than applicants perceived to be dissimilar to themselves. Both race and need for affiliation had interaction effects with similarity.

In another study, Graves and Powell (1995) compiled all of the interview results from a large group of recruiters over a two-year period. Applicant sex and perceived similarity between interviewers and applicants were measured. Sex similarity between applicants and interviewers showed no main effect on interview ratings. In fact, female interviewers rated male applicants higher than female applicants.

If age of applicants has an effect on selection decisions, age may also be a component of interpersonal attraction or liking with respect to applicants. Studies have been conducted in both business and educational situations, using age as an independent variable.
Lin, Dobbins, and Farh (1992) measured interview ratings to determine whether or not there was an age or race similarity effect between interviewers and interviewees in different interview formats. Pairs of interviewers were varied according to race (both of the same race-black or white- or one from each race) and age (both interviewers in the same age range as the interviewee or one in and one out of the interviewee’s age range). Race showed a main effect only when both interviewers were black, with black interviewees rated higher than white interviewees. Age showed no significant effect in terms of similarity between interviewers and interviewees.

In another study, Raza and Carpenter (1987) reviewed information from actual interviews to determine whether applicant age and sex had any effect on interview ratings. Personal liking, intelligence, and work skills were also related to interview ratings. Results indicated no significant main effect for age similarity or dissimilarity between applicants and interviewers, although older applicants were rated lower for intelligence by all interviewers. Also, sex similarity had no significant main effect on interview ratings, although interviewers rated applicants of the opposite sex higher in attractiveness.

In educational settings, considerable research has been conducted by Young, in collaboration with other investigators (Young & Allison, 1982; Young & Joseph, 1987; Young & Schmidt, 1988). These studies have investigated possible age discrimination in teacher selection using a paper people methodology. Young and Allison (1982) manipulated teaching experience and applicant chronological age on credentials. The credentials were mailed to superintendents and principals throughout several states.
Results suggested that the younger teacher “applicant” was preferred for the position under consideration, with no accompanying significant main effect for teaching experience.

In another study, Young and Schmidt (1988) performed a study that examined the effects of applicant age, sex, and instructional level (elementary or secondary) on principals’ screening decisions on teacher candidates. Results suggested an interaction effect between age and sex of applicants. Younger female teachers were preferred over older female teachers, while older male teachers were preferred to younger male teachers.

In these and other studies, evidence of an age effect has been found. However, there has been no evidence of a similarity effect due to age. This might be due to the fact that this research has not included potential social psychological variables that might affect the selection process. Thus, an investigator has no way of knowing whether or not the selection of teachers may be influenced by the social distance between principals and applicants and the Attraction-Similarity Paradigm. “Specifically, a principal knowing the need for a close working relationship, will prefer a biologically or demographically similar work partner” (Reis, 1996, p. 47).

Research in many types of organizations and by different investigators has shown consistent findings. In a wide variety of situations, from applying for a loan to selecting teachers, applicants who the decision-makers perceived to be similar to themselves, from pre-interview materials or from interviews, were rated better than applicants who were perceived to be dissimilar. The areas of similarity included race, sex, age, and judgment.
Independent Variables

Age of Applicant

As employees or job applicants get older, prospects for new jobs or significant promotions are perceived to decrease. Rosen and Jerdee (1976a) conducted a study to determine whether or not management decisions were influenced by applicant age. A series of “in-basket” exercises were conducted with undergraduate business students as subjects.

A set of scenarios were described in memos, with each scenario dealing with an older and a younger employee. The scenarios concerned such areas as customer service, promotion, physical capability, and updating training. The subjects evaluated the scenarios based on how they would deal with each set of requests. Results indicated that younger employees were given more favorable consideration in every scenario.

In a similar study, by Rosen and Jerdee (1976b), REALTORS® and students were asked to complete an age stereotype questionnaire containing 65 items under 4 scales: (1) performance capacity, (2) development potential, (3) performance stability, and (4) interpersonal skills. Subjects were asked to complete the questionnaire in terms of how
well each item described a 30 year old man or a 60 year old man. The younger man was rated significantly higher in performance capacity and development potential, while the older man was rated significantly higher in job stability.

There was no main age effect between the younger man and the older man, in the area of interpersonal skills. There was an age x sex interaction effect also. Females rated the older man higher than the younger man in all four areas under consideration.

The same authors conducted a later study assessing managers’ recommendations about forced employee retirement. Experienced managers were asked to review memos detailing revised company retirement policies with respect to specific employees. The employees characteristics were defined as 62, 65, and 68 years old, either male or female, and occupying either a high status position or a low status position.

These characteristics were part of each employee’s latest performance evaluation, which was attached to the appropriate memos. The managers were requested to evaluate the strategy to “initiate procedures for the employee’s retirement,” using a 6-point Likert type scale with (1) Extremely Undesirable and (6) Extremely Desirable as anchors. None of the employee characteristics (sex, age, job status) had a statistically significant main effect, although as the age of the employee increased, the recommendation to initiate retirement procedures increased. The authors theorized the results were due to age stereotyping (Rosen & Jerdee, 1979).
Singer (1986) studied age stereotyping relative to specific occupations. Students rated hypothetical 30 year old male and 55 year old male accountants, university academics, police officers, medical doctors, and computer scientists on the following dimensions: higher performance capacity, more development potential, greater interpersonal skills, and better performance stability. Results indicated that age stereotyping occurred in all professions across all dimensions.

The younger individual was rated significantly higher in performance capacity, development potential, and interpersonal skills, but significantly lower in performance stability than the older individual. The most extreme age stereotyping took place for accountants, followed by police officers, computer scientists, university academics, and medical doctors.

In another in-basket study, Lee and Clemons (1985) examined employment decisions where younger and older employees were competing in the same employment situations. Subjects (students) indicated the probability for approval of requests for meeting attendance and training from 32 year old and 65 year old employees. In all instances where the older and the younger employee were requesting to attend the same meeting or training, the younger employee was given a higher probability for approval.

A literature review was conducted by Waldman and Avolio (1986), who used meta-analytical techniques to determine whether or not a relationship existed between age and job performance. Utilizing 40 data samples, results suggested that although job
performance, measured by productivity, increased with age, supervisor ratings showed a decline. Fair and non-discriminatory employment decisions about older workers require a strategy for identifying those older workers still capable of performing primary job duties as well as those who are not (Waldman & Avolio, 1986).

In addition to age being a factor in promotion, training, retirement, and performance decisions, research has indicated that age is also a significant factor in interview decisions. Singer and Sewell (1989) used students and professional managers to examine the effects of applicant age, type of additional information provided, and focal position under consideration on interview decisions. The subjects listened to a story dealing with either a successful older businessman or with national parks and then watched videotaped interviews in which the applicant was either old or young.

Applicants were rated on suitability for a given position, “fit-in,” chance of success, competence, and starting salary. Results indicated that the effect of age varied between manager and student subjects. Managers preferred the older applicant for the higher status position and the younger applicant for the lower status position by statistically significant margins. Students’ results were mixed however, as age effect varied with respect to the both focal position and type of additional information provided.

In another study, Haefner (1979) used experienced managers to rate interviewees in terms of desirability for hiring for a semiskilled position. Applicant age, race, sex, and competency were manipulated. Results suggested significant age, sex, and competency
main effects as well as significant age x competency and sex x competency interaction effects. In terms of main effects, younger, male, and competent applicants were preferred over older, female, and incompetent applicants. Interaction effects showed a preference for younger, highly-competent applicants over older, highly-competent applicants, and for male, highly-competent applicants over female, highly-competent applicants.

Not all age-related interview research has provided evidence of an applicant age effect. Raza and Carpenter (1987) analyzed actual job interviews to test a proposed model of interviewer and interviewee demographics, and their relationship to interview decisions. Age and gender information was collected from applicants and interviewers prior to the interviews.

Interviewers rated applicants on personal appeal, physical attractiveness, intelligence, and skill level for a particular position. Also, interviewers made recommendations on hireability of the applicants and predicted “what kind of employees the applicants would be.” No significant main age effects were noted overall in the interview ratings, although there were specific age-related interactions. Older applicants were rated slightly lower in intelligence by male interviewers and were rated lower in physical attractiveness by female interviewers. In addition, older applicants received lower hireability ratings from male interviewers.
In another study, Lin, Dobbins, and Farh (1992) investigated the relationship among applicant race, age, and interviewer preference. Personnel specialists served as interviewers for applicants seeking a janitorial position. Interviews were conducted by either one or two interviewers.

The pairings of interviewers were varied in terms of race or age. Interviewer race was operationalized by using pairs of interviewers who were either same race pairs or mixed race pairs. Interviewer age was operationalized by using pairs of interviewers in which either both were within the same age range as the applicant or in which one was within the age range of the applicant and the other outside of the applicant’s age range. Results indicated that while there was a main effect for race, relative to the interviewer-applicant combination, there was no main effect for any interviewer-applicant age combination.

Connor, Walsh, Litzelman, and Alvarez (1978) examined the association among applicant age, applicant perception of older individuals, and applicant success or failure in being hired for a particular position. Students served as subjects. Prior to the onset of the actual experimental study, subjects were asked to complete a semantic differential concerning attitudes toward older individuals. Subjects were later presented with an interview transcript, a brief applicant biography, and a photograph of the applicant. The
applicants were either a young (24 years old) or an older (63 years old) woman. In addition, subjects were told: (1) the applicant had been hired, (2) the applicant had not been hired, or (3) the applicant’s hiring status was unknown.

The subjects rated applicants on potential value as an employee and were asked to make attributions of the causes of applicants’ performances during the interviews. Age of the applicant had a significant main effect, but only in terms of the difficulty of questions asked during the interviews. Older applicants were perceived to have been asked more difficult questions than were younger applicants. There was no significant age x hiring interaction. However, there was a significant age x sex interaction. Female subjects rated the older applicants more capable of handling the job than did male subjects.

Research concerning the effect of age on selection decisions has not been limited to the private sector. A significant body of research has been created examining age effects in educational personnel selection. This educational selection research has been expanded to include additional applicant characteristics that have been theorized to interact with applicant age, to affect selection decisions.

Johnson (1976) published the results of an open-ended survey detailing applicant characteristics that educational administrators and principals looked for during employment interviews. Results indicated that 83% of the administrators and 86% of the principals preferred applicants between 20 and 25 years of age. This was the first published study suggesting that age discrimination in teacher selection might be occurring.
Young and Allison (1982) investigated the effect of applicant age and teaching experience on teacher selection. District superintendents and secondary school principals served as subjects. They were requested to evaluate applicant resumes for a position as a physical education teacher (position description also provided by the investigators). The applicants' resumes were varied in terms of age (29 years old and 49 years old), and teaching experience (no experience, 3 years experience, and 8 years experience). Subjects rated the applicants in six areas of teacher performance. Results indicated that only applicant age had a statistically significant effect on the evaluations. In all areas of teacher performance, the younger applicant was rated higher than the older applicant.

In succeeding studies, Young, in collaboration with other investigators, expanded the number and types of characteristics that were combined with applicant age. These additional characteristics included specific focal positions, quality and quantity of applicant resume information furnished, applicant sex, and level of applicant skill obsolescence. In each study, age of the applicants was found to have a significant main effect or significant interaction effects. In all cases, the younger applicants were preferred over the older applicants (Young & Joseph, 1989, Young & McMurry, 1986; Young & Schmidt, 1988; Young & Voss, 1986).

However, research has not shown applicant age to be a consistent factor in hiring or evaluating teachers. In a two-experiment study, Young and Pounder (1985) studied the relationship between applicant age and type of resume information provided for teacher applicants. During the first experiment, experienced educational administrators
interviewed teachers posing as applicants for a teaching position. Both the interviewers and the applicants received position descriptions and candidate summary sheets to facilitate role-playing. The applicants were interviewed and were rated in six areas of teaching performance, and each interviewer was requested to estimate the probability of offering a position to their applicant. Applicant age did not correlate significantly with the six areas of teaching performance and the estimation of a job offer. However, the direction of the correlations between applicant age and the six areas of teaching performance were all the same, suggesting that age was a consideration in the interviewer’s evaluations.

In the second experiment, the authors created videotapes showing applicant interviews, in which the applicants were depicted as either 27 years old or 43 years old. The “interviewers” (subjects) were different educational administrators from those in Experiment 1. Each interviewer received a position description, an applicant resume, and an evaluation sheet. Each interviewer observed one videotaped interview, with the interviewee corresponding to the applicant resume the interviewer had received. The applicants were evaluated on the same six areas of teacher performance used in Experiment 1. In addition, interviewers estimated the probability of offering the applicant a job. Results from this experiment were similar to those from Experiment 1. Applicant age did not correlate significantly with any of the measures of teaching performance and with the perceived probability of receiving a job offer.
Young and Place (1988) examined whether or not teacher age and length of teaching experience were related to performance ratings, and whether or not age was a bona fide occupational qualification (BFOQ) for teacher selection. Elementary, middle, and secondary teachers were evaluated using their district's standard teacher performance appraisal instrument. Composite scores were derived in 8 teaching dimensions, and the effects of possible rater bias and teaching experience were statistically removed from the composite scores. Results indicated that teacher age was not a BFOQ for teacher selection. Older teachers were rated slightly higher than younger teachers on performance ratings. The authors reiterated that selection results showing a preference for younger applicants are potentially illegal.

Individual studies from the private sector and from education have shown mixed results, relative to the effect of applicant age. In the majority of studies, younger applicants have been preferred over older applicants, regardless of the specific type of situation under consideration.

Age of Evaluator

A selection process operates in two directions. An organization evaluates applicants in a variety of ways during the process, and if an applicant is determined to have
met the organization’s requirements for employment, promotion, etc., the applicant is hired, promoted, etc.. On the other hand, organizations are evaluated by applicants.

Applicants for employment, promotion, etc., make personal selections relative to whether they want to work for or be promoted within a specific organization. Research has suggested that recruiter demographic characteristics have an effect on applicants’ overall perceptions of organizations. One of these demographic characteristics is recruiter or evaluator chronological age.

Rynes (1991) reviewed recruitment, job-choice, and post-hire consequences from the applicant perspective. She found that a small amount of research had been carried out related to evaluator age effects on applicants. Essentially all of this research had focused on recruitment or employment interviews or interview simulations and had been conducted in the private sector.

One study explored the influence of various perceived recruitment interviewer traits, behaviors, and attitudes on job candidate interview assessments and the likelihood of accepting a job (Alderfer & McCord, 1970). Graduate student subjects were presented with questionnaires containing two sections. The first section contained two lists of job attributes that the subjects were asked to prioritize, in terms of their “ideal” position. Results from the prioritizing helped to define subjects’ interpersonal need strengths.

In the second section of the questionnaire, subjects were asked to recall their worst interview experience, an average interview experience, and their best interview experience.
For each experience, subjects were required to estimate the probability of receiving a job offer based on the interview and the probability of accepting the job offer. In addition, subjects were requested to rate 17 interview-related items for each previously noted interview experience. Among the statistically significant findings, more favorable interview evaluations were provided when the interviewer was perceived to be a successful younger man.

In another study, Rogers and Sincoff (1978) used undergraduate students as subjects in an examination of how students assess campus recruiters in terms of eventual job choices. Recruiter age, recruiter title, and recruiter presentation ability were manipulated in the study. An audio taped interview was played for each subject, while a person purporting to be the interviewer was seated nearby.

The “interviewers” were portrayed as 20 years old, 30 years old, and 50 years old. In addition, the interviewers were introduced either with or without a formal title, and the interviews were conducted with the interviewer either following the script smoothly or with difficulty (hesitations, mispronunciations, etc.). The subjects evaluated the interviewers using a semantic differential credibility scale. Age, title, and presentation ability displayed main effects. In addition, age x title and age x title x presentation ability showed interaction effects. The 30 year old interviewer was preferred to either the 20 year old or the 50 year old interviewers. Also, results suggested that subjects identified better with the older interviewers holding a title than with the 20 year old holding a title.
In addition, results indicated that an older, titled interviewer was expected to have greater presentation ability than a younger, untitled interviewer. In all cases, interviewer age was important.

Taylor and Bergmann (1987) conducted a longitudinal study, in which applicant reactions were measured to different stages of a corporate recruiting process. Recruiter demographics (age, sex, race, experience, etc.) were among the independent variables evaluated during the initial stage of the recruiting process. Likert-type scales were used by the student applicants to evaluate the independent variables in terms of the variables’ effects on perceived company attractiveness and probability of an offer acceptance. Results suggested that as the age of corporate interviewers increased, subjects’ perceptions of company attractiveness decreased. In addition, recruiter age failed to affect subjects’ probabilities of an offer acceptance.

Research concerning evaluator age is nearly non-existent in an educational setting. Young and Heneman (1986) examined a variety of interview and interviewer characteristics relative to interviewees’ perceptions of receiving a job offer, accepting a job offer, and interviewer personality. The independent variables in the study included interviewer chronological age, interview format, and perceived personality of the interviewer. Experienced educational administrators served as interviewers, and experienced teachers were used as interviewees or simulated position incumbents, in a
panel interview format. Results indicated that the chronological ages of the interviewers did not significantly influence either interviewees’ perceptions concerning a job offer or interviewees’ perceptions of the interviewers’ personalities.

The independent variables in this study, applicant age and evaluator age have been investigated previously, along with a variety of additional non-job-related demographic factors. The private sector as well as the educational environment have been used as research settings. In both sectors, results have been mixed.

Applicant age effects have varied relative to the specific types of individuals doing the ratings, as well as varying relative to the experimental design (type of position being studied, physical or mental requirements to perform the designated tasks, etc.). Evaluator age effects have been less prevalent and have been related most frequently to job title or job status. Whether investigating applicant age effects or evaluator age effects, there have been no definitive answers to questions concerning why age effects have been seen in many selection studies.

Advancements

Selection research has been conducted from two research perspectives: the macroanalytic research perspective and the microanalytic research perspective. The
present study is microanalytic. Specifically, this study focuses on non-job-related variables that may influence interviewers’ evaluations of applicants during the pre-interview phase of the selection process.

Non-job-related variables found to influence decision-making during a selection process include applicant sex (Arvey, 1979; Rosen & Jerdee, 1979), applicant chronological age (Young & Allison, 1982; Young & Pounder, 1985), interviewer perception of similarity to the applicant (Golightly, Huffman, and Byrne, 1972; Pulakos & Wexley, 1983; Rand & Wexley, 1975), and interviewer chronological age (Alderfer & McCord, 1970; Rogers & Sincoff, 1978). Since these variables are non-job-related, evidence of their influence on decision-making during selection is potentially illegal. This is true in both the private sector and in the public sector, including the educational system.

Past research results have been mixed relative to many of these variables. The results from this study will provide an opportunity to advance knowledge in the microanalytic research area. For example, age bias has been shown to vary from study to study.

Rosen and Jerdee (1976a, 1976b, 1977, 1979) found repeatedly that younger employees and applicants were preferred over older employees and applicants in a variety of business settings. Similarly, Young and Allison (1982) and Young and McMurry (1986) found that educational administrators preferred younger applicants for teaching
positions. Conversely, Lin, Dobbins, and Farh (1992) established no applicant age effect on interview decisions in a business setting, and Young and Pounder (1985) found no significant applicant age effect in a teaching position interview study.

Mixed results have been achieved also in studies concerning the effects of evaluator age on job applicants. Alderfer and McCord (1970) found that job applicants developed a much more favorable opinion of an organization if they were interviewed by a young, apparently successful man. On the other hand, Young and Heneman (1986) established no interviewer age effect on teacher applicants’ perceptions of a school district’s selection process and on the applicants’ probabilities of accepting a job offer from the district.

Selection research must continue to focus on these and other variables, to seek the source of their influence on the selection process. Chronological age has been found to be a determining factor in selection decisions. Research has indicated this to be true, in terms of both applicants and evaluators. In this study, the social psychological theory of social distance and the Attraction-Similarity Paradigm are used in an attempt to explain why chronological age is a factor in screening decisions.

Although the concept of social distance is generally culture-based, individuals need to feel “comfortable” with each other, particularly if they are required to maintain a close working relationship. This is certainly true in a relationship such as that between a
principal and a teacher. If these individuals are unwilling to recognize and accept a mutual "short social distance," the working relationship will be strained, or worse. One of the bases for determining social distance, on an individual basis, is similarity.

Similarity between individuals is based on many factors, including race, chronological age, sex, interests, and position. Research has suggested that individuals who are similar, in terms of one or more of these factors, will rate each other higher than non-similar individuals, in hiring, promotion, training, and other types of decisions. The focus of the current study is to determine whether specifically matched and unmatched chronological ages of hypothetical teacher applicants and principals lead to differences in screening ratings, all factors other than chronological ages being identical.

The chronological ages of the hypothetical applicants (elementary teachers) and evaluators (elementary principals) will be matched. Previous studies have used specific applicant ages, but have not specified evaluator ages. Through this experimental design, the effects of age similarity on screening decisions concerning teacher applicants, based on specific chronological age matching, can be clearly delineated.
CHAPTER 3

METHODOLOGY

Subjects

Ohio public elementary school principals 39, 40, 59, and 60 years of age constituted the population for this study. A list of 145 Ohio public elementary school principals, meeting these age requirements, was generated by The Ohio Department of Education’s Electronic Management Information System (EMIS).

To determine the sample size, a power analysis was performed according to procedures discussed by Cohen (1988). The calculation was accomplished, based on a specific power level (power level=.80), a large effect size (f=.40), and a defined level of significance (α=.05). The calculated sample size (N=66) was increased to 100, based on data from previous studies that reported response rates of 66% or less (Young & Allison, 1982; Young & Joseph, 1989; Young & McMurry, 1986; Young & Schmidt, 1988).
The final sample consisted of 50 principals aged 39-40 years of age and 50 principals aged 59-60 years of age. These principals were selected as a stratified random sample from the list furnished by the Ohio Department of Education. A stratified random sample was used to ensure that an equal number of subjects from each age grouping was sampled.

Independent Variables

The following two independent variables were investigated: (1) age of the applicant and (2) age of the evaluator. The age of the applicant was operationalized at three levels: (1) 39 years, (2) 59 years, and (3) a "no age" control. In much of the previous research concerning possible effects of applicant age on selection decisions, an age range of 20 years was used (Young & Allison, 1982; Young & Pounder, 1985; Young & Schmidt, 1988).

The same age range was used in this study. The use of this wide age range allowed an age effect to be clearly delineated. In addition, including one age below 40 years and one above 40 years created a selection situation that required consideration of the Age Discrimination in Employment Act in the selection process.
The number of principals of specific ages, within the distribution of the study population, varied similarly to a normal distribution. Evaluator ages were specified as 39-40 years and 59-60 years of age. The ages of the evaluators were specified as 2 year groups to account for those subjects whose ages might change during the term of the study.

A “no-age” control was included as a third level of applicant age. Previous studies have included such a control (Avolio & Barrett, 1987; Young, Rinehart, & Baits, 1997). Results from those studies indicated no significant age effects, relative to the inclusion of the control. However, use of the control allowed possible effects of age stereotyping to be separated from the other age-related effects indicated by the results of those studies.

Applicant age was operationalized by placing both date of birth and age information on the resume. Applicant dates of birth were either July 14, 1958 or July 14, 1938. In addition, applicant ages were listed specifically as 39 or 59 years of age. The age groups of the evaluators (principals) were matched to and crossed with those of the applicants.
Dependent Variables

Two dependent variables were used in this study. Both dependent variables constituted an evaluation of hypothetical teacher applicants during the pre-interview phase of the selection process. One variable was the probability of an applicant receiving an interview and the second variable was an evaluation of the applicant’s teaching knowledge and abilities.

Both variables were operationalized on the Applicant Evaluation Form used in the screening process. The form consisted of six items: the first five items were combined to operationalize one of the variables, and the sixth item operationalized the other variable. The single-item dependent variable was global in nature, and concerned the probability of an applicant being granted an interview. This variable was constructed on a ten-point Likert-type scale, with anchors at point 1 (Poor) and point 10 (Excellent).

The other five items were related to specific knowledge and abilities considered important for teachers and included: (1) communication skills, (2) overall potential school contribution, (3) disciplinary ability, (4) potential for creating a friendly learning environment, and (5) professional growth potential (Stallard, 1990; Young & Allison, 1982; Young & Joseph, 1989; Young & McMurry, 1986; Young & Pounder, 1985).
Each item was constructed on a 4-point Likert-type scale, with a higher number denoting a higher rating. A composite score was calculated for this variable by summing the scores on the individual items. The form is shown in Appendix C.

Pilot Study

A pilot study was conducted to check the manipulation of applicant ages on the resumes and to serve as a reliability check of the Applicant Evaluation Form. The participants in the pilot study were educators (N=54) enrolled in graduate level educational administration courses at a large midwestern university. All participants were volunteers, and assurance was given that all information collected would be treated as confidential and anonymous. Descriptive statistics for the pilot study participants are shown in Table 1.

After studying randomly-assigned resumes and the position description, participants filled out Document Interpretation/Demographic forms. The participants’ responses on these forms were used to determine if they perceived the applicants’ ages from the resumes and to furnish demographic and experiential information about themselves.
In addition, as the subjects would do in the actual study, the pilot study participants used the information on the position descriptions and the resumes to rate the hypothetical applicants on the Applicant Evaluation Form. These data were analyzed using Cronbach's Alpha to assess the reliability of the scales on the Applicant Evaluation Form. These forms are shown in Appendix C.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>54</td>
<td>33.56</td>
<td>7.99</td>
<td>22-52</td>
</tr>
<tr>
<td>Teaching Experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Years)</td>
<td>54</td>
<td>7.44</td>
<td>7.33</td>
<td>0-25</td>
</tr>
<tr>
<td>Number of Teaching</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positions</td>
<td>54</td>
<td>3.74</td>
<td>6.38</td>
<td>0-30</td>
</tr>
</tbody>
</table>

Note: Sex: Males=14; Females=40

Table 1: Descriptive Statistics for Pilot Study Participants
A standardized script was used in conducting the pilot study. The script is shown in Appendix B. Following completion of the pilot study, the participants were thanked for their cooperation, debriefed concerning the purpose of the study, and given an opportunity to ask questions.

Based on the study by Kasten and Young (1983), a Chi-Square statistic was calculated for the analysis of the applicant age manipulation. Results of this analysis, shown in Table 2, indicate that pilot study participants perceived the manipulation of applicant age on the resumes ($\chi^2=69.89$, df=2, p<.01).
### Age of the Applicant

#### Perceived Age

<table>
<thead>
<tr>
<th></th>
<th>39</th>
<th>59</th>
<th>Can’t Tell</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual</td>
<td>39</td>
<td>26</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Age</td>
<td>59</td>
<td>24</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>1</td>
<td>3</td>
<td>54</td>
</tr>
</tbody>
</table>

Note: $\chi^2 = 69.89$, $p < .01$, n=54

Cramer’s Measure of Association, $V = (\chi^2/MN)^{1/2} = .80$ (Marascuilo & Serlin, 1988)

Table 2: Pilot Study Applicant Age Perception Analysis
In addition to the $\chi^2$ analysis, Cramer’s Measure of Association ($V$) was calculated to test the strength of the association between the perceived age and actual age of the applicant. The calculated value of $V=.80$ indicates a strong association.

To assess the reliability of the Applicant Evaluation Form, Cronbach’s Alpha was calculated from the participants’ ratings of the applicants on the first five items on the form. These items concern specific knowledge and abilities related to teaching, including communication skills, school contribution, disciplinary ability, ability to create a friendly learning environment, and professional growth potential. The resulting value of .86 was within the acceptable range for reliability of group comparisons suggested by Nunnally (1978).

In addition, participants’ ratings of applicants on the final item on the form, a global assessment of the probability of an applicant receiving an interview, were correlated with the composite scores for the knowledge and abilities measures. A correlation coefficient of .76 was calculated, based on the procedure of Young, Rinehart, and Baits (1997).
Procedures-Actual Study

Public elementary school principals, of specific age groups (39-40 years and 59-60 years) were selected through a stratified random sampling procedure and were assigned at random to one of three experimental conditions. Each principal received a packet of materials, consisting of: (1) a cover letter describing the study and asking for their assistance, (2) a position description, (3) an applicant resume for the position, (4) an applicant evaluation sheet, (5) a subject demographic questionnaire, and (6) a self-addressed stamped envelope for the return of the applicant evaluation form and the demographic questionnaire. These forms are shown in Appendix D.

The information in the packet was for an applicant the same age as the principal, older or younger than the principal, or a no-age control. The packets were assigned at random to three groups. The group randomization was done by drawing numbers from one to three from a box. In addition, each principal was assigned a personal identification code. This code was used to maintain subject confidentiality as the data were compiled and analyzed.

On receipt of the packet, the subjects were asked to study the position description as if it was for a position in their own school. They were asked also to carefully study the hypothetical applicant’s resume and to evaluate the applicant using the Applicant
Evaluation Sheet, as if the applicant was applying for the focal position in their school. In addition, the subjects were asked to fill out the Confidential Demographic Questionnaire. Finally, the subjects were asked to return the Applicant Evaluation Sheet and the Confidential Demographic Questionnaire using the enclosed self-addressed stamped envelope. Provisions for follow-up communication with subjects were prepared if the response rate to the initial mailing was inadequate (<65%).

Design and Analysis

This study examined variables which may contribute to age discrimination during the screening phase of the teacher selection process. Hypothetical applicants were created using resumes. These resumes were used to assess the perceptions of public elementary school principals during the screening phase of selection for a position as an elementary teacher.

Along with the resume, subjects received a position description for an elementary teacher. One independent variable, applicant age, was operationalized at three levels, 39 years, 59 years, and a no-age control. The other independent variable, principal age, was operationalized to match the ages of the hypothetical applicants. This manipulation produced a 3 X 2 factorial design with a total of six cells.
Two dependent variables were assessed: (1) a composite score derived from ratings on 5 specific knowledge and abilities areas considered important for teachers; and (2) a global rating score on the probability of an applicant receiving an interview. Because more than one dependent variable was being assessed, a multivariate analysis of variance (MANOVA) was performed to test each null hypothesis. An alpha level of .05 was set as the criterion for accepting or rejecting each of the null hypotheses.
CHAPTER 4

RESULTS

Descriptive Statistics

All participants in the study were public elementary school principals with chronological ages of 39, 40, 59, or 60 years. Participants were generated at random by the Ohio Department of Education’s Electronic Management Information System Office (EMIS). A total of 66 out of a sample of 100 principals (a 66% response rate) returned the requested applicant evaluation and demographic data sheets.

The initial mailing to principals resulted in a 52% response rate. A follow-up postcard was sent to all subjects after one week, thanking those subjects who had responded and requesting the non-respondents to return the requested information. Shortly after the postcards were mailed, complete subject information packages were sent again to those principals who had still not responded. The second mailing of subject
information packages indicated the possibility that the initial packages might have been misplaced or lost in the mail, and that the materials were being sent as replacements for the original information packages. Subject letters are shown in Appendix A.

Due to incorrect data in the EMIS subject list and failure of some subjects to rate applicants on all items on the Applicant Evaluation Sheet, a portion of the returned subject responses were not usable. Of the 66 total responses received, 47 contained complete, usable evaluations of the applicants. The total number of participants in the study was reduced to 47.

Levene’s Test of Variance Equality and univariate analyses of variance were conducted to determine whether significant differences existed between principals responding to the initial mailing and to subsequent mailings. The responses were compared with respect to several variables. Principals’ responses were found to be similar across mailings with respect to age, years of administrative experience, number of districts in which the respondents had served as administrators, years of teaching experience, number of districts in which the respondents had taught, current school enrollment, and the dependent variable related to the probability of an applicant receiving an interview.

The dependent variable concerned with the evaluation of an applicant’s knowledge and performance in important teaching areas showed a statistically significant difference (F=5.98, df 1,45 p≤ .018) in composite scores between the initial and the later mailing. In addition, Levene’s Test indicated homogeneity of variances. These findings indicated a
potential instrumentality effect due to the delayed response rate for some of the data sheets. To compensate for this mailing effect, a variable, Mailing, was added to the MANOVA as a covariate. The principal analysis was run as both a MANOVA and a MANCOVA. The results of the analyses were similar.

Descriptive data for the participating principals are shown in Tables 3 through 5. Table 3 contains the pooled data for the two age groups of principals. Table 4 indicates demographic data for the younger (39 and 40 years) group of principals, while Table 5 shows the same information for the older (59 and 60 years) principals.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Experience (Years)</td>
<td>47</td>
<td>16.93</td>
<td>9.63</td>
<td>4-38</td>
</tr>
<tr>
<td>Administrative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experience (Years)</td>
<td>47</td>
<td>10.05</td>
<td>7.44</td>
<td>1-34</td>
</tr>
<tr>
<td>Number of Districts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>As a Teacher</td>
<td>47</td>
<td>3.79</td>
<td>4.63</td>
<td>1-20</td>
</tr>
</tbody>
</table>
Table 3 (continued)

Number of Districts

| As an Administrator | 47 | 1.77 | 1.37 | 1-8 |

Current School

| Enrollment       | 47 | 485.98 | 190.71 | 150-1260 |

Sex

| 39-40 Year Old Males | 18 | Total Males | 25 |
| 39-40 Year Old Females | 13 | Total Females | 22 |
| 59-60 Year Old Males | 7 | |
| 59-60 Year Old Females | 9 | |

Race

| White European/American | 47 |

Use of Resumes for Screening Applicants

| Yes=45 | No=2 |

Table 3: Demographic Characteristics of Participating Elementary School Principals (Total Sample)
<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Years)</td>
<td>31</td>
<td>12.82</td>
<td>4.76</td>
<td>4-19</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experience (Years)</td>
<td>31</td>
<td>6.63</td>
<td>4.00</td>
<td>1-14</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Number of Districts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>As a Teacher</td>
<td>31</td>
<td>4.35</td>
<td>5.58</td>
<td>1-20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Districts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>As an Administrator</td>
<td>31</td>
<td>1.48</td>
<td>0.89</td>
<td>1-4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current School</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enrollment</td>
<td>31</td>
<td>482.68</td>
<td>163.61</td>
<td>150-883</td>
</tr>
</tbody>
</table>

Table 4: Demographic Characteristics of 39-40 Year Old Elementary School Principals
<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Experience (Years)</td>
<td>16</td>
<td>24.88</td>
<td>11.70</td>
<td>7-38</td>
</tr>
<tr>
<td>Administrative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experience (Years)</td>
<td>16</td>
<td>16.69</td>
<td>8.16</td>
<td>2-34</td>
</tr>
<tr>
<td>Number of Districts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>As a Teacher</td>
<td>16</td>
<td>2.69</td>
<td>1.20</td>
<td>1-5</td>
</tr>
<tr>
<td>Number of Districts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>As an Administrator</td>
<td>16</td>
<td>2.31</td>
<td>1.92</td>
<td>1-8</td>
</tr>
<tr>
<td>Current School</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enrollment</td>
<td>16</td>
<td>492.38</td>
<td>240.68</td>
<td>225-1260</td>
</tr>
</tbody>
</table>

Table 5: Demographic Characteristics of 59-60 Year Old Elementary School Principals
The mean pooled years of teaching experience was 16.93, with the younger principals averaging 12.82 years and the older principals averaging 24.88 years. Younger principals had taught in an average as 4.35 districts, while the older principals had taught in an average of 2.69 districts. In addition, the younger principals averaged 6.63 years of administrative experience in an average of 1.48 districts. The older principals averaged 16.69 years of administrative experience in an average of 2.31 districts.

The average enrollment of the respondents’ current schools were very similar, with the average enrollment for the younger principal’s schools being 482.68 students, while 492.38 students was the average enrollment for the older principal’s schools. Ethnically, all participants returning useful data were categorized as White European/American. Prior to serving as elementary principals, many of the study participants had served previously in other administrative positions, including superintendent, assistant superintendent, middle school principals, high school principals, and assistant principals.

To provide an indication of external validity for the use of resumes by elementary school principals, participants were requested to state whether or not they normally used resumes as part of their processes for screening teacher applicants. All but two of the participants (45 out of 47) indicated that resumes were part of the credentials used in screening teacher applicants.
The hypothetical teacher applicants were evaluated relative to two dependent variables. One dependent variable indicated the probability of the applicant being granted an interview. The applicant was evaluated on a ten-point Likert-type scale, with a higher rating indicating a higher probability of being granted an interview.

The other dependent variable dealt with five specific areas of knowledge and abilities considered importance for teachers. These areas were: (1) communications skills, (2) potential overall contribution to the school, (3) disciplinary ability, (4) potential for creating a friendly classroom atmosphere, and (5) professional growth potential (Stallard, 1990; Young & Allison, 1982; Young & Joseph, 1989; Young & McMurry, 1986; Young & Pounder, 1985). Each item was evaluated on a 4-point Likert-type scale, with a higher number denoting a higher rating. The five individual item ratings were summed to create a composite score for the dependent variable.

To assess the reliability of the composite score, Coefficient Alpha (Cronbach’s Alpha) was computed as a measure of internal consistency. The computed Coefficient Alpha ($\alpha = .85$) indicated the composite score possessed adequate internal consistency for group comparisons, as indicated by Nunnally (1978). Summary data for participant ratings on both dependent variables are summarized in Tables 6 and 7.

In addition, correlation between the global assessment of the probability of an applicant receiving an interview and the composite scores for the specific knowledge and abilities measures was .80 (Young, Rinehart, & Baits, 1997).
<table>
<thead>
<tr>
<th>Response Item</th>
<th>N</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communications Skills</td>
<td>47</td>
<td>1</td>
<td>9</td>
<td>26</td>
<td>11</td>
<td>3.00</td>
<td>.72</td>
</tr>
<tr>
<td>Overall Contribution to the School</td>
<td>47</td>
<td>1</td>
<td>7</td>
<td>23</td>
<td>16</td>
<td>3.15</td>
<td>.75</td>
</tr>
<tr>
<td>Disciplinary Ability</td>
<td>47</td>
<td>2</td>
<td>17</td>
<td>22</td>
<td>6</td>
<td>2.68</td>
<td>.75</td>
</tr>
<tr>
<td>Create a Friendly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Environment</td>
<td>47</td>
<td>0</td>
<td>12</td>
<td>31</td>
<td>4</td>
<td>2.83</td>
<td>.56</td>
</tr>
<tr>
<td>Professional Growth Potential</td>
<td>47</td>
<td>1</td>
<td>6</td>
<td>20</td>
<td>20</td>
<td>3.26</td>
<td>.77</td>
</tr>
<tr>
<td>Composite Score</td>
<td>47</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>14.91</td>
<td>2.83</td>
</tr>
</tbody>
</table>

Coefficient Alpha=.85

Table 6: Summary of Participant Responses on Dependent Variable Evaluating Teacher Knowledge and Abilities

96
<table>
<thead>
<tr>
<th>Response Item</th>
<th>N</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probability of an</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interview</td>
<td>47</td>
<td>0</td>
<td>5</td>
<td>3</td>
<td>0</td>
<td>7</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>7</td>
<td>6</td>
<td>6.74</td>
<td>2.53</td>
<td></td>
</tr>
</tbody>
</table>

Table 7: Summary of Participant Responses on the Dependent Variable Evaluating Probability of an Applicant Receiving an Interview

The independent variables for this study are age of the evaluator (principal) (39-40 years and 59-60 years) and age of the applicant (39 years, 59 years, No Age Control). This set of variables produced a 2X3 factorial design with a total of six cells. Response rates across the cells varied. Table 8 contains a breakdown for treatment condition by response rate.
Independent Variables:  
A=Evaluator Age (39-40 years, 59-60 years)  
B=Applicant Age (39 years, 59 years, No Age Control)

Note: Means and standard deviations are based on composite scores.

<table>
<thead>
<tr>
<th>Applicant Age:</th>
<th>39</th>
<th>59</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluator Age:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39-40</td>
<td>M</td>
<td>15.56</td>
<td>13.50</td>
</tr>
<tr>
<td>SD</td>
<td></td>
<td>2.92</td>
<td>2.92</td>
</tr>
<tr>
<td>n</td>
<td></td>
<td>9</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Applicant Age:</th>
<th>39</th>
<th>59</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluator Age:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>59-60</td>
<td>M</td>
<td>17.50</td>
<td>14.60</td>
</tr>
<tr>
<td>SD</td>
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<td>2.08</td>
<td>2.88</td>
</tr>
<tr>
<td>n</td>
<td></td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

N=47

Table 8: Summary of Cell Means and Standard Deviations
To assess for treatment by response rate interaction, a Chi-square ($\chi^2$) statistic was calculated. The obtained Chi-square value ($\chi^2 = 16, \text{df}=2$) indicated that response rates were not systematically related to treatment conditions. To compensate for unequal cell sizes, the General Linear Model was used in the data analysis (Kirk, 1982; Weiner, 1971; Zar, 1996).

Inferential Statistics

Each hypothesis was tested by performing a multivariate analysis of covariance (MANCOVA). The decisional level for rejecting each hypothesis was an alpha level of .05. Results of the MANCOVA and univariate tests are shown in Table 9.
<table>
<thead>
<tr>
<th>Source</th>
<th>Composite Evaluation</th>
<th>Interview Probability</th>
<th>Multivariate Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MS</td>
<td>DF</td>
<td>F</td>
</tr>
<tr>
<td>Evaluator Age (A)</td>
<td>35.53</td>
<td>1</td>
<td>5.35*</td>
</tr>
<tr>
<td>Applicant Age (B)</td>
<td>11.97</td>
<td>2</td>
<td>2.79</td>
</tr>
<tr>
<td>Mailing (Covariate)</td>
<td>8.24</td>
<td>1</td>
<td>1.24</td>
</tr>
<tr>
<td>A*B</td>
<td>1.50</td>
<td>2</td>
<td>.59</td>
</tr>
<tr>
<td>Error</td>
<td>6.65</td>
<td>40</td>
<td></td>
</tr>
</tbody>
</table>

Total: 46 46

N=47, *p<.05

Evaluator Age-Eta$^2$=.16

Table 9: Analysis of Covariance Table
A significant multivariate main effect was detected for Evaluator Age. To determine the multivariate effect, each univariate analysis involving Evaluator Age was examined. The examination indicated a significant relationship between Evaluator Age and the composite rating of applicants for items related to teaching knowledge and abilities.

A further examination was made of this relationship via marginal means. Younger principals were found to evaluate applicants lower, in terms of the composite score for teaching knowledge and abilities, than did older principals. The results indicated also that the inclusion of Mailing as a covariate did not affect the outcome of the analysis. The same main effect was found in both the MANOVA and the MANCOVA.

To determine the practical significance of these results, (McNemar, 1955), a value for $\eta^2$ was calculated. Evaluator Age was found to account for 16% of the variance in the composite score for teaching knowledge and abilities. A discussion of these findings and their implications for future research and practice, as well as limitations of this study are presented in the following chapter.
CHAPTER 5

FINDINGS, DISCUSSION, AND IMPLICATIONS

Selection research has been conducted since early in this century, in both the public and the private sectors. The early research was concerned with assessing the validity and reliability of the interview as a predictor of later job performance (Avery & Campion, 1982; Mayfield, 1964; Ulrich & Trumbo, 1965; Wagner, 1949; Wright, 1969). Mayfield (1964) termed this type of research macroanalytic.

This approach to personnel selection research was not particularly successful. The levels of reliability and validity reported from studies were generally low, and the researchers were not able to determine why an interview either was or was not successful in predicting future performance (Mayfield, 1964; Wagner, 1949). A different research approach was initiated that focused on identifying specific factors influencing decision making within the selection process. This approach has been labeled microanalytic (Mayfield, 1964).
Microanalytic research has continued to the present day, and has contributed to the identification of many variables that affect decision-making during selection. These factors include race, sex, age, interviewer mood, and disability status (Baron, 1987, 1993; Haefner, 1977; Singer, 1986; Young & McMurry, 1986; Young & Schmidt, 1988). Many of the identified factors are not directly job-related. This fact has created legal as well as practical ramifications.

Federal and state legislation, administrative guidelines, court decisions, and portions of the U.S. Constitution prohibit discrimination in all facets of the workplace, including personnel selection. These legal proscriptions to discrimination include Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act of 1967, Section 504 of the Vocational Rehabilitation Act of 1973, Executive Order 11246, as well as the Fifth and Fourteenth Amendments to the Constitution (Young & Ryerson, 1986). In all areas covered by the legislation, statutes, and guidelines, non-job-related factors cannot be considered when making personnel decisions of any kind.

Because non-job-related factors have been determined to affect decisions in personnel selection processes, researchers have expended considerable effort attempting to understand why these factors operate as they do (Graves & Powell, 1995; Lin, Dobbins, & Farh, 1992; Rand & Wexley, 1975; Young & Joseph, 1989; Young & Place, 1988; Young & Voss, 1986). Considerable research has been conducted relative to defining theoretical linkages between non-job-related factors and their effects on selection decisions. Failure
to definitively identify theoretical linkages has prevented researchers from providing information to the public and private sectors that could result in a decrease in the effects these factors have on selection decisions. The theoretical framework for the study is based on two different but complementary social psychological perspectives, Social Distance Theory (Bogardus, 1967) which operates at the cultural level and the Attraction-Similarity Paradigm (Byrne, 1961) operating at an interpersonal level.

Both of these theoretical perspectives are based on the assumption that “likes begat likes”, when individuals interact at some environmental level (social or occupational). According to social distance theory, individuals interact at increasingly more interpersonal levels according to culture-based constructs, such as occupation, religion, and nationality (Tridantis & Triandis, 1967). Individuals perceived as more acceptable, in terms of the constructs, are received and accepted at a closer interpersonal level.

Likewise, from the attraction-similarity perspective, individuals who are similar are seen as more favorable than individuals who are dissimilar. The Attraction-Similarity Paradigm bases similarity on more personal constructs, such as attractiveness, interests, sex, age, race, and attitudes (Golightly, Huffman, & Byrne, 1972; Graves, 1993; Graves & Powell, 1995; Lin, Dobbins, & Farh, 1992; Pulakos & Wexley, 1983; Rand & Wexley, 1975; Young & Allison, 1982; Young & Schmidt, 1988).
This study was conducted to examine the effect of this theoretical framework in a practical personnel selection context. The theoretical constructs were investigated relative to age, because although considerable research had been conducted utilizing a wide range of ages simultaneously, no studies had looked at the responses of evaluators of specific ages. As the ages were varied for applicants for an elementary teaching position and for the evaluators (principals) who evaluated the applicants' credentials, three hypotheses were tested to determine whether the age factor, rather than more objective factors, influenced the screening decision-making process.

Findings

Hypothetical elementary school teacher applicants were created using resumes. The resumes were varied with respect to the specific ages of the candidates (39 years and 59 years). All other information was held constant. In addition, the ages of the principals selected to evaluate the applicants' resumes were specifically selected to match the ages of the applicants. The lone exception to this format was the use of a Control applicant (no age specified), which was randomly provided to both principal age groups (39-40 years and 59-60 years) to determine whether applicant age, by itself, appeared to be the determining factor in evaluator ratings.
Evaluators (principals) rated the hypothetical applicants based on specific and global criteria. The specific criterion was based on specific items related to knowledge and abilities required of teachers, while the global criterion dealt with the probability of the principal granting the applicant an interview. This experimental design yielded a 2X3 factorial model. Two age groupings were used for principals, and three age groups (2 specific and 1 control) were used for the hypothetical applicants. A multivariate analysis of covariance (MANCOVA) was used to assess main and interaction effects among the independent variables.

In chapter one of this study, three directional hypotheses were posited. Directional hypotheses were formulated instead of null hypotheses, because the study was designed purposely to elicit an effect. The hypotheses dealt with the main effects of each of the independent variables, Applicant Age and Evaluator (Principal) Age and the interaction effects between these variables. These effects were tested relative to the principals’ evaluation of the applicants, based on their resumes.

As a result of the experimental manipulations and subsequent statistical analyses, all of these hypotheses, as posited, were rejected at the Alpha= .05 level of significance: (1) younger applicants were not rated higher than older applicants for the teaching position, (2) younger principals did not rate teacher applicants higher than did older principals, and (3) there was no interaction effect between the applicant age and the evaluator age. In spite of the rejection of the hypotheses as stated, a main effect was indicated at the multivariate level with respect to evaluator age.
This significant main effect pertained to the overall vector of means for the independent variable of Evaluator Age. To determine the actual multivariate effect, each univariate analysis involving Evaluator Age was examined. The examination revealed a significant relationship between Evaluator Age and the composite rating of applicants relative to the specific measures of teaching knowledge and abilities.

Further examination of this relationship via marginal means revealed that younger principals evaluated applicants lower, in terms of the specific teaching knowledge and ability measures, than did older principals. In terms of the practical significance of this finding, Evaluator Age accounted for approximately 16% of the variance in the composite scores for the specific measures of teaching knowledge and abilities. Additionally, the Control (no age) applicants had approximately the same probability of receiving an interview as did the 39 year old applicants.

Discussion

Selection research has found a number of factors that affect decisions during the selection process. Some of these factors, such as interviewer or applicant mood or attitude are subject to change (Bacon, 1987, 1993), while others, such as age, race, sex, or disability status are beyond the control of the applicant or the employee to change
(Haefner, 1977; Singer, 1986; Young & Allison, 1982; Young & McMurry, 1986; Young & Schmidt, 1988). More importantly, none of these factors are directly job-related.

Research concerned with the pre-interview (screening) phase of selection has been lacking, when compared with the volume of research conducted relative to the interview phase of the selection process (Baskett, 1973; Dipboye, 1992; Graves, 1993; Mayfield, 1964; Raza & Carpenter, 1987; Wagner, 1949). Factors identified as non-job-related can also affect screening decisions, just as they have been shown to affect interview decisions. This study sought to examine the possible effects of applicant and evaluator ages on pre-interview screening decisions.

Specifically, this study attempted to derive answers, relative to possible age effects, in a specific context. Using a microanalytic approach, this study examined the roles of applicant age and evaluator (principal) age on screening decisions for teacher applicants. Two social psychological perspectives formed a theoretical framework for the study. Directional hypotheses were formulated instead of null hypotheses, because assumptions were made that clear distinctions would be shown by different age groups of principals in their evaluations of teaching applicants, and applicants of different ages would be evaluated at significantly different levels by the evaluators (principals). In addition, an assumption was made that a distinct interaction effect would be found between the ages of the applicants and the evaluators, relative to the evaluations given to applicants for a teaching position.
The first hypothesis, that younger hypothetical applicants would be evaluated higher than older applicants was not supported at the multivariate analysis level. No statistically significant differences were found in evaluations, for either dependent variable, as a function of Applicant Age.

Also, the other main effect hypothesis, that younger principals would evaluate hypothetical teacher applicants higher than would older principals was not supported at the multivariate analysis level. However, older principals were found to have evaluated applicants significantly higher, relative to the composite score for specific measures of teaching knowledge and abilities, than did younger principals. At the same time, the evaluations for probability of an applicant receiving an interview showed no significant difference between age groups of principals.

Finally, the interaction hypothesis based on the Attraction-Similarity Paradigm and Social Distance Theory, that principals will rate hypothetical applicants of a similar age significantly higher than applicants of a dissimilar age was not supported. No statistical evidence was found that similarity in age had any effect on principals’ evaluations of hypothetical applicants for an elementary school teaching position.

Age is a selection factor (characteristic) specifically covered by legislation. The Age Discrimination in Employment Act of 1967 prohibits discrimination in any employment situation (hiring, promotion, demotion, firing, layoff, retirement) based on the age of the individual(s) under consideration. The act covers individuals over 40 years of
age, and later amendments (1986) effectively removed any mandatory retirement age. Although considerable research has been conducted that indicates that a bias exists against older applicants relative to personnel actions, the results of this study did not support those findings.

Studies in both the private and the public sectors (including education) have suggested strongly that age bias takes place (Haefer, 1977; Johnson, 1976; Lee & Clemons, 1985; Rosen & Jerdee, 1976a, 1976b, 1979; Senger, 1986; Young & Allison, 1982; Young & Joseph, 1989; Young & Schmidt, 1988). Other studies, however, have failed to provide evidence of age bias (Lin, Dobbins, & Farh, 1992; Raza & Carpenter, 1987; Singer & Sewell, 1989; Young & Pounder, 1985).

In this study, the combined use of Social Distance Theory (Bogardus, 1966) and the Attraction-Similarity Paradigm (Byrne, 1961) allowed an objective test of the hypothesis that principals would rate applicants who are similar to themselves in some manner (in this case, age) higher than applicants who are dissimilar. The results indicated that there was no age similarity effect, relative to either applicant age or evaluator age.

Two possible explanations can be offered for the results of this study. First, the multivariate main effect for Evaluator Age could be due to changing societal norms. The specific measures of teaching knowledge and abilities reflect skills that were important when teachers were actually teaching classes, instead of facilitating, as they seem to do today, based on the concepts of child-centered educational theories. Older principals may
still envision applicants in terms of measurable factors for productivity and accountability, while younger principals gauge applicants in terms of more subjective measures that reflect modern philosophies of teaching and teacher roles and might be better evaluated through an interview.

Second, older principals, through greater experience, may be able to “get a better feel” for an applicant by reading the resume and concentrating on objective information. Combining this acquired skill with a principal’s perpetual lack of time, older principals may place much more emphasis in their screening decisions on objective information, rather than taking normally unavailable time for interviews. Conversely, younger principals may prefer meeting applicants face-to-face, basing decisions more on interpersonal “feelings” than on objective measures. While neither of these explanations might totally explain the study results, they do support the notion that different generations have different beliefs and mores, and that those beliefs and mores affect decisions in many areas and ways.
Implications

Theoretical Implications

The theoretical framework around which this study was designed suggests that a positive interaction, between hypothetical applicants for an elementary school teaching position and principals evaluating the applicants, should occur, based on age similarity. Social distance studies (Bogardus, 1925; Triandis & Triandis, 1967) indicate that individuals with similar characteristics will interact more readily, from a cultural perspective. Additionally, at a more interpersonal level, the Attraction-Similarity Paradigm (Byrne, 1961) predicts that individuals will prefer to work and socialize with similar individuals.

At a cultural or interpersonal level, age is a factor that has been shown to make a difference in closeness between or among individuals. Given this theoretical perspective, principals should more positively evaluate teacher applicants of a similar age than applicants of a dissimilar age. The results of this study, however, failed to support this notion.

These findings suggest that neither the social distance model of Bogardus (1925) nor the Attraction-Similarity Paradigm (Byrne, 1961) is applicable to the specific
experimental conditions of this study. Failure to produce a significant interaction effect between applicant age and evaluator (principal) age indicates that age similarity may not be an overriding consideration in teacher applicant screening decisions.

Although results from previous education-related selection studies have been mixed, with respect to age effects, no previous evidence of selection decisions based on similarity of age, between subjects and applicants (real or hypothetical), has been found (Young & Allison, 1982; Young & Joseph, 1989; Young & McMurry, 1986; Young & Place, 1988; Young & Pounder, 1985; Young & Schmidt, 1988; Young & Voss, 1986). Similarly, private sector studies have indicated mixed results, with respect to age effects on selection decisions, but no evidence of a similarity effect due to age has been found (Connor, Walsh, Litzelman, & Alvarez, 1978; Haefner, 1979, Lee & Clemons, 1985; Lin, Dobbins, & Farh, 1992; Raza & Carpenter, 1987; Rosen & Jerdee, 1976a, 1976b, 1979; Singer, 1986). However, neither the education (public) sector nor the private sector studies utilized specific matching of ages in their experimental designs. Without specific matching of ages, there is no way to test age similarity effects, as predicted by the social distance model and the Attraction-Similarity Paradigm.
Practical Implications

The major practical implication of these results relates to how applicants prepare their credentials. Applicants should learn as much as possible about the principals they will be dealing with, during the selection process. This study shows that the age of the principals affects the specific resume material of interest to them.

Applicants may need to prepare multiple resumes, emphasizing different factors, depending on the ages of the principals of the schools to which they are applying. If the principal of a school to which the applicant is applying is young, the applicant’s resume should focus on more generalized descriptions of tasks, projects, and activities with which the applicant has been involved. In contrast, resumes sent to older principals should focus on specific descriptions and results of programs and activities the applicant has been involved with.

Also, ages are not normally put on resumes, although that fact is not universal. Recently, more applicants for positions in the private and public sectors are putting personal information on their resumes. Although federal and state legislation (Title VII of the Civil Rights Act of 1964, The Age Discrimination in Employment Act of 1973), Executive Order 11246, federal guidelines (Uniform Guidelines on Employee Selection Procedures (1978)), and U. S. Supreme Court decisions (McDonnell Douglas V. Green, [1973]; Griggs v. Duke Power Co. [1967]) specifically state that selection decisions will
be made on the basis of job-related information only, these regulations and guidelines are not always followed. Therefore, applicants should not be encouraged to include their ages on resumes, because, practically speaking, too much information can be as harmful as too little information.

Implications for Future Research

The results of this study failed to reveal an interaction effect for age of teacher applicant and age of the evaluator, although the theoretical framework for the study suggested that such an interaction effect would be found. In spite of these findings, social distance and attraction-similarity perspectives should continue to be used as a theoretical framework for additional selection research. Other phases of the selection process might better lend themselves to the interpersonal interactions hypothesized by this social psychological perspective, as might other applicant and evaluator characteristics, in combination with age.

This study was carried out at the elementary school level. Future studies should investigate this potential interaction effect at the elementary school level, using additional factors that have been shown to affect selection decisions. In addition, the same theoretical framework could be the basis for future selection research, concerning a variety
of factors (race, age, sex, disability status) at the higher education level. Future studies could also use this framework to investigate the effect of these factors on administrator hiring processes, because administrators tend to have a closer day-to-day working relationship than principals and teachers. This closer working relationship will, theoretically, emphasize the interpersonal perspectives of this framework.

Past research investigating evaluator age effects has used a spectrum of ages simultaneously, as subjects. Future studies should use specific ages or age groups, to look for differences in responses based solely on age. Some specific ages may respond as hypothesized by the social distance/attraction-similarity framework.

Limitations

This study contains limitations that apply to the generalization of the results. One limitation deals with the experimental design. Although the overall response rate was 66\%, not all of the responses provided complete, useable data. In addition, unequal response rates between subject age groups resulted in unequal final cell sizes, which created a potential mortality threat to internal validity.

The effect found on one of the dependent variables, relative to the first versus the second mailing, required the use of a covariate, Mailing, in the subsequent analysis. The
inclusion of this covariate required the use of a MANCOVA instead of a MANOVA. In addition, the unequal cell sizes necessitated the use of the General Linear Model in the MANCOVA. These modifications resulted in a decrease in the power of the analysis, which would not have occurred if all cell sizes had been equal, as specified by Cohen (1988).

Specific ages of principals and hypothetical applicants were used in this study. Generalization of results beyond these specific ages could be difficult if a design using other than the same specific ages (applicants and evaluators) is utilized. The use of only public elementary school principals and hypothetical applicants for a public elementary teaching position makes generalization to middle or senior high school scenarios difficult, as would generalization to private sector activities.

All subjects were from the state of Ohio. Elementary principals in other states or regions might have reacted differently to the same stimulus information. Finally, different stimulus information in the resumes might have caused principals to react differently.

Conclusions

Organizations must strive continuously to improve their selection processes. Given the significant legal implications for de facto discrimination, work must be done to
ensure that even the perception of discrimination in any personnel matter is eradicated. In addition, the reliability and validity of all phases of a personnel selection system must be proven and maintained. This study sought to expand knowledge that would contribute to the improvement of personnel selection systems.

A social psychological framework was created to investigate the effects of applicant age and evaluator (principal) age in an elementary school teacher screening scenario. The social psychological framework utilized the perspectives of social distance and attraction-similarity (interpersonal attraction between or among similar individuals). Within this framework, an interaction between applicant age and evaluator age was expected, relative to evaluation of hypothetical applicants for an elementary school teaching position.

The results did not support the expected effect. However, a main effect was indicated for Evaluator Age. This main effect indicates that older evaluators (principals) rate applicants higher than do younger principals, relative to specific measures of teaching knowledge and abilities. This finding may reflect a generational difference, relative to the importance of specific versus more general (global) applicant information in making screening decisions.

Much of the earlier research concerning age effects in personnel selection has supported the finding that younger applicants for teaching positions are rated higher than older applicants. However, this study indicated differences in the way evaluators rate
applicants, relative to the specific dependent variables under consideration. There is need for further study in this area of selection research, in order to attempt to determine whether these results are consistent among other populations of evaluators. In addition, similar research should be carried out with respect to other non-job-related factors that have been found to affect selection decisions, in all phases of the selection process.
Figure 1. Shared Variance Model for Teacher Selection (Young, 1985)

A = Variance associated with teaching performance
B = Variance associated with interview performance
C = Variance associated with factor(s) influencing decisions
D = Variance associated with screening decisions
LIST OF REFERENCES


Rowe v. General Motors Corp. 4FEP Cases 445 (1972).


Spurlock v. United Airlines. 5 FEP Cases 17 (1972).


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Appendix A

Initial and Follow-up Letters to Subjects
September 24, 1997

Dear

The educational process is one of human interaction, and the selection of teachers is one of the most important aspects of the process. Teachers who perform well over time are assets to the district, while those who perform poorly become liabilities. The selection of teachers is a primary concern and responsibility of school administrators. Students progress, stagnate, or regress based, to a large extent, on the teachers selected by the district.

You are one of a small number of elementary school principals selected at random from around the state of Ohio as part of a scholarly study relating to screening decisions made about applicants for elementary teaching positions. Your response is extremely important, and it should require only a few minutes of your time. Please read the enclosed Position Description and Candidate Resume. Then evaluate the applicant using the CANDIDATE EVALUATION FORM, responding to all statements, as if the position was at your school. Finally, fill out the CONFIDENTIAL DEMOGRAPHIC QUESTIONNAIRE and return both the Evaluation Form and the Questionnaire in the self addressed, stamped envelope provided.

All responses are numerically coded for confidentiality. The information from the CONFIDENTIAL DEMOGRAPHIC QUESTIONNAIRE will be used only to calculate descriptive statistics concerning the experimental sample. You will also receive a summary of the study results.

Thank you very much for your time and effort in this study. Ultimately, students will be the beneficiaries of this work.

Sincerely,

Jeffry S. Bowman, M.B.A., M.S.
School of Educational Policy and Leadership
October 25, 1997

Dear

Approximately three weeks ago I sent you a packet of information concerning a research project I am conducting. The project concerns the use and effect of specific factors on the personnel selection process.

I am writing to follow-up on my initial request. I have not received a response from you yet, and I thought the initial packet of information might have been misplaced. I realize that your daily schedule is full and free time is at a premium, but I hope you can spare a few minutes to help with this study. The results have the potential to assist districts significantly in their personnel selection processes. However, if these results are to be reliable, I must have the maximum number of responses possible, given the small sample size. Please take a few minutes and complete the evaluation of the hypothetical applicant and the demographic questionnaire.

Please read the position description as if it was for your school. Then read the applicant resume and evaluate the applicant as per the items on the Applicant Evaluation Sheet. Then please fill out the Confidential Demographic Questionnaire. Finally, return the evaluation sheet and the demographic questionnaire in the self-addressed, stamped envelope included. I will furnish you results of the study when it is completed. Thank you very much for assisting in this research effort.

Sincerely,

Jeffry S. Bowman
School of Educational Policy
and Leadership
Appendix B

Pilot Study Scripted Procedure
SCRIPTED PROCEDURE-PILOT STUDY

Step 1: At the beginning of the class section, the instructor announces to the students in the participating class(es) that a brief research procedure related to applicant selection will be conducted at the beginning of the class session. Students are told participation will be voluntary and anonymous. The instructor informs the students that the procedure will not be part of the formal course activities and will have no impact on course grades.

Step 2: The researcher then addresses the class using the scripted procedure described below:

“Thank you for your willingness to participate in a brief research procedure concerning applicant selection. As noted by your instructor, this procedure is completely voluntary and anonymous. If you do not wish to participate, please feel free to decline at this time.

“Your participation has been requested because you are experienced educators and administrators, and your evaluation of the materials I am about to pass out can assist in increasing knowledge about applicant selection in public schools. Please leave the envelopes, I have passed out, face down on your desks. When I tell you to open them, you will see three sheets of paper face-up and one sheet face down. Please remove the three face-up sheets. After carefully reviewing the Position Description and applicant resume, please rate this candidate as if you were screening candidates for a similar position in your school. Please follow the directions on the Candidate Evaluation Sheet. When you have finished, please turn all three sheets over. When told to do so, please return them to the envelope and remove the remaining sheet. Please answer the questions on that sheet and then turn it over on your desk.

Step 3: “Thank you for assisting in today’s procedure. Your participation has made a valuable contribution to this study concerning applicant selection research. If anyone has questions or comments at a later time, please contact me and I will be glad to respond to them. Again, I’d like to thank you for your assistance.”
Appendix C

Pilot Study Instruments
POSITION DESCRIPTION

TITLE

Elementary Teacher

QUALIFICATIONS

Elementary Teacher Certificate, State

REPORTS TO

Building Principal

PERFORMANCE RESPONSIBILITIES

1. Determine instructional goals and objectives appropriate to students and consistent with the adopted curriculum.

2. Establish short-term and long-term instructional plans.

3. Evaluate student needs, abilities, and readiness.

4. Assess student progress and achievement.

5. Communicate with parents and students as appropriate concerning progress and achievement.

6. Present materials and/or information to students.

7. Determine pacing of student work and monitor progress of students in the work.

8. Manage the classroom, using appropriate disciplinary techniques when necessary.

9. Keep various records and complete reports.

10. Perform other tasks and assume other responsibilities as the principal may direct.

TERMS OF EMPLOYMENT

Salary and work year to be established by the Board.

EVALUATION

Performance in this job will be evaluated in accordance with the Board’s policy on Evaluation of Professional Personnel.
RESUME
August 31, 1997

OBJECTIVE
To obtain a position as an elementary teacher

PERSONAL DATA
NAME: Patricia L. Jamison
ADDRESS: 4783 West Longfield Drive
          River City, State 95026
TELEPHONE: (111) 555-0925
DATE OF BIRTH: July 14, 1958
AGE: 39

EDUCATIONAL BACKGROUND
Master's Degree (M.Ed.) - State University
  Early Childhood Development
  GPA - 3.85
Bachelor's Degree (B.A.) - State University
  Elementary Education
  GPA - 3.70 (Magna Cum Laude)

CERTIFICATION
State K-8 Certification

TEACHING EXPERIENCE
Current:
  River View Elementary School
  River City, State
    Kindergarten, First, and Second Grades
Previous:
  High Mountain Elementary School
  Rosemont, State
  First, Second, and Fourth Grades

EXTRA-CURRICULAR ACTIVITIES
Chairperson, Principal's Advisory Committee
Counselor, Camp Chickadee
Volunteer, River City Chapter, American Red Cross
Private Tutor, Reading
Member of Church Administrative Board

PROFESSIONAL ORGANIZATIONS
Pi Lambda Theta, Professional Education Honorary
Phi Kappa Phi, Academic Honorary
Local Education Association
State Education Association
National Education Association
International Reading Association
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  Private Tutor, Reading
  Member of Church Administrative Board

PROFESSIONAL ORGANIZATIONS
  Pi Lambda Theta, Professional Education Honorary
  Phi Kappa Phi, Academic Honorary
  Local Education Association
  State Education Association
  National Education Association
  International Reading Association
1. What is the age of the applicant represented in the resume?
   a. 39
   b. 59
   c. Cannot tell

2. What position is this applicant seeking?
   a. Teacher
   b. Assistant Principal
   c. Cannot tell

3. What position is the job description for?
   a. Teacher
   b. Assistant Principal
   c. Cannot tell

Demographics

1. What is your sex?
   a. Male
   b. Female

2. What is your age? _______

3. What is the length of your teaching experience (in years)? _______

4. How many teaching positions have you applied for? _______
APPLICANT EVALUATION

After reviewing the position description and applicant resume, please rate this applicant as if you were screening resumes for a similar position in your school. Please circle one number in each category.

A. Applicant’s ability to foster communication with faculty and parents.

   1   2   3   4
    Poor   Fair   Good   Excellent

B. Applicant’s likelihood to contribute to the overall school environment.

   1   2   3   4
    Poor   Fair   Good   Excellent

C. Applicant’s ability to manage student discipline issues.

   1   2   3   4
    Poor   Fair   Good   Excellent

D. Applicant’s ability to create a friendly school environment.

   1   2   3   4
    Poor   Fair   Good   Excellent

E. Applicant’s potential for professional growth.

   1   2   3   4
    Poor   Fair   Good   Excellent

F. The chances of this applicant being offered an interview.

   1   2   3   4   5   6   7   8   9   10
    Poor                Excellent
Appendix D

Actual Study Instruments
POSITION DESCRIPTION

TITLE
Elementary Teacher

QUALIFICATIONS
Elementary Teacher Certificate, State

REPORTS TO
Building Principal

PERFORMANCE RESPONSIBILITIES
1. Determine instructional goals and objectives appropriate to students and consistent with the adopted curriculum.
2. Establish short-term and long-term instructional plans.
3. Evaluate student needs, abilities, and readiness.
4. Assess student progress and achievement.
5. Communicate with parents and students as appropriate concerning progress and achievement.
6. Present materials and/or information to students.
7. Determine pacing of student work and monitor progress of students in the work.
8. Manage the classroom, using appropriate disciplinary techniques when necessary.
9. Keep various records and complete reports.
10. Perform other tasks and assume other responsibilities as the principal may direct.

TERMS OF EMPLOYMENT
Salary and work year to be established by the Board.

EVALUATION
Performance in this job will be evaluated in accordance with the Board’s policy on Evaluation of Professional Personnel.
RESUME
August 31, 1997

OBJECTIVE
To obtain a position as an elementary teacher

PERSONAL DATA
NAME: Patricia L. Jamison
ADDRESS: 4783 West Longfied Drive
         River City, State 95026
TELEPHONE: (111) 555-0925
DATE OF BIRTH: July 14, 1958
AGE: 39

EDUCATIONAL BACKGROUND
Master’s Degree (M.Ed.) - State University
   Early Childhood Development
   GPA - 3.85
Bachelor’s Degree (B.A.) - State University
   Elementary Education
   GPA - 3.70 (Magna Cum Laude)

CERTIFICATION
State K-8 Certification

TEACHING EXPERIENCE
Current:
   River View Elementary School
   River City, State
   Kindergarten, First, and Second Grades
Previous:
   High Mountain Elementary School
   Rosemont, State
   First, Second, and Fourth Grades

EXTRA-CURRICULAR ACTIVITIES
Chairperson, Principal’s Advisory Committee
Counselor, Camp Chickadee
Volunteer, River City Chapter, American Red Cross
Private Tutor, Reading
Member of Church Administrative Board

PROFESSIONAL ORGANIZATIONS
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Phi Kappa Phi, Academic Honorary
Local Education Association
State Education Association
National Education Association
International Reading Association
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<th>Fair</th>
<th>Good</th>
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<tbody>
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<td>4</td>
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B. Applicant’s likelihood to contribute to the overall school environment.

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C. Applicant’s ability to manage student discipline issues.

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D. Applicant’s ability to create a friendly school environment.

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</table>

E. Applicant’s potential for professional growth.

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F. The chances of this applicant being offered an interview.

<table>
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<th>4</th>
<th>5</th>
<th>6</th>
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<th>9</th>
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<td>8</td>
<td>9</td>
<td>10</td>
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</tr>
</tbody>
</table>
CONFIDENTIAL DEMOGRAPHIC QUESTIONNAIRE

Please provide responses to the following confidential questions:

1. Date of Birth ____________________________

2. Gender of Evaluator:
   [ ] Male            [ ] Female

3. Race of Evaluator:
   [ ] Black/African American [ ] American Indian/Alaskan
   [ ] Latino/Latina        [ ] White/Euro American
   [ ] Asian/Pacific Islander  [ ] Other (Please describe)

4. Your total teaching experience (in years): ______________

5. Number of district in which you have taught: ______________

6. Your total administrative experience (in years): _________

7. Type of administrative experience:
   [ ] Assistant Principal/M. S. [ ] Assistant Principal/H. S.
   [ ] Principal/M. S.          [ ] Principal/H. S.
   [ ] Principal/E. S.          [ ] Other: ______________________

8. Number of districts in which you have served as an administrator: ______________

9. Do you normally use resumes to screen teacher applicants?
   [ ] Yes            [ ] No

10. Enrollment of your current school: ______________