THE EFFECT OF FEMALE PHYSICAL ATTRACTIVENESS
WHEN MANAGERS RANK CANDIDATE RESUMES
FOR A TRADITIONAL MALE–ORIENTED MANUFACTURING ROLE

by

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Abstract

The focal point of this study was to understand the relationship between a female candidate's physical appearance, qualifications, and the hiring decision to determine the impact that the physical attractiveness stereotype might have on hiring decisions. Employers must be cautious about the level of unmitigated predisposition within the hiring process, as it can put the organization at risk for unethical employment practices and create barriers that exclude certain individuals without legitimate reasoning. The forthcoming study revealed several key findings. Within this study it was found that the decisions of hiring managers are dependent on the appearance of the candidate with the highest level of attractiveness ($\alpha = .031$) and the appearance of the least attractive candidate ($\alpha = .000$). In addition this study found that when the most attractive ($\alpha = .031$) and when the least attractive ($\alpha = .000$) were chosen they were likely the most qualified candidate. This provided some degree of evidence that physical attractiveness influences the perceptions and decisions of hiring managers when evaluating candidates at the earliest stage of the hiring process. However, overall those female candidates within this study with lower or higher levels of physical attractiveness seemed to have an equal chance of being invited to later stages of the hiring process. Generally, the qualifications of the candidate appeared to be held in higher regard than the implicit issue of that candidate’s appearance. The present study gives light to the need to conduct further, more comprehensive studies to investigate the hiring process with a practical research design. Future research of this nature could test the findings of previous studies to see when the potential for this implicit bias might be greatest and what actions organizations can take to prevent it from happening. As organizations face the war for talent and the changing landscape of this global economy it is essential that hiring managers are aware of the potential for
distorted decision-making which may threaten the firm’s ability to fairly secure the right employees for the organization.
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CHAPTER 1. INTRODUCTION

Introduction to the Problem

The issues surrounding selecting and hiring the right employees continue to become more and more difficult for today's organizations as the number of qualified candidates shrinks and the global economy becomes increasingly complex. The risks of discrimination for both employers and applicants has been debated and researched from many perspectives. To remain competitive, it is important that employers reach beyond the legalities of their hiring practices to identify the issues that might impact the process and thus the organization and prospective employee. The hiring process within most organizations involves three phases with different strategies, depending on the organization’s specific needs and employment practices. Generally, hiring employees is done in the following order:

1. Pre-interview phase (candidate sourcing, resume review, pre-employment testing, etc.)
2. Interview phase (individual, panel, etc.)
3. Post-interview phase (reference checks, offer letter, extending the offer, background check, etc.).

The pre-interview phase is a critical step in the process; at this stage candidates are either allowed further consideration or excluded from the process. It is important that those involved in each stage of the hiring process recognize the importance of their decisions and actions in order to make the best decisions, protect the organization, and protect the candidates who are being considered. The motivation for understanding the possible bias involved in this stage of candidate consideration is tied to the need to create as much validity and reliability within the
process as possible (Morrow, 1990). Further, those organizations that might underestimate the impact of unspoken bias can benefit from investigating the potential areas that lurk beyond the traditional aspects of bias such as age, gender, race, etc.

Background of the Study

It is a commonly held belief that within most parts of society, being attractive puts an individual at a distinct advantage. Attraction is primarily considered an interpersonal phenomenon (Homans, 1961). Segal (1979) defined interpersonal attraction as:

the attitude one person has toward another person. Like other attitudes, attraction may be either positive or negative and may vary in extremity. Also, like other attitudes, attraction has cognitive, affective, and behavioral components (p.253).

Thus, physical attraction is a force that creates a natural pull toward or interest in those individuals who are visually appealing. Attraction is considered an essential dynamic in group formation; attraction between group members strengthens the cohesion a group while also defining limits (Thibaut & Kelley, 1959). A substantial amount of research has been conducted within a variety of disciplines to study the impact of physical attraction on an individual's behavior, perceptions, and decision-making. Dion, Berscheid, and Walster (1972) in their seminal research study, which they titled “What is Beautiful is Good”, concluded that there is, in fact, an observed physical attraction stereotype that puts the physically attractive at a distinct advantage over those who are not as attractive.

Dion et al. (1972) investigated the perceptions of physical appearance throughout society. The experiment was designed to determine if a stereotype could be discovered. This study centered on the appearance of stimulus persons, both female and male, to determine if
participants would draw assumptions about that person because of his or her level of attractiveness. These researchers suspected that when seeing a person with a certain level of beauty, society automatically would draw opinions about the person's personality traits and qualities. Dion et al. (1972) concluded that attractive persons would be perceived as having a more desirable personality and a higher quality of life, and would be likely to reach greater success than those who were considered unattractive.

Using the “What is Beautiful is Good” observations of Dion et al. (1972), Heilman and Saruwatari (1979) set out to evaluate these findings within the context of employment. This study, titled “Beauty is Beastly”, sought to investigate the impact that physical attractiveness might have on male and female candidates when being considered for certain types of jobs. Similar to the study by Dion et al. (1972), Heilman and Saruwatari used 47 undergraduate college students: 23 male and 24 female from an administrative sciences course. The study's design was a 2 x 2 x 2 factorial with the stated independent variables of: applicant appearance (attractive or unattractive), applicant gender (male or female), and job type (management or non-management). The design of this study differed from Dion et al. (1972) because within the Beauty is Beastly study researchers used only two levels of attractiveness (attractive and unattractive), eliminating the third attractiveness choice of average attractiveness. The element of job type (managerial or non-managerial) was also added to this study, which was not considered within Dion's study because of the nature of the experiment and hypotheses. The Beauty is Beastly study was framed under the context of employment rather than simply personal perception (Heilman & Saruwatari, 1979).
Cognitive research studies have offered evidence that individuals are naturally inclined to associate positive things together within the subconscious mind (Bargh & Chartrand, 1999). Thus, it is logical to assume that the attractiveness stereotype emerges as an automatic response to the associated stimuli (for example, one might associate: attractive = good/positive; unattractive = bad/negative) (Bargh, 1997). Social-Cognitive research has mapped the social action of mental responses, which occur through the implicit thoughts of one's mind (Bargh, 1997; Bargh & Chartrand, 1999; Greenwald & Banaji, 1995; Macrae & Bodenhausen, 2000). The person perception process that often occurs when we see someone who is considered physically attractive is described as one such instinctive reaction (Bargh & Chartrand, 1999; Greenwald & Banaji, 1995; Macrae & Bodenhausen, 2000).

Because the large majority of research that has been conducted surrounding physical attractiveness has been carried out within a laboratory setting, there is a need to investigate the impact of this proposed stereotype within a real-world setting in order to create knowledge that can be applied practically. Changing the context of an individual's decision-making to reflect reality and evaluating the decisions made in actual-world organizational situations might offer a deeper understanding of the true potential for pre-employment stereotype and hiring bias within organizations today.

Statement of the Problem

Employers must be cautious about the level of unmitigated predisposition within the hiring process, as it can put the organization at risk for unethical employment practices if they create barriers that exclude certain individuals without legitimate rationale (Kleinman & Farley,
The problem is that if the hiring process excludes candidates based on physical appearance, where it is not job-related, it may limit highly qualified individuals from employment. If this type of unidentified bias exists, it is important that organizations recognize the potential implications this might have on their ability to gain competitive advantage through the human resource talent pool. Additionally, new technologies are becoming available to organizations via the internet that create an opportunity for hiring managers to capture more detailed information about candidates that may influence the early decisions made during the pre-interview phase that would either exclude or include a candidate in the later stages of the process. It is important to investigate implicit bias such as this to arm managers with knowledge about the potential to practice implicit bias during the earliest stages of the hiring process would help them to increase awareness of forms of bias that are not legally protected yet compromise the moral and ethical framework of the organization.

**Purpose of the Study**

The focal point of this study was to understand the relationship between a female candidate's physical appearance, qualifications, and the hiring decision to determine the impact that the physical attractiveness stereotype might have on hiring decisions. While there were previous studies involving the activities of organizations that surround protected areas of bias such as age, gender, race, and so on, there was a need to consider the potential bias that lurks within organizations. A key challenge that is escalating for organizations today is the ability to identify top talent that will help to meet the strategic goals of the firm. As diversity becomes an important factor within organizations, there are seldom-discussed considerations beyond the
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traditional ideas of diversity that have the potential to impact the organization. The qualifications of a professional candidate are often reviewed through a screening process involving a pool of candidate resumes and associated materials that offer a limited glimpse of the prospective candidate; these are the initial determination of candidate job-fit. The relationship between applicants’ qualifications and their physical attractiveness when being screened by hiring managers for a professional role within an organization had not been thoroughly investigated; the need to understand this more clearly was the intent of this research.

There seems to be sufficient research about the relationship between the steps in the hiring process (including the importance of the pre-interview phase); the social influence of decision-making within organizations; the dynamics of group similarity (similarity attraction theory) and social distance theory; the person perception model; legal implications of hiring decisions; the psychological aspects of facial attractiveness; personal attraction; and so on. It is important, however, to gain a better understanding of the selection process and the influence of a candidate’s appearance on both male and female hiring managers. This study anticipated that the single snapshot that employers use to include or exclude a candidate from progressing through the hiring process—and thus the opportunity to receive equal consideration for a position with the organization—may be heavily influenced by the appearance of a female candidate.

The primary purpose of this dissertation was to: (a) to understand the level of influence a female candidate’s appearance has on hiring managers’ decisions and preliminary interest in learning more about the candidate and her qualifications; and (b) to understand what hiring managers use as a significant factor within this initial phase of the hiring process, the qualifications or appearance of a candidate. Additionally, the study was carried out in an attempt
to understand the similarities and differences within female hiring managers’ decisions and male hiring managers’ decisions when screening female candidates in the pre-interview phase of the hiring process within a manufacturing setting. The problem that was identified surrounded the potential influence of the female candidate's appearance and perceived attractiveness in relation to her work history and qualifications.

Rationale

Research Questions

This study investigated the following research questions:

Research Question 1: What do managers give more consideration during the pre-interview stage of the hiring process: qualifications or physical attractiveness?

Research Question 2: Is there a relationship between a female candidate's appearance and her acceptance into the subsequent stages of the interview process beyond the resume review?

Research Question 3: Is there a relationship between the gender of the manager assessing the candidate's qualifications and the level of influence of physical attractiveness?

Research Question 4: Is there a relationship between the age of a hiring manager assessing the candidate's qualifications and the level of influence of physical attractiveness?

Research Question 5: Is there a relationship between the marital status of a hiring manager and the ranking the manager assigns to a candidate?

Research Question 6: Is there a relationship between the organization where a hiring manager is employed and his or her recommendation about candidates?
Significance of the Study

This study was conducted in an attempt to lay a foundation for future research surrounding hiring practices within organizations that could be generalized due to the practical application of the findings. The opportunity to test theory and identify relationships that exist between variables within the context of the work environment can create a depth of knowledge upon which organizations can base decisions to move forward. By more clearly understanding the influence that physical appearance may have in organizational hiring in a real-world setting, organizations will be better equipped to address these issues and account for them throughout the hiring process. Understanding the influence that physical attractiveness might have in the hiring processes could better prepare organizations to analyze the processes of organizational decision-making during this initial stage.

The immediate outcome of the study was to pave the way for future research that will use practicing professionals within their own environment to investigate organizational behavior. This study was carried out in an effort to create awareness of variables that are not job related but that nonetheless have the potential to influence the hiring practices of the firm. Due to a tight market for talent and the challenges that companies face to maximize organizational outcomes, this study was conducted in an attempt to create a new level of awareness that will better inform organizations about the factors that may jeopardize their hiring decisions and subsequently their ability to compete, and therefore, their future success. The use of the Internet and associated tools continues to increase, and sites such as myspace.com offer detailed information about individuals, including photos and personal and professional information. The potential for
employers to access minute details about candidates is quickly expanding, heightening the potential for this type of implicit organizational bias with respect to hiring practices.

Definition of Terms

Bias/Stereotype. For the purpose of this study these terms will be used interchangeably. Both personal bias and stereotypes are cognitive processes that create perceptions in individuals that are multifaceted (Swim & Cohen, 1997).

Discrimination. Employment discrimination occurs when persons with equal qualifications are given unequal opportunities of being hired (Guion, 1966). Discrimination can occur in a variety of ways: some forms are protected by law (Equal Pay Act of 1963; Civil Rights Act of 1964; Equal Employment Opportunity Act of 1972; Executive Orders 11246 and 11375) while other types of discrimination are more implicit in nature, such as that which is discussed here.

Hiring process. The hiring process indicates the steps that organizations use to identify and select employees for jobs. This process involves three phases (pre-interview, interview, post-interview) with different strategies, depending on the organization’s specific needs and employment practices.

Hiring Manager. This term refers to the individuals in an organization who are members of the hiring team and thus responsible for making selection decisions for a specific position. These individuals may or may not hold a traditional management role and work in departments across the organization.
**Hiring team.** This term refers to the group of individuals in an organization who are responsible for the selection decisions for a specific position.

**Organizational culture.** A collection of common beliefs that permeate an entire group, which include deep-seated assumptions, values, norms, behaviors, and expectations (e.g.; Nelton, 1997; O'Reilly et al., 1991; Schein, 1995).

**Paper People.** Much of the research that has been conducted surrounding attractiveness has been carried out using still photographs of individuals; this method is often referred to as the "paper people" approach (Bull & Rumsey, 1988).

**Physical attractiveness.** A force that creates a natural pull toward or interest in those individuals who are visually appealing.

**Assumptions and Limitations**

All experimental studies have assumptions and limitations of some type that must be considered and accounted for to ensure that the design of the study and its findings are understood in their entirety. Often studies involve participants in the evaluation of multiple candidates with differing qualities to create a more complex level of data to analyze (e.g., Dion, Berscheid, & Walster, 1972; Hatfield & Sprecher, 1986). This study assumed that the evaluation of three resumes was a reasonable simulation of actual organizational decisions that are made on a regular basis. Posthuma et al (2002) recommended that studies of this nature use a minimum of three photos to offer participants an opportunity to choose an *average* option of attractiveness, rather than offering a choice of only *attractive* and *unattractive*. Thus, the framework of this study was developed to pair three photos and three resumes for evaluation and ranking. Although
a representative of the organization must go through many resumes, it is reasonable that others involved in the process would be evaluating a much more limited number of candidates within the initial stages, as was reflected within this study's design.

The limitations within the study included the relatively small sample size and the limited population and organizational involvement. The study was limited to female stimuli rather than investigating both female and male stimuli. The study was limited to the investigation of the pre-interview stage of the hiring process and will not focus on the final hiring decisions. The study was also limited to the use of paper people (Bull & Rumsey, 1988) and did not offer the opportunity for dynamic interaction between participants and the stimuli candidates (Gorman, Clover, & Doherty, 1978).

It is also important to note that the following research opportunities exist as a result of the study's limitations. (A) The study was focused on a group of participants who work within the same work environment and share in the decision-making process. (B) The study was focused on female stimuli and avoided the potential for conflicting variables. (C) Due to the nature of the field study, the participants (36 participants; 18 hiring managers at two participating organizations) evaluated the candidates within the context of the real employment environment; thus eliminating the potential of drawing responses that do not reflect the decision making behaviors of the hiring team (Scandura & Williams, 2000). The study investigated the first stage of the hiring process with isolated variables.
Nature of the Study

This study was an experimental quantitative design that involved conducting an experiment in two actual organizations where employment decisions are made on a regular basis. To determine actual organizational behavior, the research participants for this study work within the same two organizations, and each have influence on the hiring decisions made within those firms.

Participants from the two participating organizations reviewed three photos and three resumes to evaluate each candidate's fit for the given position based on the job description that was provided. The three resumes used within this study represented actual candidates that were considered for the open position of production supervisor within each organization. These participants were asked to rank the potential job stimuli candidates 1-3, with 1 being the most qualified and 3 being the least qualified, to determine who would be interviewed for the job.

Each participant's demographic and work-related information was collected and coded to protect his or her identity and to ensure the confidentiality of the data. The participant’s demographic and work-related information was collected and coded to protect their identities and to ensure the confidentiality of the data. The data was collected from participants using coded envelopes which participants were instructed to seal before returning to keep the individual responses confidential.

Organization of the Remainder of the Study

Chapter 2 of this dissertation is a literature review of the key contributing theories and previous research studies are discussed to provide a deeper analysis of how these findings
contribute to the current study. Chapter 3 presents a detailed outline of the methodology and the overall design used within this study. Chapter 4 offers a discussion of the findings, and finally Chapter 5 presents a summary of the findings and final conclusions that were identified as a result of the findings and analysis.
CHAPTER 2. LITERATURE REVIEW

Appearance-related discrimination can be recognized throughout society and yet it appears that relatively few have stopped to consider the potential ramifications (Cash, Cejka, & Eagly, 1981). It is as if society believes that this bias of favoring attractive individuals is a natural, logical, and acceptable association (Macrae & Bodenhausen, 2000). Philosophers have long explored the concept of beauty and the value that it may bring to an individual. Plato believed that beauty was not simply a physical but also a moral concept of value, which he included in the three virtues he defined as: beauty, truth, and goodness (Synnott, 1989). Plato theorized that not all that is beautiful is good, but all that is good is beautiful. Symons (1979) contended that beauty is a component of certain evolutionary pressures and he proposed that those who are gifted with physical attractiveness have simply been given the best chance of survival. Lerner (1980) proposed a "just world" theory that he claimed applies to a person's level of physical attractiveness. This just world theory was based on the belief that people get what they deserve in life, and thus, those who are attractive are naturally entitled to certain advantages that the unattractive are not (Lerner, 1977). Still others have refused to acknowledge that any differentiation exists because of a person's appearance or that any stereotype of beauty exists within society (Wright, 1960).

“What is Beautiful is Good”

Dion, Berscheid, and Walster (1972), in the groundbreaking study titled “What is Beautiful is Good”, investigated the perceptions of physical appearance within society. This experimental study was designed to examine the influence of physical attractiveness and to
identify what stereotypes might exist. This study centered on the appearance of stimulus persons, both female and male, to determine if participants would draw assumptions about that person because of his or her level of attractiveness. These researchers hypothesized that when seeing a person with a certain level of beauty, society automatically draws opinions about the person's personality traits and personal qualities. Dion et al. (1972) anticipated that attractive persons would be perceived as having a more desirable personality and a higher quality of life, and would be likely to reach greater success than those who were considered unattractive.

This study (Dion et al., 1972) was designed as a 2 x 2 factorial to examine the interaction between the participant's gender and (x) the stimulus person's gender. Using 60 introductory psychology students (30 male and 30 female) at the University of Michigan, researchers described the study to participants as an investigation of the accuracy in person perception. Each participant was given three envelopes, each containing one single photo of a stimulus person. One envelope had a photo of a physically attractive person, one envelope had a photo of a person with average attractiveness, and one envelope had a photo of a person considered unattractive (Dion et al., 1972).

Within the “What is Beautiful is Good” experiment, one half of the participants received a set of three all female stimuli photos and one-half received a set of three all male stimuli photos to evaluate (Dion et al., 1972). Participants were asked to record their independent judgments of the three stimuli, one envelope at a time within a booklet that was provided with each separate envelope. These participants were asked to rate each photo based on a set of 27 identified personality traits, as well as 5 additional personal traits. After participants had evaluated and rated the stimuli photos in the envelopes, they were instructed by researchers to indicate which of
the three would (in the participant’s opinion) be expected to lead the happiest life, and which
would be most (and least) likely to have a number of different experiences such as most likely to
have future happiness in marriage, most likely to divorce, most likely to be a better parent, most
likely to find social and professional happiness, and most likely to find deep personal fulfillment.
Finally, the participants were asked which of the stimulus persons they would expect to find
success within a set of 30 different occupation types at differing status levels that were indicated
next to the stated occupation title (Dion et al., 1972).

Dion et al. (1972) observed that the physically attractive were, as anticipated, rated as
more socially desirable than those who were unattractive. The interaction of gender, that is, the
participant’s gender as it relates to the stimulus person's gender, did not appear to have an effect
in this study. Within each category evaluated, those physically attractive were perceived as
highly advantaged. This included areas such as more likely to secure prestigious occupations,
have a happier marriage (being a better spouse, more likely to marry an attractive person, less
likely to remain single), more likely to be a better parental figure, and more likely to have a
fulfilling social and occupational life.

This seminal research study (Dion et al., 1972) concluded that a physical attractiveness
stereotype was observed as statistically significant and that this identified stereotype had the
potential to impact a large variety of social interactions and to have a substantial influence on the
behavior of individuals. The “What is Beautiful is Good” phenomenon has since been tested and
supported by many other studies (e.g., Berscheid & Walster, 1974; Dipboye, Arvey & Terpstra,
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Beautyism

Following the “What is Beautiful is Good” study, further studies have recognized that physical beauty generally is thought to offer individuals considerable social advantage within society (Dermer & Thiel, 1975). Attractive men and women are considered more sociable, friendlier, more competent, better adjusted, more self-confident, and more successful in their lives, relationships, and careers (Cash, 1981; Cash, 1985; Cash, Kehr, Polyson, & Freeman, 1977). "Beautyism" is a term that was coined to describe the social inclinations of individuals to favor attractive people and discriminate against those who are not considered physically attractive (Cash, 1990).

Benefits of Physical Attractiveness

Within our society, assumptions about beautiful people cause others to think of these individuals as exceptionally blessed in many different areas (Langlois et al., 2000). Often an attractive person is thought to possess numerous positive traits and personal attributes. The benefits that this social preference brings to those with external attractiveness, sometimes referred to as the "beauty premium," have been documented in research dating back to before the 1960s (Hamermesh & Biddle, 1994). This physical attractiveness phenomenon has been examined from many different perspectives, including: the treatment of children and students (Clifford & Walster, 1973), the popularity and satisfaction ratings of political figures (Sigelman, Thomas, Sigelman, & Ribich, 1986), the perceived mental health of adults (Umberson & Hughes, 1987), the assessment of an individual's general wellness (Umberson & Hughes, 1987), the impact on final verdicts in legal court cases, a person's (perceived) propensity for social
deviance, romantic attraction, helping behavior, punishments (Patzer, 1985), and employment
decisions (Dipboye, Stramler, & Fontennelle, 1984; Dougherty, Ebert, & Callender, 1986;
Latham, Wexley, & Pursell, 1975; Macan, Dipboye, & Butler, 1986; Rasmussen, 1984; Russell,
Persing, Dunn, & Rankin, 1988). The question then becomes, why does it appear that individuals
are so inclined to offer such advantages to a person because of his or her appearance? Social
psychologists, social cognitive researchers, and others have explored the framework of the mind
and the nature of stereotypes like this to help unlock some of the answers in order to understand
this more clearly.

The Psychology of Stereotypes

The human mind must think with the aid of categories…categories have a close and
immediate tie with what we see, how we judge, and what we do…This principle holds
even though we often make mistakes in fitting events into categories and thus get
ourselves into trouble. (Allport, 1954, p. 21).

Social psychologists have found evidence that the assumptions and beliefs that individuals form
about another impact their response to that person, and the perceptions that they have of that
person's appearance are vital determinants in the initial reaction and exchange (Miller, 1988;
Snyder, 1984). Snyder (1984) proposed the idea that individuals are more likely to engage in
positive interactions with those who are attractive and avoid interaction with those they find
physically unattractive. This desirability and avoidance behavior with attractive and unattractive
persons likely occurs because society believes that those who are physically attractive have
positive qualities and those who are unattractive are socially deviant (Dion et al., 1972; Unger,
Hilderbrand, & Medar, 1982).
Studies show that people categorize individuals on the basis of easily delineated characteristics such as ethnic group or gender (Allport, 1954; Taylor, Fiske, Etcoff, & Ruderman, 1978). When meeting a person for the first time, it is natural to make an affective reaction instantly, without effort, based on the minute amount of information that is available at that point in time (Asch, 1946; Zajonc, 1980). Frequently, fundamental assumptions that are made to categorize an individual are based upon how similar they are to the other person (Gadel, 1964). Other times a person is remembered as a pleasant and influential person merely because those characteristics are associated with the group of which the person is a member (Henthorne, LaTour, & Williams, 1992). This association occurs as a result of recalled behaviors or attributes and is based on that individual's own stereotype-based distortions.

Cognitive research studies have offered further evidence that individuals are naturally inclined to associate positive things together within their subconscious mind (Bargh & Chartrand, 1999). Thus, it is logical to assume that the attractiveness stereotype emerges as an automatic response to the associated stimuli (for example, one might associate attractive = good/positive; unattractive = bad/negative) (Bargh, 1997). Social-cognitive research has mapped this social action of mental responses, which occur through the implicit thoughts of one's mind (Bargh, 1997; Bargh & Chartrand, 1999; Greenwald & Banaji, 1995; Macrae & Bodenhausen, 2000). The person perception process that often occurs when we see someone who is considered physically attractive is described as one such instinctive reaction.

When obvious cues do not help to distinguish an individual from the majority of people within the same context, a controlled cognitive process in attention occurs to simplify the number of elements that the mind must manage (Solso, 1991). Within the mind this process of
sorting information and grouping that information into categories leads a person to note numerous differences (such as physical appearance, age, gender, socioeconomic status, etc.) that exist between individuals in order to distinguish one from the rest of the group (Corner & Jolson, 1991). This automatic route in attention involves a cognitive process, which is initiated by a person's perceptions but is often not a conscious act; thus, thoughtless reactions from these cues cause the individual to respond with little to no awareness, potentially making them increasingly susceptible to personal bias or stereotype (Solso, 1991).

The automatic cognitive process that the mind goes through minimizes the expenditure of time and energy that the person invests in the decision and causes extraneous information (such as a person's physical appearance, gender, race, age, weight, etc.) to become a factor in that person's decision-making process, regardless of the intentions of the individual (Ilgen & Feldman, 1983; Solso, 1991). This instinctive cognitive process sometimes causes persons to exhibit stereotype and bias in their behaviors and decisions with little or no awareness. With the increased pressures in the changing world and the fast pace at which many live just to keep up, it is reasonable to speculate that this automatic process and the resulting stereotype and bias may be heightened due to the increasing demands that most people face (Hamermesh & Biddle, 1994).

Halo Effect

Another theory surrounding the physical attractiveness stereotype, which is similar in nature, is the concept of the "halo effect" (Eagly, 1987; Morrow, 1990; Goleman, 1995; Ilgen & Feldman, 1983; Solso, 1991). The premise behind the halo effect is that individuals make an immediate association and form instantaneous perceptions about individuals. With those who are
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attractive, this association leads them to make the assumption, based on a person's attractive appearance, that the individual has exceptional qualities, abilities, qualifications, and success. According to Eagly and Wood (1991), there are two primary bases for these notions that surround physical attractiveness: personal observation and the cultural messages surrounding attractiveness and unattractiveness (Shahani, Dipboye, & Gehrien, 1993). Stereotypes and bias are unavoidably strengthened through the interactions and observations that we experience and the messages that society communicates that associate positive attributes with physical attractiveness and negative attributes with being unattractive. Dipboye, Fontenelle, and Garner (1984) observed a consistent theme that society appears to afford attractive individuals more consideration and social influence in interactions than those who are less physically attractive.

Society's View of Physical Attractiveness

Experience commonly substantiates that attractive individuals find more popularity than those who are unattractive, are treated better than those who are considered unattractive, and are afforded a variety of other opportunities because of their appearance (Langlois et al., 2000). Due to the many cultural perceptions and media influences that exist within society, it is assumed that these advantages come from not simply good looks, but also the abilities, qualities, and attributes that are considered admirable and, it is assumed, that attractive individuals must naturally possess (Watkins & Johnson, 2000). Researchers have found that for adults and children in many different realms, society consistently demonstrates signs of bias for attractive over unattractive individuals, often without realizing it is taking place (Eagly, 1987; Eagly, Ashmore, Makhijani, & Longo, 1991; Langlois et al., 2000; Zebrowitz, Hall, Murphy, & Rhodes, 1997).
The many benefits that come with being physically attractive have been referred to as the "beauty premium" (Hamermesh & Biddle, 1994). Although it is simple to identify the advantages that some adults are offered because of their level of physical attractiveness based on our own observations and experiences, the stereotype for beauty is not simply a bias that plagues the adult population alone (Dion, 1972). Research has shown that even attractive children receive special benefits, including better grades, less severe punishments, more attention, special allowances, and so on that unattractive children are not afforded (Dion, 1972; Ambady & Rosenthal, 1992; Hermesh & Parker, 2003). Eagly et al. (1991) proposed that if society carries the belief that attractiveness and social competence align, this might trigger additional presumptions about an individual based simply on his or her level of attractiveness. For example, because society recognizes that social competence is important, it might also be inferred that an attractive person is exceptionally skilled at building and maintaining strong interpersonal relationships.

Physical attractiveness has been found to offer important benefits to people, giving them advantages such as enhanced social perceptions and interactions (Jackson, 1992). Those who are considered unattractive are often labeled as socially deviant (Unger et al., 1982), prone to behavior disorders and criminal activity (Dion, 1972), and more apt to suffer from mental illness (Jones, Hansson, & Phillips, 1978). It appears that in many cases society has placed unfair weight on the appearance of individuals and yet it seems that there is a natural biological pull that humans have toward those who we consider aesthetically appealing. Kmiecik, Mauser, and Banziger (1979) found that when approached by a stranger at a close range (with the stranger invading the person’s personal space) participants crossed the intersection at a lower rate of
speed when the stranger was considered highly attractive than when the person was considered unattractive. This study found significant data that the more attractive the stranger, the longer the participant would stay near him or her.

Origins of this Physical Attractiveness Bias

The true root of this physical attractiveness stereotype phenomenon is still widely debated by researchers from different fields of study. It is understandable why one might believe that the entertainment industry plays the most significant role in the reinforcement of this attractiveness bias (Patzer, 1985). Given that the entertainment industry has significant influence within our society, it is natural to assume that the media might create a perception of attractiveness that creates this societal bias. Within television and film there are consistent messages that portray beautiful people as powerful, wealthy, popular, gifted, and glamorous. On the other hand, the media images of unattractive individuals convey the message that being unattractive dooms an individual from life’s opportunities and causes him or her to suffer great misfortune through the unending portrayal of unattractive characters as dangerous, evil, and ignorant.

*Cultivation Theory*

The cultivation theory (Gerbner & Gross, 1976) suggests that media are an extension of a cultural arm that perpetuates, reinforces, and reflects the advancing agenda of the dominant culture. This powerful force, Gerbner and Gross claim, hampers individuality and cultivates standardized social behaviors and stereotypes, thus enhancing the social reality that exists.
Researchers have since adopted the cultivation theory to investigate the impact that the media has on the prevalent views of beauty and the associated attitudes about attractiveness. This association was validated by Downs and Harrison (1985) who carried out a media content analysis study to assess the verbal and visual content of messages on television. They found clear evidence of advancement of the virtues of an attractive appearance and of the dangers associated with being unattractive that are reinforced by the media continually. Even within classical children's literature, beauty is portrayed as a positive, all-encompassing virtue, with the good characters (or heroes) always beautiful and the bad characters (or villains) always ugly.

**Inherent Bias for Physical Appearance**

Due to this cultivation of attractiveness and the stark forces of influence created by the media, it might be presumed that attraction is simply a learned behavior passed down through the socialization process that naturally occurs within society, yet further research has offered evidence that disputes this theory. Numerous studies have observed that even very small babies show a preference for attractive over unattractive faces, and research conducted with preschool children has found that these children demonstrate a partiality for both children and adults who are more attractive (Langlois, Ritter, Roggmann & Vaughn, 1991; Perrett, May, & Yoshikawa, 1994). This body of research presents support to substantiate claims that the bias for physically attractive individuals might in fact be an innate facet of human nature rather than purely a product of media exposure and socialization (Thornhill & Gangelstand, 1999).
Advantages of Physical Attractiveness within an Employment Setting

As previously discussed, certain assumptions are often made about the abilities of those who are considered attractive (Dion et al., 1972; Dion, 1986). However, studies have shown that physical attractiveness does actually facilitate an individual’s success with certain employment opportunities, job placements, and overall career mobility (Roszell, Kennedy, & Grabb, 1989; Sparnacino, 1980; Heilman & Stopeck, 1985a). Multiple studies have found that attractive candidates are considered more qualified for employment than their unattractive counterparts (Beehr & Gilmore, 1982; Cash & Kileullen, 1985; Quereshi & Kay, 1986). This preference extends beyond the initial impressions of a candidate, impacting the final hiring decisions and extending beyond to an individual’s long-term opportunities with his or her employer.

For example, Dipboye, Arvey, and Terpstra (1977) and Jackson (1983b) found evidence that physically attractive candidates are offered higher starting salaries than their unattractive counterparts. It has also been found that when compared to those who are less attractive, individuals who are physically attractive are often seen as more likely to be hired into high status roles and more likely to achieve overall success, both personally and professionally (Croxen et al., 1989; Cash & Kilcullen, 1985; Dipboye, Arvey & Terpstra, 1977; Dipboye, Fromkin, & Wilback, 1975; Gilmore, Beehr & Love, 1986; Marlowe, Schneider, & Nelson, 1996).

According to the findings of a meta-analysis conducted by Eagly et al. (1991), personal stereotypes are the most powerful in areas concerning social competence where persons who are physically attractive are seen as especially extraverted and socially skilled when compared with those who are unattractive. This analysis reinforced consistent themes, including statistically significant correlation evidence that the “What is Beautiful is Good” stereotype influences the
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Identification of different types of goodness including social skills, social adjustment, extroversion, and social competence in individuals who are considered physically attractive (Eagly et al., 1991).

Jeffes (1998, p.10) found that "the beautiful people" are six times more likely to be selected in a hiring decision on the basis of their appearance and earn 12-16% more than those who are unattractive. Other benefits of attractive employees that have been identified include enhanced performance evaluations (Ross & Ferris, 1981), more promotions (Morrow, McElroy, Stamper, & Wilson, 1990), and higher quality assessment ratings on their work (Berscheid & Walster, 1972), and they are perceived as more efficient when compared to those who are considered physically unattractive (Vargas & Borkowski, 1976). Jeffes (1998) observed that during a company downsizing, physically unattractive employees are four times more likely to lose their job than their physically attractive peers.

Within some areas of employment considered high-exposure fields such as modeling, news reporting, acting, and the like, there are certain accepted expectations that surround the necessary appearance of individuals as a qualification for employment due to the image that they create for the organization (Cash & Kilcullen, 1985). Within these occupations it is considered socially acceptable and legally defensible to base hiring decisions on an individual’s appearance because of the requirements and general nature of these types of jobs. The question becomes, whether these expectations carry over into other areas of employment, and if they do, what is the potential impact of this attractiveness stereotype on the fields of employment that are impacted?
Halo Effect in the Hiring Process

The general tendency of organizational decision makers is to consider physically attractive candidates qualified and successful regardless of their actual achievements (Ilgen & Feldman, 1983; Solso, 1991). This halo effect bias is the result of natural human information processing mechanisms within the brain (Goleman, 1995; Gardner, 1985; Gardner, 1989; Gardner, 2004). When this processing is not effective, it impacts a hiring manager's perceptions of the position and the premise of the ideal candidate; it also impacts his or her perceived value of a candidate's race, gender, and age (Brigham, 1971; Dalessio & Imada, 1984; Dovidio, 1993; Haefner, 1977; Jussim, Coleman, & Lerch, 1987; Kinicki, Lockwood, Hom, & Griffeth, 1990).

Although the impressions that individuals form during these early stages of the hiring process can put the validity of the process at risk and create biased decision-making, these impressions are a natural result of human perception and information processing (Hosoda, Stone-Romero, & Coats, 2003). Research has shown that individuals automatically attribute different levels of credibility to others based on their likeability, friendliness, expertise, power, integrity, work ethic, and empathy, which are initially based merely on that candidate’s physical attractiveness, gender, race, and age (Henthorne, LaTour, & Williams, 1992; Patzer, 1983; Wilding & Bauer, 1968).

Hiring Managers and Physical Attractiveness Bias

There are logical reasons why hiring managers might fall victim to bias by favoring attractive candidates, especially for certain professions. Beehr and Gilmore (1982) confirmed that physical attractiveness could be a distinct advantage in occupations where face-to-face communication is important. Attractive individuals have been found to achieve greater social
acceptance (Kleck, Richardson, & Ronald, 1974) and to have greater influence over others
(Debevec & Kernan, 1984), which are two important abilities in many job types. Evidence has
also shown that attractive individuals are able to borrow more money (Byne, Baskett, & Hodges,
1971) and are more likely to receive help from strangers (Benson, Karabenick, & Lerner, 1976)
than those who are unattractive.

To reduce the subjectivity and bias that occurs, organizations need to take action to limit
the impact that these influential factors have on the employment decisions being made (Marlowe,
Schneider, & Nelson, 1996). Creating a formal, structured hiring process and adopting structured
interviewing techniques could mitigate the potential for hiring managers to practice biased
decision-making (Shahani et al., 1993).

The intent of the employment selection process is to maximize the quantity, quality, and
fit of candidates so that the hiring officials of the organization can make the right decisions
(Marshall, Stamps, & Moore, 1998). These formalized hiring processes often include the
following steps:

1. Establish a procedure for the recruitment and selection effort.

2. Analyze the position and define the roles, responsibilities, necessary
competencies, and expectations surrounding results.

3. Assemble a pool of qualified candidates.

4. Apply the identified selection techniques to screen and evaluate the candidates.

5. Make final determination regarding which candidate(s) should be hired.
(Churchill, Ford & Walker, 1990; Ingram & LaForge, 1992; Vaccaro, 1990)

It is important to understand, however, that even when a hiring process is clearly defined
and correctly followed, there are innate flaws that appear in the stereotypes and bias of

Fundamental capabilities for success in some professions involve the need to influence others, to gain the attention and favor of others, and to help individuals understand a new perspective or concept (Buck & Tiene, 1989). Physically attractive individuals tend to have the ability to be persuasive because people are more likely to listen to them and give them credibility (Chaiken, 1986). These individuals also have an added advantage because others often want to associate with them, spend time near them, and seek to gain their favor (Patzer, 1985). Physically attractive people are assumed to have key traits that are highly desirable and important such as sociability, kindness, openness, warmth, poise, and friendliness (Berscheid & Walster, 1974; Chaiken, 1986; Patzer, 1985).

**Elaboration Likelihood Model**

One standard theoretical model surrounding the way that individuals form attitudes is referred to as the Elaboration Likelihood Model (ELM) (Petty, Unnava, & Strathman, 1991). Based on the premise that people seek to conserve their cognitive resources, it is said that individuals form their attitudes in two different ways: central elements and reasoned judgments. Central elements (also referred to as peripheral route processing) are natural judgments that are formed quickly in order to save time and energy, while reasoned judgments (also referred to as central route processing) are more insightful and deliberated thoughts that tend to be enduring and predicting behaviors. If the problem is considered non-essential or the person is unable to gather all of the information needed, the individual often conserves his or her cognitive resources
by using cues to make decisions quickly through peripheral route processing; these are often short-lived, non-predictive behaviors.

It is possible that the increasing demands and time pressures that managers face within organizations today, paired with their lack of expertise in effectively evaluating employees for hire, may increase their use of peripheral route processing (Petty, Unnava, & Strathman, 1991). Due to the time pressures and heightened stress levels that these hiring managers encounter, the hiring process becomes an activity that is necessary but undesirable. Thus, a manager is apt to use his or her first impressions to evaluate candidates and is likely to resort to subjective judgments and perceptions, such as placing considerable weight on superficial candidate information such as the candidate's appearance.

The Impact of Image

In research studies involving marketing and advertising, consistent evidence has been found that indicates that attractive endorsers of products are seen as better communicators—more likeable, more trustworthy, more knowledgeable—and the products that the attractive individuals promote tend to hold the same heightened image that the attractive persons are afforded (Reid & Soley, 1981; Reid & Soley, 1983; Debevic & Kernan, 1984; Belk, Bahn, & Mayer, 1982). Similarly, many organizations today firmly believe that "you are who you hire," and as a result employees are considered a direct reflection of the organization (Reichers & Schneider, 1990). Because of this, the importance of the company's image influences hiring managers when they are making decisions regarding a candidate's fit (Schneider, 1987).

Sigall and Landy (1973) observed that an individual's own personal image, prestige, and favorableness can be enhanced through their associations with others. It appears that close
associations with a physically attractive person can enhance a person’s image; this finding was supported and extended with a study involving married couples, where it was established that these same positive influences on a person's image exist for a person with an attractive spouse (Bar-Tal & Saxe, 1976). Thus, it is logical to anticipate that this same enhanced association may occur within organizations. The employment relationship is considered a very important commitment because people often feel closely tied to the individuals with whom they work, and companies realize the importance of that.

Organizational Challenges

"As companies approach the next century and beyond, the single biggest challenge for organizations wishing to attain and maintain competitive advantage will be to attract, develop, retain, and deploy staff." (Maister, 1993, p.32)

The business world and the changing demands that organizations face have been depicted as "conditions of warfare – change crisis and urgency" (Nelton, 1997, p. 20). Workforce challenges that companies are being confronted with include the need for more employee mobility, new expectations for the organization (and the employees who work within the organization), and increased cultural and social diversity. The days of life-long employment in one organization are gone; today's highly skilled personnel often remain at a job for only two years (Russell & Reznick, 1997). This escalating rate of turnover has directly influenced the bottom line for organizations in terms of recruitment, hiring, and training costs, and it has less directly but perhaps more importantly affected customer satisfaction and organizational productivity (Posthuma et al., 2002). Due to these environmental changes, organizational
effectiveness is no longer merely a matter of reaching the goals of the organization; more accurately it is a multifaceted process differentiated by the organization's ability to adapt to both external and internal demands and change (Morris, 1995). As Miles and Snow (1984) pointed out, organizations must align with the external environment and arrange internal resources to support this alignment.

Organizations of every type are striving to increase employee retention rates, maximize operating performance, and sustain competitive advantage, and to do this they have been forced to realize that their most valuable resources are their human capital (LaCalle, 1997). The primary strategy of most organizations must be to proactively recruit and hire employees who fit the needs of the organization, including the values, goals, skill set, and overall strategic objectives (Sheridan, 1992).

Organizations today face global competition, continual and fast-paced change, a push for increased diversity, tight labor markets and competition for talent, and other challenges that are much different from those experienced during the era of the earliest seminal attractiveness studies previously discussed (Posthuma et al., 2002). The demographics of those participating in the employment market have shifted, and yet the question still needs to be addressed to determine if these perceptions of physical attractiveness and the reported bias in certain gender specific occupations have changed.

Some evidence has suggested that things have changed less than one might expect. Recent studies have identified links between a person's physical appearance and his or her job performance ratings (Cox & Glick, 1986; Marlowe, Schneider, & Nelson, 1996; Morrow & McElroy, 1984; Spencer & Taylor, 1988). It has also been observed that even managers who are
experienced are susceptible to biased decision-making in favor of candidates considered above average in attractiveness (Marlowe, Schneider & Nelson, 1996).

**Similarity Attraction Paradigm**

Similarity Attraction Paradigm (SAP) is a model focused on how a person perceives internal similarity with another person, which often alters his or her feeling toward that person (Byrne, 1961; Byrne & Neuman, 1992). With SAP, one person often validates another by expressing a position similar to him or her, reinforcing the person, enhancing their self-esteem, and offering a psychological reward. The similarity-attraction paradigm (Byrne, 1961) suggests that the perception of similarity impacts the perception of fit or performance. Webster and Wind (1972) highlighted the importance that credibility of the source has in creating a strong relationship and greater acceptance. The more similar the person is to the individual evaluating him or her, the more credible he or she perceives the other person to be.

Keenan (1977) found that the perceived similarity of applicants affects their interpersonal attraction to that person. Although this study did not consider physical attractiveness specifically, it is reasonable to construe from the study’s findings that these interviewers found those applicants who were perceived as similar to be more physically attractive as well (Arvey & Campion, 1982). Keenan (1977) also observed a strong correlation between the interviewers’ positive personal feelings for a candidate (including their comfort with him or her) and the final hiring decision. Perceived intelligence and the amount that the interviewer "liked" the candidate were strongly correlated, indicating that interviewers might offer more credit to someone they like and feel a level of personal attraction toward (Monin, 2003, p.1038).
Similarity has been observed as an important force within organizational dynamics, and the demands for similarity in the workplace are strengthened through the pressures that come with social bias (Kanter, 1977). The socialization process and the influence of group behavior and norms have a significant influence on the decisions that employees at all levels make for their organization (Eagly & Wood, 1991). It is reasonable to speculate that these social forces might influence hiring decisions, candidate fit within the context of the organization, and the overall image of the organization, as well as the work-group specifically (Vogel, Wester, Heesacker, & Madon, 2003). The uncertainty that exists for many organizational leaders today creates an increased desire to search out employees who are perceived to have the qualities that they feel are needed within the organization; sometimes these needs are objective in nature, but other times subjective attributes like appearance take center stage in this decision-making process (Raza & Carpenter, 1987).

**Person-Organization Fit**

The person-organization fit describes the fit that exists for a person with his or her environment (Kristof, 1996). Kristof (1996, p.1) stated that person-organization fit concerns, "the antecedents and consequences of compatibility between people and the organizations in which they work." Organizations and individuals have realized the need for congruence between individual and organizational values (Adkins, Russell, & Werbel, 1994; Boxx, Odom, & Dunn, 1991; Cable & Judge, 1997; Chatman, 1989, 1991; Judge & Bretz, 1992; Posner, 1992). Person-organization fit has been shown to significantly affect organizational recruitment and selection perceptions and decision-making (Adkins et al., 1994; Chan, 1996; Rynes & Gerhart, 1990).
Organizations anticipate that they will experience enhanced performance, lower turnover, and increased competitive advantage if there is a strong person-organization fit.

Some have theorized, however, that organizational stagnation or groupthink (Baron, 2005; Janis, 1972; Janis, 1983; Janis, 1992; McCauley, 1987; Richardson & Esser, 2001) may occur if this person-organization fit level is too high (Argyris, 1957; Schneider, 1987). Too many individuals of a certain type might diminish an organization's ability to mature and develop, resulting in myopic perspectives, an inability to adapt, a lack of innovation, and resistance to anyone who is not perceived as similar to the group.

Snap Decisions Involved in First Impressions

Snap decisions are often made based upon the first impressions of demographic characteristics and a person's physical appearance (Beehr & Gilmore, 1982). The snap decisions surrounding attractiveness are frequently to naturally perceive an individual's attractive appearance as an indication of overall goodness (Beehr & Gilmore, 1982; Cash, Gillen, & Burns, 1977; Dipboye, Arvey, & Terpstra, 1977; Gilmore, Beehr, & Love, 1986; Heilman & Saruwatari, 1979; Quereshi & Kay, 1987; Riggio & Throckmorton, 1988; Snyder, Berscheid, & Matwychuk, 1988) which often creates feelings of trust, likeability, and positive association in hiring managers who are seeking a solution to their problems (Raza & Carpenter, 1987). Raza and Carpenter (1987) found that when social similarity exists between an applicant and a hiring manager because of shared status characteristics, the candidate is perceived as more likable. This similarity also leads to generalizations and assumptions that this perceived likeness will extend to other areas.
Self-Fulfilling Prophecy

Merton (1948, 1957) conceptualized the idea of a self-fulfilling prophecy in his work entitled *Social Theory and Social Structure*. Merton professed that a phenomenon exists when "false definition of the situation evokes a new behavior that makes the original false conception come true" (p. 423). Eden (1986) conducted studies in the area to reveal evidence that social scientists are applying this concept to an ever-widening range of behavioral phenomena. Rosenthal (1966) applied the idea of self-fulfilling prophecies to social psychology in his investigation of experimenter effects. Dipboye (1982) examined the self-fulfilling prophecies within the context of employment. Additional research studies conducted by Dipboye and Macan (1988) confirmed the impact of this self-fulfilling prophecy within employment situations.

Expectations and Evaluation of Others

Snyder and Swann (1978) found that a person's impression formation in the interview is directly related to the interpersonal expectancies that the person has about the other person before even meeting in person. Snyder and Swann (1978) found that a person's orientation prior to the interview affects the questions that they ask, thus leading to behavioral confirmation throughout each stage of the hiring process.

“Beauty is Beastly”

As this review previously discussed, within an employment context many have observed that, by and large, those applicants who are attractive tend to be viewed as more qualified than applicants who are less attractive (i.e., Beehr & Gilmore, 1982; Cann, Siegfried, & Pearce, 1981; Carlson et al., 1971; Cash, Gillen, & Burns, 1977; Dipboye, Arvey, & Terpstra, 1977; Dipboye,
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Fromkin, & Wiback, 1975; Forsythe, Drake, & Cox, 1985; Gilmore, Beehr, & Love, 1986; Heilman & Saruwatari, 1979; Kinicki et al., 1990; Marlowe, Schneider, & Nelson, 1996; Rynes & Gerhard, 1990; Springbett, 1958). At the outset, physically attractive individuals are assumed to dominate a full range of positive traits that unattractive persons are assumed to lack (Dion et al., 1972; Hatfield & Sprecher, 1986).

Using the “What is Beautiful is Good” observations of Dion et al. (1972), Heilman and Saruwatari (1979) set out to evaluate these findings within the context of employment. This study, titled “Beauty is Beastly”, sought to investigate the impact that physical attractiveness might have on male and female candidates when being considered for certain types of jobs. Similar to the study by Dion et al. (1972), Heilman and Saruwatari used undergraduate college students (47 students: 23 male and 24 female from an administrative sciences course). The study's design was a 2 x 2 x 2 factorial with the stated independent variables of: applicant appearance (attractive or unattractive), applicant gender (male or female), and job type (management or non-management).

The design of this study differed from Dion et al. (1972), because in the “Beauty is Beastly” study researchers used only two levels of attractiveness (attractive and unattractive), eliminating the third attractiveness choice of average attractiveness. The element of job type (managerial or non-managerial) was also added to this study, which was not considered in Dion's study because of the nature of the experiment and hypotheses. The Beauty is Beastly study was framed under the context of employment rather than simply personal perception (Heilman & Saruwatari, 1979).
Heilman and Saruwatari (1979) described their study as an investigation of personnel decision-making processes. Participants were instructed that the applicants that they would be evaluating had recently graduated and were previously screened for the position of interest in the areas of education, experience, and salary that would be appropriate for him or her (among five choices set in $500 intervals). Next, the participants were asked to rate each of the candidates on the following qualities: motivation level (high or low), decisiveness (decisive or indecisive), feminine or masculine, emotional or unemotional, and attractive or unattractive. Finally, participant's pooled rankings for each group of candidates was recorded. A significant observation found in this study was that an applicant's gender determined the impact that physical attractiveness had when individuals were considered for different white-collar organizational positions.

The reported benefits of beauty (Dion et al., 1972) within were found for men, regardless of the type of job, and for women, but only for women who applied for the non-managerial (lower level, clerical) positions. In fact, Heilman and Saruwatari (1979) found a distinct disadvantage for attractive female applicants being evaluated for the managerial position. Attractive males and unattractive females were regarded as more motivated, unemotional, and decisive (qualities associated with managers) than the unattractive males and attractive females that were evaluated. It was observed within this study that for positions that are considered more appropriate for men (management jobs), unattractive females had an advantage over attractive females.

Dion et al. (1972) did not frame the context of participants’ perceptions in the employment setting, instead the “What is Beautiful is Good” study was conducted to observe
society's view of appearance and the associated value that is placed on the differences in appearance that exist between individuals (attractive, average, and unattractive). Heilman and Saruwatari (1979) set out to extend these findings to evaluate the interaction between this observed social perspective and the reported inequity between men and women in the workplace (Costrich, Feinstein, Kidder, Maracek & Pascale, 1975). Heilman and Saruwatari (1979) observed that the effects of appearance are mediated by the perceived fit between the applicant attributes (feminine or masculine), job requirements, and the perceived incongruity between the two, which may produce a negative reaction, resulting in biased decision-making. A second study extended the findings of the “Beauty is Beastly” study (Heilman & Stopeck, 1985) to evaluate post-hiring decisions and observed that this same gender-based job bias of attractive females exists within employee performance evaluations that take place once an employee has been hired.

Multiple studies have contradicted the findings of this “Beauty is Beastly” theory (Dipboye, Fromkin, & Wiback, 1975; Drogosz & Levy, 1996; Filmore, Beehr, & Love, 1986; Marlowe, Schneider & Nelson, 1996; Sigelman, Thomas, Sigelman, & Ribich, 1986; Shahani et al., 1993). Critics have identified concerns with the methodology used with the two studies that strongly support the “Beauty is Beastly” hypothesis (Heilman & Saruwatari, 1979; Heilman & Stopeck, 1985) as each study used the same set of four photographs (two attractive and two unattractive), and it has been speculated that it is possible that the recorded observations from these studies were the result of idiosyncratic disparity among the stimulus photos that were used. Further, it has been suggested that the photos that were used within the “Beauty is Beastly” studies might have been inappropriate for the business setting (Dipboye, 1992; Hatfield &
Sprecher, 1986). The issue of the appropriateness of the stimuli persons and photographs in the specific context of the study was not a consideration that was evaluated in the pilot study to determine the validity of these photos (Dermer & Thiel, 1975).

In addition to the “Beauty is Beastly” study (Heilman & Saruwatari, 1979), other research has uncovered evidence that points to potential negative ramifications for individuals who are aesthetically gifted (Dermer & Thiel, 1975; Eagly et al., 1991). Observations have since been made regarding secondary assumptions about physically attractive individuals because it is thought that they have a better opportunity to cheat, engage in adultery, and earn rewards, status, promotions, high compensation, and the like that they did not earn and do not deserve (Dermer & Thiel, 1975; Eagly et al., 1991). It has been speculated that because these attractive persons are thought to have been given automatic benefits for their appearance, they will likely take these advantages for granted and use them in negative ways (Eagly et al., 1991).

Some of the identified employment bias that has been recognized in attractiveness research has been tied to sex-typed attributes (Cash, Gillen, & Burns, 1977; Gillen, 1981). In these studies the type of job, including its stereotypical association with either gender, was found to affect the observed impact of the attractiveness stereotype. This bias was observed as a notable liability for an attractive female's employment opportunities but did not impact the male candidates (Sigelman, Thomas, Sigelman, & Ribich, 1986).

Dermer and Thiel (1975) cited findings of a similar nature when they uncovered evidence that individuals who are considered especially attractive may suffer certain liabilities as a result. Using a more diverse set of stimuli images (i.e. the photos depicted a wider range of attractiveness levels) Dermer and Thiel (1975) found evidence that exceptionally attractive
women were rated as more arrogant, self-absorbed, materialistic, conceited, and more likely to commit adultery compared to women who are unattractive. This study offered potential evidence that the attractiveness stereotype might depend upon the level of attractiveness as well as the situational factors and social setting to determine the likelihood that secondary assumptions such as these would be made (Dermer & Thiel, 1975; Eagly et al., 1991).

Workforce Shifts

One trend in the employment market today is the increasing shift toward work that is service-centered (Jayne & Dipboye, 2004). Polinko (2000) found that in occupations that require social competences, attractive applicants are likely to have a distinct advantage and a much greater chance of being hired. The qualities that society regards as the most important and admired of the human characteristics, such as empathy, nurturance, and kindness, are often considered feminine qualities that are observed in the context of social exchange (Eagly & Mladinic, 1994). This current push toward service-centered jobs will likely continue to change the employment landscape in the future.

Many of the changes in the employment market involve the increased diversity within the workforce and the heightened interest in making the right hiring decisions due to increased competition for talent (Koberg & Chusmir, 1988; Larose, Tracy & McKelvie, 1992). Noted changes in many areas of the paid labor force have created increased similarity between the roles of males and females in the workplace (Diekman & Eagly, 2000).
Growing Presence of Women in the Workplace

Between 1950 and 1998 women's presence in the workforce increased 26%, from 34% to 60%, while men's decreased 11%, from 86% to 75% (U.S. Department of Labor, 1999). Due to these and other changes, it has been reported that women's attributes have increasingly shifted, out of a necessity to incorporate the traits that are associated with working individuals in order to succeed in the work environment (Richeson & Ambady, 2001).

These shifted attributes include a tendency for women to be more competitive, more individualistic, and less agreeable as compared to those women who do not work outside of the home (Eagly & Steffen, 1984). Women are also entering previously male-dominated occupations in increasing numbers (Reskin & Ross, 1990). This transgression of gender roles can impact the perceptions of both men and women who seek occupations that fall outside of the gender-based norms of society (Brenner, Tomkicwicz, & Schein, 1989). In some cases this transgression leads to loss in social status for men and a distinct distrust and dislike for women (Rudman & Kilianski, 2000; Richeson & Ambady, 2001).

The noted resentment that often comes with a woman's success in this non-traditional manner creates feelings of isolation and disconnection between some individuals who would otherwise be close social and professional allies (Heilman, Wallen, Fuchs & Tamkins, 2004). This also creates an increased pressure on females to balance their lives and decisions in a way that is satisfying and rewarding without compromising too much.

With an increased presence of women in the workplace and an increased number of females in male occupational roles, one might anticipate that attitudes towards women have changed drastically, yet studies indicate that it does not appear to be that simple (Heilman et al.,
Diekman and Eagly (2000) observed that those stereotypes that are held against women are exceptionally dynamic and complex, while those surrounding men have been described as static and unchanging. It was found that women today have, in many cases, been regarded as more masculine in personality characteristics (assertiveness, confidence, decisiveness) but no real shift in male personalities has been observed. It is believed that this noted change in the characteristics of women is due to their association with male-dominated occupations as the number of females in these roles continues to increase (Cejka & Eagly, 1999).

**Attribution Theory**

Social expectations are influenced by the idea of perceived fit between the person and the job (Taylor et al., 1972). These reflect stereotypical assumptions about a person's gender that are made as they associate with the characteristics of certain jobs (Cash et al., 1977). The attribution theory is a theory that predicts an individual's success based on internal stable factors such as ability; when a woman is successful in what is considered a male-gender job; her success is often attributed to external unstable factors like ease of task or luck rather than talent or ability (Cash, Gillen, & Burns, 1977; Heilman et al., 1984). This sex-type job stereotype creates a disadvantage for physically attractive women when under consideration for occupations considered male typed jobs and compared to men (both attractive and unattractive) and unattractive women (Taylor et al., 1972). This is due to a set of pre-established attributes that have been associated with each gender in the minds of many regarding what should and should not be in the world.

**Social Role Identity**

Comer and Jolson (1991) identified the challenge that exists with social role identity, which causes negative impressions for some women in within certain industries. These social
role identity studies have indicated that women are sometimes perceived as deficient in technical and product knowledge, and it is also believed that they relinquish control and fail to demonstrate the necessary characteristics for some positions (Swan & Futrell, 1978; Swan, Rink, Kiser, & Martin, 1984). Comer and Jolson (1991) proposed that observable similarity judgments are made quickly and influence the perceptions of that person, but the observations are simply superficial inferences with only short-term impact on the evaluation and performance of the person.

**Group Position Theory**

Sociological research surrounding the group position theory of prejudice (Tajfel, 1969; Darley et al., 2001; Darley & Fazio, 1980) has proposed that group membership attitudes for high status group members toward those in low status groups become increasingly negative as individuals within that group feel their high status is being threatened by a member of the low status group (Bobo, 1998). Bobo contended that this negative resentment occurs when a low status individual occupies a position that is considered high status. This group position theory contends that this categorization considers males and attractive individuals high status and females and unattractive individuals as low status; yet, the gender prejudice is stronger and takes precedence over physical attractiveness (Bulumer, 1998). This social-cognitive perspective is a micro-level analysis that seeks to describe the implicit attitudes that individuals hold, according to their social roles, toward those considered outside of the group, and the associated exclusive attitudes and behaviors that result.

Organizations are groups that often develop strong cultures and cohesive feelings of association with the group membership that can, at times, be activated automatically if the
perceived similarity and fit are closely aligned (Banaji & Greenwald 1995; Bargh, 1997; Bargh, Chaiken, Govender, & Pratto, 1992; Devine, 1989). Social roles surrounding gender attitudes about women are often positive in general, except for those who do not fit the mold as it is traditionally defined. Therefore, sometimes these women in high status roles are seen in a negative light because they challenge what is expected and they challenge previously held assumptions or standards within the organization (Carpenter & Banaji, 1998; Glick & Fiske, 1996). The evidence of hostile sexism within an organization is more apparent against females who violate traditionally defined roles and threaten men, their perception of the status men hold in their position, and men’s perceived economic power (Glick, Diebold, Bailey-Werner, & Zhu, 1997). Women entering into this forbidden territory by vying for high status roles create negative impressions and are a threat to the perceived balance in many organizations (Glick et al, 1997).

Social Role Theory

It appears that the process of overcoming some stereotypes might simply take time to evolve. The social role theory (Eagly, 1987) offers an additional explanation: As women earn leadership, management, or any male gender-typed role, this provides a cue that directs the intrinsically understood theories of individuals and the roles that they personally see as appropriate (Ross, 1989), changing them slowly over a period of time. There are some signs of hope that progress is being made. For example, a 1995 study by Gallop found that between the years 1990 and 1995, the majority of Americans (74% of men and 65% of women) reported that they feel the perception of women is improving.

It has been speculated that this slow, difficult transition has resulted in fewer promotions for women (and some men) in gender-stereotyped occupations (Lyness & Judiesch, 1999).
Because these individuals do not fit many of the traditionally prescribed norms of society in terms of the perceived idea of how women and men should be, they have a high risk of social rejection (Burgess & Borgida, 1999; Eagly & Karau, 2002; Heilman, 2001; Rudman & Glick, 2001). This counter-normative behavior of going against what should be is considered a violation in the minds of some, which leads to disapproval (Cialdini & Trost, 1998). The fear of success identified in the 1970s (Horner, 1970), which was based on this risk of social rejection, is still a prevalent concern for some persons holding what are considered non-traditional roles.

Research points to evidence that this concern is simply the reality that occurs when challenging the standards that some in society still hold as truth (Bartol & Butterfield, 1976; Carli, 1990; Carli, LaFleur & Loeber, 1995; Jargo & Vroom, 1982; Rudman, 1998). Women who are seen as powerful sometimes suffer social penalties and are viewed as less socially appealing because their behavior and status go against the perceived norms of each gender (Bartol & Butterfield, 1976; Carli, 1990; Carli et al., 1995; Jargo & Vroom, 1982; Rudman, 1998). A boomerang of sorts has been observed for females who are high achievers and successful (Heilman et al., 2004); resulting in attractive, competent women who have been depicted by some as cold, unfeeling, (Cialdini & Goldstein, 2004; Wiley & Eskilson, 1985) disliked, and undesirable (Hagen & Kahn, 1975).

Hostile Sexism

Hostile sexism is term used to describe this negative attitude towards women that has emerged because some women are viewed as too competitive or as threatening to others who are less attractive and/or less successful (Glick & Fiske, 1996). Masser and Abrams (2004) observed that the glass ceiling" that prevents women from reaching certain high ranking leadership
positions can be a result of hostile sexism and the associated feelings that others have towards them. These attractive, successful women pose a threat to the status quo and this glass ceiling is used to keep women in their place (Masser & Abrams, 2004). Individuals who endorse this practice appear to be especially concerned with gender, letting this and other irrelevant characteristics, such as appearance, influence their decision-making process. Traditionally those gender stereotypes that are targeted toward women are thought of as a male-directed bias from men who feel uncomfortable and sometimes vulnerable by the changing role of females in the workplace (Carpenter & Banaji, 1998; Glick & Fiske, 1996), yet it has been found that men are not always the most significant source of this bias (Baron, Burgess, & Kao, 1991).

Women Biased Against Women

Discrimination against females that takes place at the hands of other females is likely to be mistakenly labeled as men discriminating against women (Baron et al., 1991). Research has indicated that although males are eight times more likely to be blamed for stereotypical, sexist behavior, women hold a higher propensity for sexist decisions and stereotypes than men. However, it is not interpreted as such within the workplace or within society as a whole (Baron et al., 1991). Baron, Burgess, and Kao (1991) observed that females get away with sexist behavior and decisions against other females because it is unexpected, and not many have explored the possibility that this source of discrimination and bias exists.

Eiseman (1991) proposed that women who were considered conservative were more likely to hold bias and discriminatory feelings toward other women than those who were considered liberal. It was also speculated that this proposed differing propensity may be the result of a conservative woman's perceived need to hold on to standards and expected behaviors
while liberal women are thought of as persons who are more willing to change and compromise previous perceptions and the roles that women play. When women are evaluating other women, it is important that careful attention be given to the potential for this bias, especially if the woman who is being evaluated is highly attractive, as this increases the likelihood of the biased behavior and decision-making (Swim, Aikin, Hall, & Hunter, 1995). Because many are not aware of the possible existence of this bias and others simply deny that it exists at all, it is important to educate both women and men about the dangers, the strong potential that exists, and the ramifications of not taking action to counter it (Cooper, 1997).

Dermer and Thiel (1975) observed noted liabilities for women who were physically attractive, and the study's unattractive female participants were found to issue by far the most significantly negative ratings for the attractive women they evaluated. These findings bring additional evidence that jealousy may be an underlying factor in the motivation of some women. Whether conscious or subconscious, it is important to increase awareness of this potential bias by educating society to reduce the impact that it may have on both professional and personal relationships. Dion et al. (1972) and Heilman and Stopeck (1985) anticipated the potential for this bias; each study noted the potential for jealousy but noted that they found no statistically significant evidence within their findings.

*Queen Bee Syndrome*

Cooper (1997) proposed a concept, the Queen Bee Syndrome, that sex role values that are held by women hinder progress to overcome this gender and attractiveness stereotype. The observed hostility that women are reported to have for other women is a significant barrier to the progress of changing gender stereotypes and bias in the workplace, and the added influence of
physical attractiveness heightens the intensity of this form of female resentment (Cowan, Neighbors, DeLaMoreaux & Behnke, 1998). These observed feelings of hostility influence a woman's personal happiness, satisfaction, confidence, and feelings of intimacy.

A meta-analysis conducted by Hosoda et al. (2003) brought some optimism with their observation that the bias of attractiveness and gender seems to be diminishing over time. It is clear that more research needs to be done to understand the dynamics of physical attractiveness, gender bias, and the Queen Bee Syndrome more clearly.

As previously mentioned, it appears that individuals who are considered especially attractive might actually suffer liabilities beyond what was described by Heilman and Saruwatari (1979) in the “Beauty is Beastly” study (Dermer & Thiel, 1975). Dermer and Thiel made the observation under conditions involving a more diverse set of stimuli photos (offering a wider range of attractiveness including a female stimuli considered very attractive) that attractive women were perceived as arrogant, self-absorbed, materialistic, selfish, conceited, and likely to commit adultery. This study offered further evidence that the nature of the attractiveness stereotype may be highly influenced by the situational factors, social setting, and the overall context of the findings.

It appears that the findings of the “What is Beautiful is Good” (Dion et al., 1972), “Beauty is Beastly” (Heilman & Saruwatari, 1979), and similar studies remain alive and well in today's employment market (Bartol & Butterfield, 1976; Carli, 1990; Carli, LaFleur & Loeber, 1995; Jargo & Vroom, 1982; Rudman, 1998). The influence of pressured decision-making, a dependence on image and social acceptance, the reported hostility that some feel for females who seem to have it all (attractiveness, status, power, etc), and the unexpected bias that exists
toward women by women who resent them for their appearance, their untraditional choices, and their earned success will likely continue indefinitely (Cooper, 1997). These conflicting perspectives remain unclear and further research is needed to offer practical information to organizations.

Measures of Attractiveness

Through social consensus, the concept of beauty, and thus physical attractiveness, is defined (Berscheid & Walster, 1974). Judgments of physical attractiveness have been widely studied and correlated with other personal characteristics such as personality, cognitive ability, and social skills from different perspectives (Bull & Rumsey, 1988; Patzer, 1985). Researchers have used various strategies for investigating the impact of physical attraction on the reactions of individuals in different settings and situations. Although some studies have focused on holistic measurements of attraction (Raza & Carpenter, 1987; Umberson & Hughes, 1987), numerous researchers have restricted their definition to facial attractiveness specifically (Cann, Siegfried, & Pearce, 1981; Cash, Gillen, & Burns, 1977; Cash & Kilcullen, 1985; Gillen, 1981; Heilman & Saruwatari, 1979; Heilman & Stopeck, 1985a; Jackson, 1983, Brown, Cash & Noles, 1986; Mueser, Grau, Sussman, & Rosen, 1984). Unless research targets different types of stereotypes or bias such as weight, height, body image, or physical disability that would require a holistic measurement, the face is generally considered the best measure of a person's appearance and overall level of attractiveness.

Haxby, Hoffman, and Gobbini (2000) reported, "Face perception may be the most developed visual perceptual skill in humans" (p. 223). Throughout history the face has been
noted as a pivotal element in personal perception and interaction; Cicero (106-43 BC) noted, "all action is of the mind and the mirror of the mind is the face." The dynamics of face processing has been studied by social psychologists, cognitive psychologists, and neuroscientists for many years in attempts to understand the importance of the face in recognition, attraction, identification, interaction, and behavior outputs (Blair, Judd, & Chapleau, 2004; Blair, Judd & Fallman, 2004; Livingston & Brewer, 2002; Haxby et al., 1999; Haxby et al., 2000; Haxby et al., 2001; Haxby, Hoffman, & Gobbini, 2002; Kanwisher, 1999; Tarr & Gautheir, 2000; Zebrowitz et al., 1997). Because the face has been identified as the most salient feature observed during social interaction, researchers often operationalized physical attractiveness by restricting their definition in this explicit manner (Berscheid & Walster, 1974). Researchers have found evidence that facial stereotypes have an immediate influence on the nature of responses from both men and women (Kanwisher et al., 1999; Tarr & Gautheir, 2000).

**The Paper People Approach**

The approach commonly used to research facial attractiveness entails the use of static facial images. Much of the research that has been conducted surrounding attractiveness has been carried out using still photographs of individuals; this method is often referred to as the "paper people" approach (Bull & Rumsey, 1988). Normally in attractiveness studies, only a headshot of a person's face is used to obtain a response from participants; however, sometimes researchers use photos that include a view of the shoulder area. In the employment context, this paper people method involves the evaluation of applicant credentials (including such things as: an applicant photograph, application forms, resumes, letters of recommendation, cover letters, work samples,
and references) to determine the viability of the applicant's candidacy (Cash & Kilcullen, 1985; Dipboye, Arvey, & Terpstra, 1977; Marlow, Schneider, & Nelson, 1996). In other types of research (cognitive psychology and social psychology) participants might be asked to evaluate their perceptions of an individual based on a photograph, or they may be asked to select words that they would associate with different photos of individuals who have been previously rated at different levels of attractiveness (Berkowitz & Donnerstein, 1982; Cottrell et al, 2007; Cottrell & Neuberg, 2005; Dion, Berscheid, & Walster, 1972; Downey & Christensen, 2006; Gardner, 2004; Johnson et al, 2006; Kenrick et al, 1993; Molm et al, 2000; Tan & Singh, 1995 ). This is done in an attempt to measure the association, response, and perceptions of individuals based on different visual stimuli.

Limitations of the Paper People Approach

The heavy reliance on static targets to evaluate the influence of attractiveness has been questioned and criticized due to the speculation that these findings cannot be generalized in the real world (Bull & Rumsey, 1988). The paper people paradigm has also been criticized for ignoring the contextual factors that occur during the interview phase of the hiring process (Gorman, Clover, & Doherty, 1978). Guion and Gibson (1988) condemned the paper people approach, claiming that there are important compensatory clues that arise in personal interactions that cannot be measured due to the absence of actual face-to-face contact. Critics of this method claim that because the researcher and participants have no opportunity for the observations or social interactions that play an important part in decision-making, researchers using the paper people approach are thought to be simply evaluating shallow impressions that would likely change (Harris, 1989). Several studies have further argued that, within the context of
employment, the use of photographs offers no differential impact on pre-interview impressions over and above factual written information, such as a resume (Carlson, 1969; Ferris & Gilmore, 1977).

Despite the criticism of the paper people approach, a significant number of studies have supported the premise that this method offers significant insight into the decision-making of individuals and the propensity for individuals to demonstrate bias and attractiveness stereotypes (Solso, 1991). Some studies have documented statistically significant correlations between the ratings of static targets (photos) and ratings given to dynamic targets, which offer observed movement and personal interaction (Berscheid, 1981; Brown et al., 1986). Shahani et al., (1993) dispelled the criticism of this paper people limitation in a study where external validity and consistent effect sizes were found. This selective research study used the paper people approach in a set of experiments that compared interview judgments of attractiveness in a dynamic interaction to the pre-interview judgments conducted in a prior laboratory experiment and found evidence of the method's external validity.

As with any type of methodology, it is important to consider different factors that can impact the validity of the practice of using paper people as stimuli (Hosoda et al., 2003). First, to strengthen the practice of using paper people for attractiveness research, it is important that a reliable measure of facial attraction is established from which to test the hypotheses (Eagly et al., 1991; Feingold, 1992). Attraction often involves a snap judgment that occurs within the person as he or she has initial exposure to another individual (Tajfel, 1969). The common method for establishing an accurate attractiveness measure is to gather ratings from a sample population and
thus tap into the social consensus; this is the most widely utilized technique for defining and rating facial attractiveness (Patzer, 1985).

Because the level of agreement in physical attractiveness ratings has been found to be consistent regardless of race, age, gender, cultural background, or socioeconomic status, and measures of attractiveness appear to remain consistent over time, this is the preferred strategy for establishing a measure of attractiveness (Burns & Farina, 1987; Berscheid & Walster, 1984; Eagly et al., 1991; Hatfield & Sprecher, 1986; Patzer, 1985). According to cognitive psychology researchers, individuals often have hidden perceptions that they are unaware of because they involve natural, routine mental responses to situations that can be identified (Gardner, 1985; Solso, 1991). These perceptions drive behavior in the initial encounter with individuals during the time evaluations are made and perceptions are formed about his or her attractiveness. Using this paper people approach can provide a new level of insight to the impact that these thoughts and reactions have on decision-making.

Measuring First Impressions in the Hiring Process

The process of organizational hiring involves several stages that influence the final decision surrounding the viability of a person's candidacy (Langlois et al., 2000). The pre-interview phase is the stage where hiring officials evaluate each candidate's paper credentials and pre-interview is the entryway to the employment process for candidates. It generally involves a review of the available information, including items such as: a resume, application form, cover letter, test scores, assessment center results, reference letters, professional references, work samples, referral information, and sometimes a candidate photo. Other stereotypes or knowledge surrounding jobs, schools, types of associations, and legal or social issues can also contribute to
the biases that exist before the interview. If these feelings or associations are strong, they can have a significant impact on the final employment decision (Fox et al., 1995). This information is the only data that is available from which employers can evaluate the qualifications and fit of a candidate and whether to proceed to the next step in the process. The bias and impressions that exist, although often subjective, are natural human perceptions and tactics used to process information in order to make a determination regarding who they should interview (Goleman, 1995; Ilgen & Feldman, 1983; Solso, 1991; Shepard & Heartfield, 1991). "Access discrimination" is a phrase used to describe the numerous obstacles, such as a candidate's appearance, that may exclude particular types of individuals from employment (Kleiman & Farley, 1988).

Shahani et al. (1993) and others discovered that the use of photos was a useful strategy to manipulate the measure of attractiveness when conducting selection research, even after applicants had been interviewed face-to-face. In these situations, judgments are formed as an automatic response to stimuli that become stronger and more frequent when the individual is feeling time-sensitive pressures or stress, as often occurs within organizational hiring (Ilgen & Feldman, 1983; Kahneman & Treisman, 1984; Solso, 1991; Wegner & Bargh, 1998). Research has shown that recruitment decisions have the propensity to be greatly influenced by these quick reactions to first impressions (Cash & Kilcullen, 1985; Dipboye, Arvey, & Terpstra, 1977; Marlow, Schneider, & Nelson, 1996). Although interviewers with more experience appear to be less likely to demonstrate bias (Marlow et al., 1996), even individuals with an abundance of experience and training are inclined to exhibit bias at some level (Fritzsche & Brannick, 2002).
It has been found that early impressions of candidates play a central role in final employment decisions (Cascio, 1978). Briscoe, Woodyard, and Shaw (1967) ascertained that adverse first impressions are more difficult to change than those that are complimentary. This ties to the notions of Pastore (1960), who claimed that society perceives negative characteristics as more deeply embedded in the personality than those notions that are positive, and Sulzer (1964), who established that within our society individuals are held more accountable for negative acts than they are given credit for positive acts. Social norms are the things that society naturally expects persons to obey; it appears that positive qualities or behaviors are an expectation within society, rather than something that is given special credence (Pastore, 1960).

Macan and Dipboye (1990) reported a contradictory finding claiming that it is in fact favorable pre-interview impressions that are most resistant to change. When interviewers have a positive pre-interview impression of an applicant, they were found to spend more time with the applicant and exchange in more meaningful dialogue (Phillips & Dipboye, 1989; Sydiaha, 1961; Tullar, 1989). Macan and Dipboye (1990) found that interviewers' impressions of applicants' pre-interview and post-interview show a positive correlation with a high level of statistical significance. They also found that the initial impressions of candidates are correlated with the evaluations of interview performance. Others such as Smith, Mitchell, & Rollo, (1974) have reported similar findings.

In evaluating these observations, it is clear that there are contrasting perspectives regarding what types of information (positive or negative) are most resistant to change; yet each agrees that early impressions in the selection process have a significant impact on the overall impressions of the candidate and the final hiring decision. Schmitt (1976) proposed the idea that
individuals use a behavioral moderator referred to as a self-fulfilling prophecy, which leads an individual to act in accordance with his/her beliefs or initial impressions to influence decisions that confirm what the individual believed to be reality. This social phenomenon is commonly found within the hiring process, when pre-interview impressions bias the interview process in a manner that is consistent with their preliminary observations (Cantor & Mischel, 1977; Darley & Fazio, 1980; Darley et al., 2001; Dipboye, 1982; Jones, 1987; Rothbart, Evans, & Fulero, 1979). Often interviewers conduct the interview with a subconscious intent to confirm their initial perceptions.

Research has proposed that physical attractiveness is a more significant influence during periods of impression formation and thus invokes immediate and subjective responses in people during the earliest encounter with an individual (Morrow et al., 1990). The previously discussed research appears to offer further evidence that the self-fulfilling prophecy might indeed be a vital component in the hiring process. It appears that interviewers are inclined to adopt confirmatory hypothesis testing strategies and are likely to stick with their initial impressions of a candidate, unless they are given substantial evidence why they should not do so (Snyder & Swann, 1978). The pre-interview impressions of a candidate's paper credentials have been observed to offer consistent impressions when compared to the post-interview evaluations of the candidate (Dipboye, Stramler, & Fontennelle, 1984; Dougherty, Ebert, & Callender, 1986; Latham, Wexley, & Pursell, 1975; Macan, Dipboye, & Butler, 1986; Rasmussen, 1984; Russell, Persing, Dunn & Rankin, 1988). These observations offer consistent themes, which indicate that interviewers’ early impressions have significant impact on the final evaluation of a candidate.
Studies Using the Paper People Approach

Stevenage and McKay (1999) conducted a study using the paper people approach to explore the possible disadvantage for applicants with a facial disfigurement or physical disability. This study involved two groups of participants: group 1 was 59 students (33 male; 26 female) and group 2 was 57 professional recruitment personnel from a local recruiting agency (14 male; 43 female). The study was introduced as an investigation of the usefulness of appearance information when making hiring judgments. The participants were provided the following documentation: an introduction to the study, a mock job application (all were equally qualified), a brief description of the duties, a questionnaire composed of 18 questions developed by Dion, Berscheid, and Walster (1972) to assess personal qualities and job skills plus a final question asking participants if they would hire the applicant, and an attached photograph. Each of the four was a high quality black-and-white photo representing an adult female with one of the following conditions: (a) no physical or facial disfigurement (b) visible port-wine stain on the face (c) seated in a wheelchair with no facial disfigurement (d) seated in a wheelchair with a visible port-wine stain on the face.

Stevenage and McKay (1999) found a marked negative effect from the candidates with a facial disfigurement and a stronger bias against the candidate with only the facial disfigurement (compared to the photo of the hypothetical candidate in a wheelchair with a facial disfigurement). The physical disability (wheelchair) did not appear to cause a negative bias for the raters within this study (Stevenage & McKay, 1999).

There were several limitations within this study that might have impacted the findings (Stevenage & McKay, 1999). The introductory information that was given to participants might
have created a feeling of social pressure and as a result they might have felt compelled to act in a politically correct manner (Houston & Bull, 1994). The lack of real-world application (due to the laboratory setting and the mock candidate review) might have caused participants to feel a lack of accountability in their decisions. The study's final observations also might have been hindered because each of the participants made a judgment on the qualifications of only one applicant. Often studies involve participants in the evaluation of multiple candidates with differing qualities to create a more complex level of data to analyze (e.g., Dion, Berscheid, & Walster, 1972; Hatfield & Sprecher, 1986).

An additional potential limitation could be the use of paper people with no interpersonal interaction upon which participants could base judgments (Gorman, Clover & Doherty, 1978; Guion & Gibson, 1988; Murphy, Herr, Lockhart, & Maguire, 1996; Stevenage & McKay, 1999). Because recruitment situations routinely involve decisions based on limited information and they are heavily influenced by initial impressions similar to that found within this study, this limitation is not considered a significant concern for this study (Dipboye, Stramler, & Fontenelle, 1984).

The use of both professional interviewers and student participants enhanced the findings of the study over those studies that simply utilized students to determine decision-making and judgments surrounding candidate qualifications. This appears to have reduced the limitations of many paper people studies. The findings of the study might have been enhanced if participants had been professionals from the same organization, to simulate the actual behaviors of these individuals within their professional roles (Morrow, 1990).
Carlson (1969) conducted a study using the paper people approach to investigate the propensity of life insurance managers to make biased decisions based on a candidate's level of attractiveness. The participants involved in this study were actual life insurance agency managers who had each attended a school where they were trained on recruiting, selection, and interviewing. Eight candidate resumes with different qualification levels and eight photographs with different levels of attractiveness were paired in different combinations (complementary and contrasting patterns). Each manager was asked to review the resume and photo of one candidate and either select the applicant, reject the applicant, or note that he remained undecided. Overall this study did not find a statistically significant bias toward the most attractive candidates, as had been anticipated. The most significant effect for this study was evident with the complementary information; that is, when the most qualified resume was paired with the most attractive candidate. The study's design might have been enhanced if participants had had the opportunity to evaluate multiple candidates when making their decisions, as they would when actually hiring for a position.

A potential limitation of this study surrounds the use of the paper people approach (Carlson, 1969). Static stimuli images were used in the study and thus, participants had no personal contact or interaction with the candidates being evaluated. Because the participants involved in this study were actively involved in the pre-interview decisions of their branch, the evaluation of paper credentials is a realistic simulation of the decisions that they make when initially assessing the viability of a person’s candidacy and a measure for determining the potential bias in their judgments (Gorman, Clover, & Doherty, 1978; Guion & Gibson, 1988; Murphy, Herr, Lockhart, & Maguire, 1996; Stevenage & McKay, 1999).
Van Leeuwen and Macrae (2004) conducted a study using the paper people approach by using static images and information to evaluate the implicit impact of facial attractiveness and facial stereotypes on response generation. Participants included 36 college students (20 female and 16 male) who were asked to participate in a word-classification study. The experiment was composed of two facial photos (one attractive and one unattractive) for males and females and two-word valence (positive and negative). Participants in this study were exposed to stimuli and asked to associate the photo with one of the words given.

The results of this study revealed that facial stereotypes do, in fact, cause an involuntary effect on people’s reaction to targets from either gender, and both male and female participants demonstrated this stereotypical response (Van Leeuwen & Macrae, 2004). Within this study, the focus of the research, which was centered on associating faces with words, was intended to measure the automatic or instinctive response of participants, and thus was not as vulnerable to the usual paper people criticisms.

Advantages of the Paper People Approach

To overcome the limitations of the paper people approach, researchers have successfully conducted studies to confirm the external validity of the approach (Berscheid, 1981; Brown et al., 1986; Shahani et al., 1993). Through the careful selection of appropriate photographs and diligent research design, it was found that future studies could utilize this strategy with greater confidence (Stone et al., 1992). The paper people method can offer some distinct advantages to the overall design of a study. For example, using the paper people approach offers researchers an opportunity to more easily manipulate the variables of the experiment to meet the parameters established for the study (Cash et al., 1977). This gives the researcher an opportunity to select
stimuli that fit the requirements of the study and the opportunity to change the appearance of photos to strengthen the differentiation between the chosen stimuli. In addition, when using the paper people approach, participants are not required to retain information for long periods of time or to interpret ambiguous bits of information that might needlessly alter the findings of the study. This experimental control eliminates external variables that are extraneous to the study from impacting the findings and skewing the final observations (Hosoda et al., 2003).

Overcoming the Limitations of the Paper People Approach

To reduce the impact of the inherent limitations that come with the paper people approach, consideration should be given to the photos chosen; photos should be cropped to eliminate extra detail that might complicate or change the perceptions of individuals and impact the study's findings (Hosoda et al., 2003). It is essential that the photos used for studies such as these are as consistent as possible to ensure that the level of appropriateness (professionalism, dress, colors, etc.) is fixed. It is also advised that studies use more than two photos to offer participants an opportunity to choose an average option of attractiveness, rather than offering a choice of only attractive and unattractive (Posthuma et al., 2002).

It greatly enhances a study's validity if researchers operationalize the measure of physical attractiveness by conducting a pilot study to ask a similar sample population of raters to judge the photos before the study begins (Shahani et al., 1993). It has been reported that individuals tend to agree on who is and is not attractive, despite their differences in age, race, and gender. Therefore, this measure can be validated through a simple pilot test (Cash, Kehr, Polyson, & Freeman, 1977; Hatfield & Sprecher, 1986; Morrow, 1990). Due to the consistency in judgment of physical attractiveness over time (Dipboye, 1982; Hatfield & Sprecher, 1986; Umberson &
Hughes, 1987; Watkins & Johnson, 2000) researchers can use a set of photos in different stages of research without a concern that these judgments might have changed. The limitations of using this approach are further minimized if the study is reasonable in its measurement. For example, it is not realistic to ask participants to base a hiring decision on a candidate's paper credentials, but it is realistic to ask them to evaluate their interest in a candidate, which can be extended to draw the conclusion that this pre-interview impression would be an accurate judgment of the post-interview decision process.

Although the paper people approach remains a slight limitation for researchers investigating physical attractiveness, especially within employment research, a number of studies have found methods for overcoming or minimizing the impact of this limitation on their research (Berscheid, 1981; Brown et al., 1986; Shahani et al., 1993). With careful consideration, the advantages of this methodology can outweigh the disadvantages to offer a means for capturing important knowledge surrounding the study of physical attractiveness within certain contexts. Due to the nature of this study, the paper people approach represents the true essence of the initial stage of the hiring process.

**Practical Implications of the Current Study**

While there may be influences that remain unknown, it is clear that physical attractiveness and the interaction between a woman's appearance and her gender have significant implications within the employment context (Cowan et al., 1998). The present research suggests that the physical attractiveness stereotype is not as simple as it might first appear. While there are certainly advantages that come with being physically attractive, there are also distinct
disadvantages that must be considered when making employment decisions and personal assumptions both inside and outside of the employment environment.

Employers should be cautious about the level of unmitigated predisposition within the hiring process, as it can put the organization at risk for unethical or even illegal employment practices if they create barriers that exclude certain individuals without legitimate rationale (Kleinman & Farley, 1988). With the increased competition for talent and pressure for organizations to hire the right person for the job, it is increasingly difficult for companies to make good decisions.

As new sourcing tools and technologies become available to employers via the internet to investigate prospective employees, the opportunity for implicit bias to influence the hiring process will escalate. This study was designed to investigate potential implicit bias that could hinder an organization's success. The initial stage of the hiring process where the candidate's information is first reviewed is an important stage: a candidate has only a pass/fail opportunity to earn further consideration into the process. As the use of candidate photos becomes commonplace, it is important that organizational leaders become aware of their propensity to use physical attractiveness bias and stereotypes to make decisions. This study was targeted to investigate the impact of physical appearance on the hiring process for female candidates in a role that is traditionally considered a male-type supervisory role. The following chapter outlines the research methodology design for the study.
CHAPTER 3: METHODOLOGY

The purpose of this quantitative experimental study was to determine whether hiring managers are influenced by a female candidate's physical appearance when making employment decisions within an initial stage of the hiring process. To achieve this purpose actual managers, who are involved in the hiring process within two different organizations, were used as the focus of this study.

Research Design

The methodology of this dissertation was a quantitative study that involved conducting an experiment within two organizations wherein employment decisions such as this are made on a regular basis. To determine actual organizational behavior, the research participants work in the same organizations and have influence on the hiring decisions within those firms. The process involved the following steps:

1. Job Description: A job description was identified and refined to establish a tool that could be used to evaluate the candidate resumes. The descriptions used for this study were created by the organization and are actively used in the hiring process. Because the participating organizations and the job descriptions used by these organizations are very similar, there is no significant difference in the desired qualifications for this production supervisor position.

2. Resumes: Three resumes were sourced for the target position. Each of the resumes had qualifications for the production supervisor role (as indicated on the job descriptions) but each had a different level of qualification for the job (low, average, high).

3. Photographs: A set of three photographs was selected. Each of these photos were of females who are approximately the same age and weight (as a control element to eliminate the potential influence of other factors). The group of three photos was composed of one unattractive female, one female of average attractiveness, and one attractive female.
The resumes, photos, and job description were tested with a pilot group of hiring managers from the same population to validate their use and application for this study (Cash, Kehr, Polyson, & Freeman, 1977; Hatfield & Sprecher, 1986; Morrow, 1990). These managers were asked to rank the resumes according to their level of qualification for the position, from most to least qualified. The photos were evaluated by a sample of participants who were asked to rank the photos as most attractive, attractive, or least attractive. After each of these tools was tested, the formal process for research began. To meet the needs of the study, the resumes and photos were separated and paired by groups. For the main study, hiring managers were given three resumes, each with a photo of a candidate, and these managers were asked to rank the resumes according to their qualifications to determine who they would recommend to be considered for the identified position. The three resumes and three photos used for each participant were identical; the only difference was the pairing of each resume and photo.

It is difficult to accurately replicate authentic hiring practices in laboratory studies, especially in those studies involving only student participants as the decision-makers. Research has shown that people are influenced by the context of their decisions (Hamermesh & Biddle, 1994) and that organizational culture (Umberson & Hughes, 1987) and work groups (Reichers & Schneider, 1990) have the potential to influence the way that managers determine a candidate's fit for the specified job. Very few studies have considered that within most organizations, one person rarely makes hiring-decisions alone; instead, organizations often have a hiring team of key individuals within the organization that makes the decision collectively. At other organizations, the hiring manager makes the decision while considering the recommendations and feedback on the candidate (Gilmore, Beehr, & Love, 1986). It is also important to note that
not every employee in an organization is qualified or has earned the right to interview candidates and determine fit. Thus, the design of this study related to organizational hiring and the propensity for biased decisions was developed to consider the influence of the organization and of the hiring team, with its various types of members.

To improve the design of an employment study, it is important to make the activities as close to actual behaviors as possible in order to enhance the external validity of the findings, facilitating the application of meaningful knowledge within a practical setting (Gordon et al., 1986). When individuals join a group and make collective decisions, the accurate measure of their behavior is determined by the way that they respond to the norms and values demonstrated within the culture and shared mindset of the company (Paulhus, 1993; Schneider, 1987). Further, when people know that they are being tested, they are likely to change their behavior, but if a study can be conducted within the context of normal business, the data has the potential for more richness and meaning in its application in a practical setting and could help to pinpoint actions that could be taken to overcome identified challenges (Adair, 1984). Next, the study, organization, and employees should be clearly defined and framed to increase the potential that variables that may seem unimportant initially can be evaluated later for deeper exploration and understanding (Newman, & Krzystofiak, 1979).

The population that was explored was limited to those individuals within two small-size (<1,000 employees) manufacturing organizations within the Midwest region of the United States. These organizations are of similar size and structure with similar processes. The activities of each firm are almost identical and the qualifications sought for the target position of production supervisor are the same. This study involved 36 participants, nine men and nine women from
each organization ranging from 25 to 57 years of age, an average education level above a bachelor’s degree, and tenure with the respective organizations ranging from less than one year to 38 years. Each participant (hiring manager) involved within this study is a decision-maker in the hiring process for the production supervisor role. The first phase of research involved a smaller sample of ten, drawn from the same populations in the two organizations, to conduct a pilot test to help validate the photos, job description, and resumes being used in the main phase of the study. This pilot test was conducted in an attempt to ensure that the stimuli for the study were valid and reliable (Shahani et al., 1993).

The second phase of the study appeared to participants as an actual employment exercise. Morrow (1990) suggested that the findings of a study of this nature would be enhanced if participants had been professionals from the same organization, to simulate the actual behaviors of these individuals within their professional roles. These individuals reviewed three photos and three resumes that were asked to evaluate for the position, based on the description provided. These participants were asked to rank the candidates 1-3, with 1 = the most qualified and 3 = the least qualified to determine who would be interviewed for the job.

The participant’s demographic and work-related information was collected and coded to protect identities and to ensure the confidentiality of the data. A packet of material containing instructions to complete this exercise, three resumes (each with a stimulus photo at the top), an overview of the job, an envelope to return the response information in, and a sticker that was placed over the seal of the envelope before returning the response to the Human Resource Department. These packets were distributed to all participants using numbered envelopes so the Human Resource Director could assure that each envelope was given to the participant with the
correct demographic information. The data was collected from participants using coded envelopes which participants were instructed to seal before returning to keep the individual responses confidential.

By using a non-parametric test of quantitative analysis, the data collected from participants was evaluated to investigate the relationship between the stimulus’ level of physical attractiveness and qualifications and the intervening variables of each participant (Babbie, 2004; Gravetter & Wallnau, 2000). Using the Chi Square test of independence, the study investigated the findings to determine if there appeared to be a relationship between any two variables in the data, the strength of the relationship between any two variables in the data, the direction and shape of the relationship of the data, and the chi square was used to detect if the relationships that are present are due to intervening variables in the data. A contingency table will be provided to demonstrate the association between the variables involved within the study (Cooper & Schindler, 2006).

Limitations within the study included the relatively small sample size and the limited population and organizational involvement. The study was limited to female stimuli rather than investigating both female and male stimuli. The study was limited to the investigation of the pre-interview stage of the hiring process and did not offer the ability to determine the final decision to hire. The study was limited to the use of paper people and did not offer the dynamic interaction between participants and stimuli.

These limitations offered opportunities for the study, as well. The study was focused on a group of participants who work within the same two work environments and share in the decision-making process. The study was focused on only female stimuli and avoided the
potential for conflicting variables that might occur if the study were to include both male and female stimuli. Due to the nature of the field study, the participants evaluated the candidates within the context of the actual employment environment; thus eliminating the potential for other types of unidentified research bias. This study investigated the first stage of the hiring process with isolated variables, which allowed for targeting the decisions made during this critical stage in the employment process.

This study was conducted in an effort to offer a foundation for future work that presents research that can be generalized within organizations due to the practicality of the design. The opportunity to test theory and identify relationships that exist between variables could create a depth of knowledge upon which organizations can base decisions. By knowing the influence that physical appearance has in organizational hiring within a real-world setting, organizations can be better equipped to address these issues and account for them throughout the hiring process.

The immediate outcome sought within this study was to create a new level of understanding and awareness of variables that are not job related; yet might influence the hiring practices of the firm. Due to the tight market for talent and the challenge that companies face to maximize organizational outcomes, this study was conducted in an effort to inform organizations about factors that could jeopardize their ability to compete for future success.

The focal point of this study was to understand the relationship between a female candidate's physical appearance, qualifications, and the hiring decision to determine the impact that the physical attractiveness stereotype might have on hiring decisions.
The Effect of Female Attractiveness on Resume Ranking

Research Questions

This study investigated the following research questions:

Research Question 1: What do managers give more consideration during the pre-interview stage of the hiring process: qualifications or physical attractiveness?

Research Question 2: Is there a relationship between a female candidate's appearance and her acceptance into the subsequent stages of the interview process beyond the resume review?

Research Question 3: Is there a relationship between the gender of the manager assessing the candidate's qualifications and the level of influence of physical attractiveness?

Research Question 4: Is there a relationship between the age of a hiring manager assessing the candidate's qualifications and the level of influence of physical attractiveness?

Research Question 5: Is there a relationship between the martial status of a hiring manager and the ranking that manager assigns to a candidate?

Research Question 6: Is there a relationship between the organization where a hiring manager is employed and his or her recommendations about candidates?

Research Hypotheses

The research questions for the present study were addressed by the following hypotheses.

Hypothesis HO1: The decision of a hiring manager is independent of a female candidate’s high level of physical attractiveness.

Hypothesis HA1: The decision of a hiring manager is dependent on a female candidate’s high level of physical attractiveness.
Hypothesis HO2: The decision of a hiring manager is independent of a female candidate’s low level of physical attractiveness.

Hypothesis HA2: The decision of a hiring manager is dependent on a female candidate’s low level of physical attractiveness.

Hypothesis HO3: A hiring manager’s choice of the most qualified female candidate is independent of her high level of attractiveness.

Hypothesis HA3: A hiring manager’s choice of the most qualified female candidate is dependent on her high level of attractiveness.

Hypothesis HO4: A hiring manager’s choice of the most qualified female candidate is independent of her low level of attractiveness.

Hypothesis HA4: A hiring manager’s choice of the most qualified female candidate is dependent on her low level of attractiveness.

Hypothesis HO5: A hiring manager’s choice of the most attractive candidate is independent of her qualifications for the production supervisor job.

Hypothesis HA5: A hiring manager’s choice of the most attractive candidate is dependent on her qualifications for the production supervisor job.

Hypothesis HO6: A hiring manager’s choice of the least attractive candidate is independent of her qualifications for the production supervisor job.

Hypothesis HA6: A hiring manager’s choice of the least attractive candidate is dependent on her qualifications for the production supervisor job.

Hypothesis HO7: A hiring manager’s choice of the most qualified candidate is independent of the hiring manager’s gender.
Hypothesis HA7: A hiring manager’s choice of the most qualified candidate is dependent on the hiring manager’s gender.

Hypothesis HO8: A hiring manager’s choice of the most attractive candidate is independent of the hiring manager’s gender.

Hypothesis HA8: A hiring manager’s choice of the most attractive candidate is dependent on the hiring manager’s gender.

Hypothesis HO9: A hiring manager’s choice of the least attractive candidate is independent of the hiring manager’s gender.

Hypothesis HA9: A hiring manager’s choice of the least attractive candidate is dependent on the hiring manager’s gender.

Hypothesis HO10: The most qualified candidate will be selected is independent of a hiring manager’s age group (under 40 / 40 and older).

Hypothesis HA10: The most qualified candidate will be selected is dependent on a hiring manager’s age group (under 40 / 40 and older).

Hypothesis HO11: A hiring manager’s choice of the most attractive candidate is independent of the hiring manager’s age group (under 40 / 40 and older).

Hypothesis HA11: A hiring manager’s choice of the most attractive candidate is dependent on the hiring manager’s age group (under 40 / 40 and older).

Hypothesis H012: A hiring manager’s choice of the least attractive candidate is independent of the hiring manager’s age group (under 40 / 40 and older).

Hypothesis HA12: A hiring manager’s choice of the least attractive candidate is dependent on the hiring manager’s age group (under 40 / 40 and older).
Hypothesis HO1: A hiring manager’s choice of the most qualified candidate is independent of the hiring manager’s marital status.

Hypothesis HA1: A hiring manager’s choice of the most qualified candidate is dependent on the hiring manager’s marital status.

Hypothesis HO2: A hiring manager’s choice of the most attractive candidate is independent of the hiring manager’s marital status.

Hypothesis HA2: A hiring manager’s choice of the most attractive candidate is dependent on the hiring manager’s marital status.

Hypothesis HO3: A hiring manager’s choice of the least attractive candidate is independent of the hiring manager’s marital status.

Hypothesis HA3: A hiring manager’s choice of the least attractive candidate is dependent on the hiring manager’s marital status.

Hypothesis HO4: A hiring manager’s selection of the most qualified candidate is independent of the organization where that hiring manager is employed.

Hypothesis HA4: A hiring manager’s selection of the most qualified candidate is dependent on the organization where that hiring manager is employed.

Hypothesis HO5: A hiring manager’s selection of the most attractive candidate is independent of the organization where that hiring manager is employed.

Hypothesis HA5: A hiring manager’s selection of the most attractive candidate is dependent on the organization where that hiring manager is employed.

Hypothesis HO6: A hiring manager’s selection of the least attractive candidate is independent of the organization where that hiring manager is employed.

Hypothesis HA6: A hiring manager’s selection of the least attractive candidate is dependent on the organization where that hiring manager is employed.
Hypothesis HA18: A hiring manager’s selection of the least attractive candidate is dependent on the organization where that hiring manager is employed.

Investigative Questions

The following investigative questions were explored within this study to examine the impact of appearance within the initial stage of the hiring process.

Question 1: Does the level of a female candidate’s attractiveness impact the likelihood of being selected for further stages of the hiring process (beyond the pre-interview phase)?

Question 2: Does the gender of a participant (hiring manager) influence the type of decisions being made within the screening process for candidates?

Question 3: Does the participant's (hiring manager's) age influence his or her bias regarding the attractiveness of a candidate when making pre-interview decisions regarding hiring?

Question 4: Does the participant’s (hiring manager’s) marital status influence his or her decisions?

Question 5: Do participant’s decisions seem consistent within each organization and between the two organizations involved within this study?

Independent and Dependent Variables

The present study involved three independent variables and one dependent variable. An independent variable is a stimulus and often something that is manipulated by the researcher, while a dependent variable is a measured behavior, consequence, or a response to that stimulus.
(Cozby, 2004). The first set of independent variables is the resumes and associated photos that will be used for each participant to evaluate (see Table 1). The job description for the proposed job is the second independent variable involved within this study; this description will provide participants a detailed understanding of the position, the expectations, and the necessary qualifications for the job. This description is the focal point for the participant's reference to measure the stimuli candidate's qualifications. The gender of each participant will be the third independent variable involved within the study. The dependent variable for this study will be the ranked responses from the participants of the study (organizational decision-makers involved in the study).

Sample Design: Population and Sampling Frame

The research for this study was conducted with employees from two organizations who are responsible for employment decisions for their company. The population to which this study applies includes all employees in U.S. based organizations that participation in hiring processes outside of their own direct reports. A sampling frame (Abnor & Bjerke, 1997) consisted of employees who are involved in the hiring process, as determined by their position within the organization, as given by Human Resources. A stratified random sample (Cooper & Schindler, 2006) of 36 (18 from each organization) was drawn from this population to ensure a balanced representation of the decision makers within each organization.
Table 1. *Independent Variables*

<table>
<thead>
<tr>
<th>Values</th>
<th>Resume</th>
<th>Photo</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>Most Qualified</td>
<td>Attractive</td>
</tr>
<tr>
<td>1b</td>
<td>Most Qualified</td>
<td>Most Attractive</td>
</tr>
<tr>
<td>1c</td>
<td>Most Qualified</td>
<td>Least Attractive</td>
</tr>
<tr>
<td>1d</td>
<td>Qualified</td>
<td>Attractive</td>
</tr>
<tr>
<td>1e</td>
<td>Qualified</td>
<td>Most Attractive</td>
</tr>
<tr>
<td>1f</td>
<td>Qualified</td>
<td>Least Attractive</td>
</tr>
<tr>
<td>1g</td>
<td>Least Qualified</td>
<td>Attractive</td>
</tr>
<tr>
<td>1h</td>
<td>Least Qualified</td>
<td>Most Attractive</td>
</tr>
<tr>
<td>1i</td>
<td>Least Qualified</td>
<td>Least Attractive</td>
</tr>
</tbody>
</table>

2 Job Description
3 Participant Gender

**Data Collection**

The population explored was limited to those individuals within the organization who are involved in the hiring process. It is reasonable to assume that those without this organizational responsibility have no influence in the hiring process and no impact on the decisions being made. The first phase of the research involved a smaller sample of five individuals within each group, drawn from the same population, for the purpose of conducting a pilot test to validate the photos, job description, and resumes being used within the main phase of the study. This pilot study ensured that the stimuli for the primary study were valid and reliable (Abnor & Bjerke, 1997). Only if all five participants unanimously agreed on the rankings of the three photos, will those
photos be utilized; otherwise, a new set of photos will have been chosen for ranking by the pilot group. It was important that the ranking be treated as an expectation that other men would likely choose. The second phase of the study appeared to participants as an actual employment situation. These chosen individuals reviewed the three photos from the first phase and three resumes that they needed to evaluate for the given position description. These participants were asked to rank each of the three candidates to determine who would be interviewed for the job.

Pre-interview impressions such as those being measured within this proposed design have been found to influence the post-interview evaluation and thus, the final employment decision (Cascio & Valenzi, 1977; Cash, Gillen, & Burns, 1977). It is important to note that this study did not attempt to ask participants to make a yes or no hiring decision based on these paper credentials. It would not be realistic to ask a hiring team member which candidate he or she would recommend for hire without completing the hiring process by following the remaining customary steps involved. Asking participants to rank a group of candidates according to their qualifications and overall fit for the job created a realistic and natural pre-interview setting that put participants into a context that more accurately measures their behavior in a routine employment setting. The participants’ demographic and work related information was collected and coded to protect identities and to ensure the confidentiality of the data.

Data Analysis

SPSS for Windows Version 13.0 was utilized to calculate the statistical data for this study. The hypotheses that are the center of this study were tested using chi-square techniques.
Summary

This methodology chapter focused on the overall approach that was used for this study, including: the design, the sample, and the data collection used for the forthcoming study designed to investigate the potential impact of a candidate's physical appearance on the pre-interview stage of the employment process.
CHAPTER 4: ANALYSIS AND PRESENTATION OF FINDINGS

The purpose of this study was to investigate if the What is Beautiful is Good or Beauty is Beastly phenomenons still exist within current organizational settings and also to investigate any differences between how women and men of different generations and marital status' might respond to female candidates with relation to their attractiveness level and qualifications. The data used in this study was collected from participants who work for two different Midwestern manufacturing organizations and are decision-makers within the hiring process for the target position of production supervisor. This chapter describes results of the Chi-Square Test of Independence and provides a brief analysis of the findings.

Results

Test of Hypothesis 1

Hypothesis HO1 states that the decision of a hiring manager is independent of a female candidate’s high level of physical attractiveness. Table 2 summarizes the results of the Chi-Square Test of Independence. The resulting $p$-value for this test of independence ($\alpha = .031$) was below the significance level of .05 ($p < .05$). Therefore, the null hypothesis stating that the decision of a hiring manager is independent of a candidate’s high attractiveness was rejected. In fact, the female candidate’s with high attractiveness were selected 42% of the time when they were not the most qualified.
Table 2. Crosstabulation and Chi-Square Test of Independence *(Hypothesis 1)*

<table>
<thead>
<tr>
<th>Was the most attractive candidate chosen?</th>
<th>Count</th>
<th>% within Was the most attractive candidate chosen?</th>
<th>% within Was the most attractive candidate the most qualified?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Was the most attractive candidate chosen?</td>
<td>No</td>
<td>19</td>
<td>79.2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>20.8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>5</td>
<td>41.7%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>58.3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>100.0%</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>24</td>
<td>66.7%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>33.3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>100.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test Statistics</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>5.063&lt;sup&gt;b&lt;/sup&gt;</td>
<td>1</td>
<td>.024</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity&lt;sub&gt;a&lt;/sub&gt; Correction</td>
<td>3.516</td>
<td>1</td>
<td>.061</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>4.965</td>
<td>1</td>
<td>.026</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td></td>
<td></td>
<td>.058</td>
<td>.031</td>
<td></td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>4.922</td>
<td>1</td>
<td>.027</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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*Computed only for a 2x2 table*

*1 cells (25.0%) have expected count less than 5. The minimum expected count is 4. 00.*
Test of Hypothesis 2

Hypothesis HO2 states that the decision of a hiring manager is independent of a female candidate’s low level of physical attractiveness. Table 3 summarizes the results of the Chi-Square Test of Independence.

Table 3. Crosstabulation and Chi-Square Test of Independence (Hypothesis 2)

<table>
<thead>
<tr>
<th>Was the least attractive candidate chosen?</th>
<th>No</th>
<th>Yes</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Count</td>
<td>23</td>
<td>2</td>
<td>25</td>
</tr>
<tr>
<td>% within Was the least attractive candidate chosen?</td>
<td>92.0%</td>
<td>8.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% within Was the least attractive candidate the most qualified?</td>
<td>95.8%</td>
<td>16.7%</td>
<td>69.4%</td>
</tr>
<tr>
<td>Yes</td>
<td>1</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>% within Was the least attractive candidate chosen?</td>
<td>9.1%</td>
<td>90.9%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% within Was the least attractive candidate the most qualified?</td>
<td>4.2%</td>
<td>83.3%</td>
<td>30.6%</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>12</td>
<td>36</td>
</tr>
<tr>
<td>% within Was the least attractive candidate chosen?</td>
<td>66.7%</td>
<td>33.3%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
Table 3  *Continued.* Crosstabulation and Chi-Square Test of Independence (*Hypothesis 2*)

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>23.629b</td>
<td>1</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correctiond</td>
<td>20.045</td>
<td>1</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>25.189</td>
<td>1</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher’s Exact Test</td>
<td></td>
<td></td>
<td>.000</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>22.973</td>
<td>1</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Computed only for a 2x2 table
b. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.67.

The resulting p-value for this test of independence \( (α = .000) \) was below the significance level of .05 \( (p < .05) \). Therefore, the null hypothesis stating that the decision of a hiring manager is independent of the fact that a candidate was least attractive was rejected. In fact, the results indicate that candidates who are less attractive were selected regardless of qualifications.

**Test of Hypothesis 3**

Hypothesis HO3 states that a hiring manager’s choice of the most qualified female candidate is independent of her high level of attractiveness. Table 4 summarizes the results of the Chi-Square Test of Independence. The resulting p-value for this test of independence \( (α = .214) \) was above the significance level of .05 \( (p > .05) \). Therefore, the null hypothesis is not rejected. There is insufficient evidence to conclude that a hiring manager’s selection of a qualified female candidate is dependent on her high level of physical attractiveness.
Table 4. Crosstabulation and Chi-Square Test of Independence (*Hypothesis 3*)

<table>
<thead>
<tr>
<th>Was the most qualified candidate chosen?</th>
<th>No Count</th>
<th>% within Was the most qualified candidate chosen?</th>
<th>% within Was the most attractive candidate chosen?</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>4</td>
<td>40.0%</td>
<td>20.0%</td>
</tr>
<tr>
<td>Yes</td>
<td>16</td>
<td>61.5%</td>
<td>80.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Count</th>
<th>% within Was the most qualified candidate chosen?</th>
<th>% within Was the most attractive candidate chosen?</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>55.6%</td>
<td>100.0%</td>
</tr>
<tr>
<td>16</td>
<td>44.4%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>1.357</td>
<td>1</td>
<td>.244</td>
<td></td>
</tr>
<tr>
<td>Continuity Correction</td>
<td>.625</td>
<td>1</td>
<td>.429</td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>1.355</td>
<td>1</td>
<td>.244</td>
<td></td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>1.319</td>
<td>1</td>
<td>.251</td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Test of Hypothesis 4

Hypothesis H04 states that a hiring manager’s choice of the most qualified female candidate is independent of her low level of attractiveness. Table 5 summarizes the results of the Chi-Square Test of Independence. The resulting p-value for this test of independence ($\alpha = .101$) was above the significance level of $.05 (p > .05)$. Therefore, the null hypothesis is not rejected. There is insufficient evidence to conclude that a hiring manager’s selection of a qualified female candidate is dependent on her low level of physical attractiveness.

Table 5. Crosstabulation and Chi-Square Test of Independence (Hypothesis 4)

<table>
<thead>
<tr>
<th>Was the most qualified candidate chosen?</th>
<th>Was the least attractive candidate chosen?</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>No</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>% within Was the most qualified candidate chosen?</td>
<td>90.0%</td>
</tr>
<tr>
<td></td>
<td>% within Was the least attractive candidate chosen?</td>
<td>36.0%</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>% within Was the most qualified candidate chosen?</td>
<td>61.5%</td>
</tr>
<tr>
<td></td>
<td>% within Was the least attractive candidate chosen?</td>
<td>64.0%</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>% within Was the most qualified candidate chosen?</td>
<td>61.5%</td>
</tr>
<tr>
<td></td>
<td>% within Was the least attractive candidate chosen?</td>
<td>64.0%</td>
</tr>
</tbody>
</table>
Table 5 *Continued.* Crosstabulation and Chi-Square Test of Independence (*Hypothesis 4*)

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>2.757&lt;sup&gt;b&lt;/sup&gt;</td>
<td>1</td>
<td>0.97</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity&lt;sub&gt;a&lt;/sub&gt; Correction</td>
<td>1.579</td>
<td>1</td>
<td>0.209</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>3.168</td>
<td>1</td>
<td>0.075</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher’s Exact Test</td>
<td></td>
<td></td>
<td></td>
<td>0.127</td>
<td>0.101</td>
</tr>
<tr>
<td>Linear-by-Linear</td>
<td>2.681</td>
<td>1</td>
<td>0.102</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Association</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- <sup>a</sup> Computed only for a 2x2 table
- <sup>b</sup> 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.06.

**Test of Hypothesis 5**

Hypothesis HO5 states that a hiring manager’s choice of the most attractive candidate is independent of whether she was also the most qualified. Table 6 summarizes the results of the Chi-Square Test of Independence. The resulting p-value for this test of independence (α = .031) was below the significance level of .05 (p < .05). Therefore, the null hypothesis stating that a hiring manager’s choice of the most attractive candidate is independent of whether she was also the most qualified was rejected. In fact, the results seemed to indicate that when the most attractive female was chosen, she was probably the most qualified candidate too.
Table 6. Crosstabulation and Chi-Square Test of Independence (*Hypothesis 5*)

<table>
<thead>
<tr>
<th>Was the most attractive candidate chosen?</th>
<th>Count</th>
<th>% within</th>
<th>% within</th>
<th>% within</th>
<th>% within</th>
</tr>
</thead>
<tbody>
<tr>
<td>Was the most attractive candidate chosen?</td>
<td>No</td>
<td>19</td>
<td>79.2%</td>
<td>20.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>5</td>
<td>7.6%</td>
<td>22.2%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% within Was the most attractive candidate chosen?</td>
<td>79.2%</td>
<td>20.8%</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Was the most attractive candidate the most qualified?</td>
<td>41.7%</td>
<td>58.3%</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>12</td>
<td>36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Was the most attractive candidate chosen?</td>
<td>66.7%</td>
<td>33.3%</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statistical Test</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>5.063b</td>
<td>1</td>
<td>.024</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correction</td>
<td>3.516</td>
<td>1</td>
<td>.061</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>4.965</td>
<td>1</td>
<td>.026</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td></td>
<td></td>
<td></td>
<td>.058</td>
<td>.031</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>4.922</td>
<td>1</td>
<td>.027</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*a. Computed only for a 2x2 table  
b. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 4. 00.*
Test of Hypothesis 6

Hypothesis H06 states that a hiring manager’s choice of the least attractive candidate is independent of whether she was also the most qualified. Table 7 summarizes the results of the Chi-Square Test of Independence. The resulting $p$-value for this test of independence ($\alpha = .000$) was below the significance level of .05 ($p < .05$). Therefore, the null hypothesis stating that a hiring manager’s choice of the least attractive candidate is independent of whether she was also the most qualified was rejected. In fact, the results seemed to indicate that when the least attractive female was chosen, she was probably the most qualified candidate too.

Table 7. Crosstabulation and Chi-Square Test of Independence (Hypothesis 6)

<table>
<thead>
<tr>
<th>Was the least attractive candidate the most qualified?</th>
<th>Count</th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Was the least attractive candidate the most qualified?</td>
<td>23</td>
<td>1</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>% within Was the least attractive candidate chosen?</td>
<td>95.8%</td>
<td>4.2%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>% within Was the least attractive candidate the most qualified?</td>
<td>92.0%</td>
<td>9.1%</td>
<td>66.7%</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Was the least attractive candidate the most qualified?</td>
<td>2</td>
<td>10</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>% within Was the least attractive candidate chosen?</td>
<td>16.7%</td>
<td>83.3%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>% within Was the least attractive candidate the most qualified?</td>
<td>8.0%</td>
<td>90.9%</td>
<td>33.3%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>25</td>
<td>11</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>% within Was the least attractive candidate the most qualified?</td>
<td>69.4%</td>
<td>30.6%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>% within Was the least attractive candidate chosen?</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td></td>
</tr>
</tbody>
</table>
Table 7 *Continued.* Crosstabulation and Chi-Square Test of Independence (*Hypothesis 6*)

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>23.629b</td>
<td>1</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correctiona</td>
<td>20.045</td>
<td>1</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>25.189</td>
<td>1</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td></td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Linear-by-Linear</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Association</td>
<td>22.973</td>
<td>1</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Computed only for a 2x2 table
b. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.67.

*Test of Hypothesis Seven*

Hypothesis HO7 states that the hiring manager’s choice of the most qualified candidate is independent of the hiring manager’s gender. Table 8 summarizes the results of the Chi-Square Test of Independence. The resulting *p*-value for this test of independence (*α = .132*) was above the significance level of .05 (*p > .05*). Therefore, the null hypothesis is not rejected. There is insufficient evidence to conclude that a hiring manager’s selection of a qualified female candidate is dependent on the hiring manager’s gender.
### Table 8. Crosstabulation and Chi-Square Test of Independence (Hypothesis 7)

<table>
<thead>
<tr>
<th>Was the most qualified candidate chosen?</th>
<th>No</th>
<th>Count</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>% within Was the most qualified candidate chosen?</td>
<td>30.0%</td>
<td>70.0%</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Gender</td>
<td>16.7%</td>
<td>38.9%</td>
<td>27.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>15</td>
<td>11</td>
<td>26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Was the most qualified candidate chosen?</td>
<td>57.7%</td>
<td>42.3%</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Gender</td>
<td>83.3%</td>
<td>61.1%</td>
<td>72.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>18</td>
<td>36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Was the most qualified candidate chosen?</td>
<td>50.0%</td>
<td>50.0%</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Gender</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statistical Test</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>2.215b</td>
<td>1</td>
<td>.137</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correction a</td>
<td>1.246</td>
<td>1</td>
<td>.264</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>2.263</td>
<td>1</td>
<td>.132</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td></td>
<td></td>
<td></td>
<td>.264</td>
<td>.132</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>2.154</td>
<td>1</td>
<td>.142</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **a.** Computed only for a 2x2 table
- **b.** 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.00.
Test of Hypothesis 8

Hypothesis HO8 states that hiring manager’s choice of the most attractive candidate is independent of the hiring manager’s gender. Table 9 summarizes the results of the Chi-Square Test of Independence. The resulting p-value for this test of independence ($\alpha = .369$) was above the significance level of .05 ($p > .05$). Therefore, the null hypothesis is not rejected. There is insufficient evidence to conclude that a hiring manager’s selection of an attractive female candidate is dependent on the hiring manager’s gender.

Table 9. Crosstabulation and Chi-Square Test of Independence (Hypothesis 8)

<table>
<thead>
<tr>
<th>Was the most attractive candidate chosen?</th>
<th>Count</th>
<th>% within Was the most attractive candidate chosen?</th>
<th>% within Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>11</td>
<td>55%</td>
<td>61.1%</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>45%</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>100.0%</td>
<td>55.6%</td>
</tr>
<tr>
<td>Yes</td>
<td>7</td>
<td>43.8%</td>
<td>38.9%</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>56.3%</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>100.0%</td>
<td>44.4%</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>50.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>50.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>36</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
Table 9 *Continued*. Crosstabulation and Chi-Square Test of Independence (*Hypothesis 8*)

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>.450b</td>
<td>1</td>
<td>.502</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correction a</td>
<td>.113</td>
<td>1</td>
<td>.737</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>.451</td>
<td>1</td>
<td>.502</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td></td>
<td></td>
<td></td>
<td>.738</td>
<td>.369</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>.438</td>
<td>1</td>
<td>.508</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Computed only for a 2x2 table
b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 8.00.

*Test of Hypothesis 9*

Hypothesis HO9 states that hiring manager’s choice of the least attractive candidate is independent of the hiring manager’s gender. Table 10 summarizes the results of the Chi-Square Test of Independence. The resulting *p*-value for this test of independence (*α = .500*) was above the significance level of .05 (*p > .05*). Therefore, the null hypothesis is not rejected. There is insufficient evidence to conclude that a hiring manager’s selection of the least attractive female candidate is dependent on the hiring manager’s gender.
Table 10. Crosstabulation and Chi-Square Test of Independence (*Hypothesis 9*)

<table>
<thead>
<tr>
<th>Was the least attractive candidate chosen?</th>
<th>Count</th>
<th>% within Gender</th>
<th>% within Was the least attractive candidate chosen?</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>12</td>
<td>48.0%</td>
<td>66.7%</td>
</tr>
<tr>
<td>Female</td>
<td>13</td>
<td>52.0%</td>
<td>72.2%</td>
</tr>
<tr>
<td>Total</td>
<td>25</td>
<td>100.0%</td>
<td>69.4%</td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>6</td>
<td>54.5%</td>
<td>33.3%</td>
</tr>
<tr>
<td>Female</td>
<td>5</td>
<td>45.5%</td>
<td>27.8%</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>100.0%</td>
<td>30.6%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Count</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>18</td>
<td>36</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statistical Tests</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>.131b</td>
<td>1</td>
<td>.717</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correction</td>
<td>.000</td>
<td>1</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>.131</td>
<td>1</td>
<td>.717</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td>.131</td>
<td>1</td>
<td>.717</td>
<td>1.000</td>
<td>.500</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>.127</td>
<td>1</td>
<td>.721</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Computed only for a 2x2 table
b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.50.
Test of Hypothesis 10

Hypothesis HO10 stated that the most qualified candidate will be selected is independent of a hiring manager’s age group (under 40 / 40 and older). Table 11 summarizes the results of the Chi-Square Test of Independence. The resulting \( p \)-value for this test of independence (\( \alpha = .527 \)) was above the significance level of .05 (\( p > .05 \)). Therefore, the null hypothesis is not rejected. There is insufficient evidence to conclude that a hiring manager’s selection of the most qualified female candidate is dependent on the hiring manager’s age.

<table>
<thead>
<tr>
<th>Was the most qualified candidate chosen?</th>
<th>No</th>
<th>Count</th>
<th>Under 40</th>
<th>Over 40</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>% within Was the most qualified candidate chosen?</td>
<td>60.0%</td>
<td>40.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% within Evaluator's Age Group</td>
<td>26.1%</td>
<td>30.8%</td>
<td>27.8%</td>
</tr>
<tr>
<td>Yes</td>
<td>17</td>
<td>Count</td>
<td>9</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>% within Was the most qualified candidate chosen?</td>
<td>65.4%</td>
<td>34.6%</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% within Evaluator's Age Group</td>
<td>73.9%</td>
<td>69.2%</td>
<td>72.2%</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>Count</td>
<td>13</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>% within Was the most qualified candidate chosen?</td>
<td>63.9%</td>
<td>36.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% within Evaluator's Age Group</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
The Effect of Female Attractiveness on Resume Ranking

Table 11 Continued. Crosstabulation and Chi-Square Test of Independence (Hypothesis 10)

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>.091^b</td>
<td>1</td>
<td>.763</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correction</td>
<td>.000</td>
<td>1</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>.090</td>
<td>1</td>
<td>.764</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td></td>
<td></td>
<td></td>
<td>1.000</td>
<td>.527</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>.088</td>
<td>1</td>
<td>.766</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N of Valid Cases 36

a. Computed only for a 2x2 table

b. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3. 61.

Test of Hypothesis 11

Hypothesis HO11 stated that the hiring manager’s choice of the most attractive candidate is independent of the hiring manager’s age group (under 40 / 40 and older). Table 12 summarizes the results of the Chi-Square Test of Independence. The resulting p-value for this test of independence (α = .195) was above the significance level of .05 (p > .05). Therefore, the null hypothesis is not rejected. There is insufficient evidence to conclude that a hiring manager’s selection of the most attractive female candidate is dependent on the hiring manager’s age.
Table 12. Crosstabulation and Chi-Square Test of Independence (*Hypothesis 11*)

<table>
<thead>
<tr>
<th>Was the most attractive candidate chosen?</th>
<th>No</th>
<th>Count</th>
<th>% within Was the most attractive candidate chosen?</th>
<th>% within Evaluator's Age Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>17</td>
<td>70.8%</td>
<td>73.9%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7</td>
<td>29.2%</td>
<td>53.8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24</td>
<td>100.0%</td>
<td>66.7%</td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td>6</td>
<td>50.0%</td>
<td>26.1%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td>50.0%</td>
<td>46.2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12</td>
<td>100.0%</td>
<td>33.3%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>23</td>
<td>63.9%</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13</td>
<td>36.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>36</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>1.505</td>
<td>1</td>
<td>.220</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correction</td>
<td>.737</td>
<td>1</td>
<td>.390</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>1.482</td>
<td>1</td>
<td>.223</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td></td>
<td></td>
<td></td>
<td>.281</td>
<td>.195</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>1.463</td>
<td>1</td>
<td>.226</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Computed only for a 2x2 table*

*b. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 4. 33.*
Test of Hypothesis 12

Hypothesis HO12 stated that the hiring manager’s choice of the least attractive candidate is independent of the hiring manager’s age group (under 40 / 40 and older). Table 13 summarizes the results of the Chi-Square Test of Independence. The resulting p-value for this test of independence ($\alpha = .633$) was above the significance level of .05 ($p > .05$). Therefore, the null hypothesis is not rejected. There is insufficient evidence to conclude that a hiring manager’s selection of the least attractive female candidate is dependent on the hiring manager’s age.

<table>
<thead>
<tr>
<th>Was the least attractive candidate chosen?</th>
<th>No</th>
<th>Count</th>
<th>Under 40</th>
<th>Over 40</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% within Was the least attractive candidate chosen?</td>
<td>64.0%</td>
<td>36.0%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% within Evaluator's Age Group</td>
<td>69.6%</td>
<td>69.2%</td>
<td>69.4%</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>Count</td>
<td>7</td>
<td>4</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% within Was the least attractive candidate chosen?</td>
<td>63.6%</td>
<td>36.4%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% within Evaluator's Age Group</td>
<td>30.4%</td>
<td>30.8%</td>
<td>30.6%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>23</td>
<td>13</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% within Was the least attractive candidate chosen?</td>
<td>63.9%</td>
<td>36.1%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% within Evaluator's Age Group</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td></td>
</tr>
</tbody>
</table>
Table 13 *Continued.* Crosstabulation and Chi-Square Test of Independence (*Hypothesis 12*)

<table>
<thead>
<tr>
<th>Type</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>.000&lt;sup&gt;b&lt;/sup&gt;</td>
<td>1</td>
<td>.983</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correction&lt;sub&gt;a&lt;/sub&gt;</td>
<td>.000</td>
<td>1</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>.000</td>
<td>1</td>
<td>.983</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td></td>
<td></td>
<td></td>
<td>1.000</td>
<td>.633</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>.000</td>
<td>1</td>
<td>.984</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>. Computed only for a 2x2 table

<sup>b</sup>. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.97.

**Test of Hypothesis 13**

Hypothesis HO13 stated that the hiring manager’s choice of the most qualified candidate is independent of the hiring manager’s marital status. Table 14 summarizes the results of the Chi-Square Test of Independence. The resulting $p$-value for this test of independence ($\alpha = .486$) was above the significance level of .05 ($p > .05$). Therefore, the null hypothesis is not rejected.

There is insufficient evidence to conclude that a hiring manager’s selection of the most qualified female candidate is dependent on the hiring manager’s marital status.
Table 14. Crosstabulation and Chi-Square Test of Independence (*Hypothesis 13*)

<table>
<thead>
<tr>
<th>Was the most qualified candidate chosen?</th>
<th>Count</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td></td>
<td>Single</td>
<td>Married</td>
<td>Total</td>
</tr>
<tr>
<td>% within Was the most qualified candidate chosen?</td>
<td></td>
<td>30.0%</td>
<td>70.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% within Marital Status</td>
<td>33.3%</td>
<td>25.9%</td>
<td>27.8%</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>6</td>
<td>20</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>% within Was the most qualified candidate chosen?</td>
<td>23.1%</td>
<td>76.9%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>% within Marital Status</td>
<td>66.7%</td>
<td>74.1%</td>
<td>72.2%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>27</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>% within Was the most qualified candidate chosen?</td>
<td>25.0%</td>
<td>75.0%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>% within Marital Status</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>.185</td>
<td>1</td>
<td>.667</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correction</td>
<td>.000</td>
<td>1</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>.180</td>
<td>1</td>
<td>.671</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td></td>
<td></td>
<td></td>
<td>.686</td>
<td>.486</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>.179</td>
<td>1</td>
<td>.672</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Computed only for a 2x2 table

b. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 2.50.
Test of Hypothesis 14

Hypothesis HO14 stated that the hiring manager’s choice of the most attractive candidate is independent of the hiring manager’s marital status. Table 15 summarizes the results of the Chi-Square Test of Independence. The resulting $p$-value for this test of independence ($\alpha = .335$) was above the significance level of .05 ($p > .05$). Therefore, the null hypothesis can not be rejected. There is insufficient evidence to conclude that a hiring manager’s selection of the most attractive female candidate is dependent on the hiring manager’s marital status.

Table 15. Crosstabulation and Chi-Square Test of Independence (Hypothesis 14)

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Single</th>
<th>Married</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Was the most attractive candidate chosen?</td>
<td>No</td>
<td>Count</td>
<td>5</td>
</tr>
<tr>
<td>% within Was the most attractive candidate chosen?</td>
<td>20.8%</td>
<td>79.2%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% within Marital Status</td>
<td>55.6%</td>
<td>70.4%</td>
<td>66.7%</td>
</tr>
<tr>
<td>Yes</td>
<td>Count</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>% within Was the most attractive candidate chosen?</td>
<td>33.3%</td>
<td>66.7%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% within Marital Status</td>
<td>44.4%</td>
<td>29.6%</td>
<td>33.3%</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>9</td>
<td>27</td>
</tr>
<tr>
<td>% within Was the most attractive candidate chosen?</td>
<td>25.0%</td>
<td>75.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% within Marital Status</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
### Table 15 Continued. Crosstabulation and Chi-Square Test of Independence (Hypothesis 14)

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>.667&lt;sup&gt;b&lt;/sup&gt;</td>
<td>1</td>
<td>.414</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correction&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.167</td>
<td>1</td>
<td>.683</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>.648</td>
<td>1</td>
<td>.421</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td></td>
<td></td>
<td>.443</td>
<td>.335</td>
<td></td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>.648</td>
<td>1</td>
<td>.421</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> Computed only for a 2x2 table

<sup>b</sup> 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.

---

**Test of Hypothesis 15**

Hypothesis HO15 stated that the hiring manager’s choice of the least attractive candidate is independent of the hiring manager’s marital status. Table 16 summarizes the results of the Chi-Square Test of Independence. The resulting $p$-value for this test of independence ($\alpha = .429$) was above the significance level of .05 ($p > .05$). Therefore, the null hypothesis can not be rejected. There is insufficient evidence to conclude that a hiring manager’s selection of the least attractive female candidate is dependent on the hiring manager’s marital status.
Table 16. Crosstabulation and Chi-Square Test of Independence (*Hypothesis 15*)

<table>
<thead>
<tr>
<th>Was the least attractive candidate chosen?</th>
<th>Count</th>
<th>% within Was the least attractive candidate chosen?</th>
<th>% within Marital Status</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>Count</td>
<td>% within Was the least attractive candidate chosen?</td>
<td>% within Marital Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>28.0%</td>
<td>77.8%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>72.0%</td>
<td>66.7%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>100.0%</td>
<td>69.4%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>Count</td>
<td>% within Was the least attractive candidate chosen?</td>
<td>% within Marital Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>18.2%</td>
<td>22.2%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>81.8%</td>
<td>33.3%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>100.0%</td>
<td>30.6%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>% within Was the least attractive candidate chosen?</td>
<td>% within Marital Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>25.0%</td>
<td>100.0%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>27</td>
<td>75.0%</td>
<td>100.0%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>36</td>
<td>100.0%</td>
<td>100.0%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>.393</td>
<td>1</td>
<td>.531</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correctiona</td>
<td>.044</td>
<td>1</td>
<td>.835</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>.409</td>
<td>1</td>
<td>.522</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher’s Exact Test</td>
<td></td>
<td></td>
<td>.690</td>
<td>.429</td>
<td></td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>.382</td>
<td>1</td>
<td>.537</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*a. Computed only for a 2x2 table
*b. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 2.75.*
Test of Hypothesis 16

Hypothesis HO16 states that the hiring manager’s selection of the most qualified candidate is independent of the company where the hiring manager works. Table 17 summarizes the results of the Chi-Square Test of Independence. The resulting $p$-value for this test of independence ($\alpha = .356$) was above the significance level of .05 ($p > .05$). Therefore, the null hypothesis can not be rejected. There is insufficient evidence to conclude that a hiring manager’s selection of the most qualified candidate is dependent on the hiring manager’s place of employment.

Table 17. Crosstabulation and Chi-Square Test of Independence (Hypothesis 16)

<table>
<thead>
<tr>
<th>Was the most qualified candidate chosen?</th>
<th>No</th>
<th>Count</th>
<th>Company A</th>
<th>Company B</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>% within Was the most qualified candidate chosen?</td>
<td>40.0%</td>
<td>60.0%</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Company</td>
<td>22.2%</td>
<td>33.3%</td>
<td>27.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td>14</td>
<td>12</td>
<td>26</td>
</tr>
<tr>
<td>% within Was the most qualified candidate chosen?</td>
<td>53.8%</td>
<td>46.2%</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Company</td>
<td>77.8%</td>
<td>66.7%</td>
<td>72.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>18</td>
<td>18</td>
<td>36</td>
</tr>
<tr>
<td>% within Was the most qualified candidate chosen?</td>
<td>50.0%</td>
<td>50.0%</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Company</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 17 Continued. Crosstabulation and Chi-Square Test of Independence (Hypothesis 16)

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>.554&lt;sup&gt;b&lt;/sup&gt;</td>
<td>1</td>
<td>.457</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correction&lt;sub&gt;a&lt;/sub&gt;</td>
<td>.138</td>
<td>1</td>
<td>.710</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>.557</td>
<td>1</td>
<td>.456</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td></td>
<td></td>
<td>.711</td>
<td>.356</td>
<td></td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>.538</td>
<td>1</td>
<td>.463</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>. Computed only for a 2x2 table

<sup>b</sup>. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.00.

**Test of Hypothesis 17**

Hypothesis HO17 states that the selection of the most attractive candidate is independent of the company where a hiring manager works. Table 18 summarizes the results of the Chi-Square Test of Independence. The resulting p-value for this test of independence (α = .144) was above the significance level of .05 (p > .05). Therefore, the null hypothesis can not be rejected. There is insufficient evidence to conclude that a hiring manager’s selection of the most attractive female candidate is dependent on the company where the hiring manager works.
Table 18. Crosstabulation and Chi-Square Test of Independence (*Hypothesis 17*)

<table>
<thead>
<tr>
<th>Was the most attractive candidate chosen?</th>
<th>No</th>
<th>Count</th>
<th>Company A</th>
<th>Company B</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Was the most attractive candidate chosen?</td>
<td>41.7%</td>
<td>58.3%</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Company</td>
<td>55.6%</td>
<td>77.8%</td>
<td>66.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Was the most attractive candidate chosen?</td>
<td>Yes</td>
<td>Count</td>
<td>8</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>% within Was the most attractive candidate chosen?</td>
<td>66.7%</td>
<td>33.3%</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Company</td>
<td>44.4%</td>
<td>22.2%</td>
<td>33.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>18</td>
<td>18</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>% within Was the most attractive candidate chosen?</td>
<td>50.0%</td>
<td>50.0%</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Company</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>2.000b</td>
<td>1</td>
<td>.157</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correction</td>
<td>1.125</td>
<td>1</td>
<td>.289</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>2.029</td>
<td>1</td>
<td>.154</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td></td>
<td></td>
<td></td>
<td>.289</td>
<td>.144</td>
</tr>
<tr>
<td>Linear-by-Linear</td>
<td>1.944</td>
<td>1</td>
<td>.163</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Association</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Computed only for a 2x2 table
b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.00.
Test of Hypothesis 18

Hypothesis HO18 states that the selection of the least attractive candidate is independent of the company where a hiring manager works. Table 19 summarizes the results of the Chi-Square Test of Independence. The resulting $p$-value for this test of independence ($\alpha = .500$) was above the significance level of .05 ($p > .05$). Therefore, the null hypothesis can not be rejected. There is insufficient evidence to conclude that a hiring manager’s selection of the least attractive female candidate is dependent on the company where the hiring manager works.

Table 19. Crosstabulation and Chi-Square Test of Independence (Hypothesis 18)

<table>
<thead>
<tr>
<th>Was the least attractive candidate chosen?</th>
<th>No</th>
<th>Company A</th>
<th>Company B</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>13</td>
<td>12</td>
<td>25</td>
</tr>
<tr>
<td>% within Was the least attractive candidate chosen?</td>
<td>52.0%</td>
<td>48.0%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>% within Company</td>
<td>72.2%</td>
<td>66.7%</td>
<td>69.4%</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>Count</td>
<td>5</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>% within Was the least attractive candidate chosen?</td>
<td>45.5%</td>
<td>54.5%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>% within Company</td>
<td>27.8%</td>
<td>33.3%</td>
<td>30.6%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>18</td>
<td>18</td>
<td>36</td>
</tr>
<tr>
<td>% within Was the least attractive candidate chosen?</td>
<td>50.0%</td>
<td>50.0%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>% within Company</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td></td>
</tr>
</tbody>
</table>
Table 19 *Continued.* Crosstabulation and Chi-Square Test of Independence (*Hypothesis 18*)

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>.131(^b)</td>
<td>1</td>
<td>.717</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correction(^a)</td>
<td>.000</td>
<td>1</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>.131</td>
<td>1</td>
<td>.717</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td></td>
<td></td>
<td></td>
<td>1.000</td>
<td>.500</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>.127</td>
<td>1</td>
<td>.721</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) Computed only for a 2x2 table

\(^b\) 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.50.
CHAPTER 5: SUMMARY AND CONCLUSIONS

This final chapter addresses the findings and conclusions of this study on the investigation of the pre-interview phase of the hiring process and the potential for implicit bias. Evidence surfaced indicating that the decisions of hiring managers are dependent on the appearance of the candidate with the highest level of attractiveness ($\alpha = .031$) and the appearance of the least attractive candidate ($\alpha = .000$). In addition this study found that when the most attractive ($\alpha = .031$) and when the least attractive ($\alpha = .000$) candidates were selected they were likely the most qualified candidate. The findings of this study provided some degree of evidence that physical attractiveness has the potential to influence the perceptions and decisions of hiring managers when evaluating candidates at the earliest stage of the hiring process. However, overall the female candidates within this study had an equal chance of being invited to later stages of the hiring process based on their qualifications. The qualifications of the female candidate appeared to be held in higher regard than the implicit issue of a candidate’s appearance.

Research Questions and Hypotheses

The purpose of this study was to investigate the relationship between a female candidate's physical appearance, qualifications, and the hiring decision to determine the impact that the physical attractiveness stereotype might have on hiring decisions. This study investigated the following research questions: (1) What do managers give more consideration during the pre-interview stage of the hiring process: qualifications or physical attractiveness? (2) Is there a relationship between a female candidate's appearance and her acceptance into the subsequent
stages of the interview process beyond the resume review? (3) Is there a relationship between the
gender of the manager assessing the candidate's qualifications and the level of influence of
physical attractiveness? (4) Is there a relationship between the age of a hiring manager assessing
the candidate's qualifications and the level of influence of physical attractiveness?
(5) Is there a relationship between the martial status of a hiring manager and the ranking the
manager assigns to a candidate? (6) Is there a relationship between the organization where a
hiring manager is employed and his or her recommendation about candidates?

These research questions were operationalized through the following hypotheses:

Hypothesis HO1: The decision of a hiring manager is independent of a female
candidate’s high level of physical attractiveness.

Hypothesis HO2: The decision of a hiring manager is independent of a female
candidate’s low level of physical attractiveness.

Hypothesis HO3: A hiring manager’s choice of the most qualified female candidate is
independent of her high level of attractiveness.

Hypothesis HO4: A hiring manager’s choice of the most qualified female candidate is
independent of her low level of attractiveness.

Hypothesis HO5: A hiring manager’s choice of the most attractive candidate is
independent of her qualifications for the production supervisor job.

Hypothesis HO6: A hiring manager’s choice of the least attractive candidate is
independent of her qualifications for the production supervisor job.

Hypothesis HO7: A hiring manager’s choice of the most qualified candidate is
independent of the hiring manager’s gender.
Hypothesis HO8: A hiring manager’s choice of the most attractive candidate is independent of the hiring manager’s gender.

Hypothesis HO9: A hiring manager’s choice of the least attractive candidate is independent of the hiring manager’s gender.

Hypothesis H10: The most qualified candidate will be selected is independent of a hiring manager’s age group (under 40 / 40 and older).

Hypothesis HO11: A hiring manager’s choice of the most attractive candidate is independent of the hiring manager’s age group (under 40 / 40 and older).

Hypothesis H12: A hiring manager’s choice of the least attractive candidate is independent of the hiring manager’s age group (under 40 / 40 and older).

Hypothesis HO13: A hiring manager’s choice of the most qualified candidate is independent of the hiring manager’s marital status.

Hypothesis HO14: A hiring manager’s choice of the most attractive candidate is independent of the hiring manager’s marital status.

Hypothesis HO15: A hiring manager’s choice of the least attractive candidate is independent of the hiring manager’s marital status.

Hypothesis HO16: A hiring manager’s selection of the most qualified candidate is independent of on the organization where that hiring manager is employed.

Hypothesis HO17: A hiring manager’s selection of the most attractive candidate is independent of the organization where that hiring manager is employed.

Hypothesis HO18: A hiring manager’s selection of the least attractive candidate is independent of the organization where that hiring manager is employed.
Summary of the Results

The first set of hypotheses centered on the candidate ranking decisions of hiring managers and the potential dependence on the attractiveness level of the photo viewed on that resume. The first hypothesis (H01) was rejected since the $p$-value ($\alpha = .031$) was below the significance level of .05. In fact, the female candidates with high attractiveness were ranked highest 42% of the time when they did not have the highest qualifications. The second hypothesis (HO2) had a $p$-value ($\alpha = .000$) below the significance level of .05. Therefore, the null hypothesis stating that the decision of hiring managers is independent of a candidate’s physical appearance was rejected. In fact, the results indicate that a hiring manager’s interest in a qualified female candidate is dependent on her level of physical attractiveness.

Previous attractiveness studies observed that the type of job that a candidate was being considered for, including its stereotypical association with either gender, was found to affect the observed impact of the attractiveness stereotype (Cash, Gillen, & Burns, 1977; Gillen, 1981). Within both participating organizations for the present study the production supervisor position is held primarily by men and is traditionally considered a male-typed position. Taylor et al (1972) reported a sex-type job stereotype which creates a disadvantage for physically attractive women when under consideration for occupations considered male-typed jobs and being compared to men (both attractive and unattractive) and unattractive women. Future research might also include the evaluation of male candidates to investigate the potential impact that this dynamic might have on decisions made surrounding a candidate’s qualifications, physical appearance, and gender stereotyped roles in the workplace.
The second set of hypothesis investigated the potential relationship between the hiring manager’s selection and the qualifications or attractiveness level given to a candidate. The third hypothesis (HO3) was not rejected since the p-value ($\alpha = .214$) was above the significance level of .05. There was insufficient evidence to conclude that a hiring manager’s selection of a qualified female candidate is dependent on her level of physical attractiveness. The fourth hypothesis (HO4) was not rejected since the p-value ($\alpha = .101$) was above the significance level of .05. There is insufficient evidence to conclude that a hiring manager’s selection of a qualified female candidate is dependent on her low level of physical attractiveness.

The third group of hypotheses surrounded the choice of the most qualified, most attractive, and least attractive candidate and the dependence that the candidate was the most highly qualified. The fifth hypothesis (HO5) was rejected since the p-value ($\alpha = .031$) was below the .05 significance level. Therefore, the null hypothesis stating that a hiring manager’s choice of the most attractive candidate is independent of whether she was also the most qualified was rejected. Hypothesis six (HO6) was also rejected because the p-value (.000) was below the significance level of .05. Therefore, the null hypothesis stating that a hiring manager’s choice of the least attractive candidate is independent of whether she was also the most qualified was rejected. In fact, the results seemed to indicate that when the least attractive female was chosen, she was probably the most qualified candidate too. These findings indicate that when the most and least attractive female candidate’s were given the highest rankings they were also the most qualified candidates. It is interesting to note that the most attractive candidate was selected 58% of the time when most qualified while the least attractive candidate was selected 91% of the time.
when paired with the most qualified resume. Again, these findings pose some interesting questions about the potential implications with a larger population.

Heilman and Saruwatari (1979) observed that the effects of appearance are mediated by the perceived fit between the applicant attributes (feminine or masculine), job requirements, and the perceived incongruity between the two, which may produce a negative reaction, resulting in biased decision-making. Many changes have taken place in the employment market including increased diversity and a heightened interest in making the right hiring decisions (Koberg & Chusmir, 1988; Larose, Tracy & McKelvie, 1992). Noted changes in many areas of the paid labor force have created increased similarity between the roles of males and females in the workplace (Diekman & Eagly, 2000) however the question must still be asked: how far have we come and do organizations continue to evaluate candidates through a traditional lens?

The fourth set of hypotheses investigated the potential relationship between a hiring manager’s gender and his or her selection decisions. The seventh hypothesis (HO7) was not rejected since the $p$-value ($\alpha = .132$) was above the significance level of .05. There was insufficient evidence to conclude that a hiring manager’s selection of a qualified female candidate is dependent on the hiring manager’s gender; within this study men and women demonstrated similar decision-making in selecting the most qualified candidate. The eighth hypothesis (HO8) was not rejected since the $p$-value ($\alpha = .369$) was above the significance level of .05. There was insufficient evidence to conclude that a hiring manager’s selection of the most attractive female candidate is dependent on the hiring manager’s gender. Hypothesis nine (HO9) was not rejected because the $p$-value ($\alpha = .500$) was above the .05 level of significance. There was insufficient evidence to conclude that a hiring manager’s selection of the least
attractive female candidate is dependent on the hiring manager’s gender. From these findings it appears that there is no clear relationship between the decisions that a hiring makes during the pre-interview phase of selection with regard to qualifications and appearance and his or her gender.

Dion et al. (1972) and Heilman and Stopeck (1985) anticipated the potential for women to practice bias against women; each study noted the potential for jealousy but found no statistically significant evidence within their findings. The present study paralleled the previous reports and there was no evidence of such bias within the sample organizations for this study. Further investigation with a larger population would help to create knowledge to better understand this anticipated phenomenon.

The fifth group of hypotheses centered on the potential relationship between the age of the hiring manager (less than 40 years of age / 40 + years old) and the influence of qualifications, high attractiveness, and low attractiveness on the selection decisions of these managers. The tenth hypothesis (HO10) was not rejected since the p-value (\(\alpha = .527\)) was above the significance level of .05. There was insufficient evidence to conclude that a hiring manager’s selection of the most qualified female candidate is dependent on the age of a hiring manager. The eleventh hypothesis (HO11) was not rejected since the p-value (.195) was above the .05 significance level. There was insufficient evidence to conclude that a hiring manager’s selection of the most attractive female candidate is dependent on the hiring manager’s age. Looking at the selection of the least attractive candidate and the hiring manager’s age in hypothesis twelve (HO12). This hypothesis was not rejected because the p-value (\(\alpha = .633\)) was above the significance level of .05. There was insufficient evidence to conclude that a hiring
manager’s selection of the least attractive female candidate was dependent on the hiring manager’s age.

The sixth set of hypotheses investigated the possible connection between a hiring manager’s marital status and his or her hiring decisions. Hypothesis thirteen (HO13) was not rejected since the $p$-value ($\alpha=.486$) was above the .05 significance level. There was insufficient evidence to conclude that a hiring manager’s selection of the most qualified female candidate is dependent on the hiring manager’s marital status. The fourteenth hypothesis (HO14) was not rejected since the $p$-value ($\alpha=.335$) was above the significance level of .05. There was insufficient evidence to conclude that a hiring manager’s selection of the most attractive female candidate is dependent on the hiring manager’s marital status. Hypothesis fifteen (HO15) has a $p$-value ($\alpha=.429$) above the significance level of .05. The null hypothesis was rejected as there was not insufficient evidence to conclude that a hiring manager’s selection of the least attractive female candidate is dependent on the hiring manager’s marital status.

The final set of hypotheses probed within this study involved the hiring decisions of the participating managers involved within this study and the company where these managers are employed. Hypothesis sixteen (HO16) was not rejected since the $p$-value ($\alpha=.356$) was above the .05 significance level. There was insufficient evidence to conclude that hiring manager’s decisions to select the most qualified candidate is dependent on the company where the hiring manager is employed. Hypothesis seventeen (HO17) was not rejected since the $p$-value ($\alpha=.144$) was above the .05 level of significance. There was not enough evidence to conclude that a hiring manager’s selection of the most attractive female candidate was dependent on the company where the hiring manager is employed. Hypothesis eighteen (HO18) was also rejected because
the \( p \)-value (\( \alpha=.500 \)) was above the significance level of .05. There is insufficient evidence to conclude that a hiring manager’s selection of the least attractive female candidate was dependent on the company where the hiring manager is employed.

Theoretical Analysis and Summary

Cognitive research studies have offered evidence that individuals are naturally inclined to associate positive things together within their subconscious mind (Bargh & Chartrand, 1999). Social-Cognitive research has mapped the social action of mental responses, which occur through the implicit thoughts of one's mind (Bandura, 1986; Bandura, 1995; Bargh, 1997; Bargh & Chartrand, 1999; Greenwald & Banaji, 1995; Macrae & Bodenhausen, 2000). The person perception process that often occurs when we see someone who is considered physically attractive is described as one such instinctive reaction. Within the present study this was observed on a limited basis but the overall findings did not indicate that it influenced the hiring manager’s final decisions.

The automatic cognitive process that the mind goes through minimizes the expenditure of time and energy that the person invests in the decision and causes extraneous information (such as a person's physical appearance, gender, race, age, weight, etc.) to become a factor in their decision-making process regardless of the intentions of that individual (Ilgen & Feldman, 1983; Solso, 1991). This sometimes causes persons to exhibit stereotype and bias in their behaviors and decisions with little or no awareness. With the increased pressures in the changing world and the fast pace that many live to keep up, it is reasonable to speculate that this automatic process and the resulting stereotype and bias, may be heightened due to the increasing demands that most people face today (Hamermesh & Biddle, 1994).
Another theory surrounding the physical attractiveness stereotype, which is similar in nature, is the concept of the "halo effect" (Eagly, 1987; Morrow, 1990; Goleman, 1995; Ilgen & Feldman, 1983; Solso, 1991). The premise behind the "halo effect" is that individuals make an immediate association and form instantaneous perceptions about individuals. With those who are attractive this association leads them to make the assumption, based on a person's attractive appearance, that the individual have exceptional qualities, abilities, qualifications, and success. Some possible evidence of the halo effect was discovered through the course of this study in the findings of HO1 and HO2.

Multiple studies have found that attractive candidates are considered more qualified for employment than their less attractive counterparts (Beehr & Gilmore, 1982; Cash & Kileullen, 1985; Quereshi & Kay, 1986). According to the findings of a meta-analysis conducted by Eagly et al. (1991), personal stereotypes are the most powerful in areas concerning social competence where persons who are physically attractive are seen as especially extraverted and socially skilled when compared with those who are unattractive.

One standard theoretical model surrounding the way that individuals form attitudes is referred to as the Elaboration Likelihood Model (ELM) (Petty, Unnava, & Strathman, 1991). Based on the premise that people seek to conserve their cognitive resources, the ELM suggests that individuals form their attitudes in two ways: central elements and reasoned judgments. Central elements (also referred to as peripheral route processing) are natural judgments that are formed quickly in order to save time and energy, while reasoned judgments (also referred to as central route processing) are more insightful and deliberated thoughts that tend to be enduring and predicting behaviors. The hiring managers within this study appear to have been involved in
reasoned judgment because few significant indications of bias were identified and those involved in the study demonstrated deliberate judgment.

The socialization process and the influence of group behavior and norms (Cialdini et al, 1991; Costarelli, 2005; Doosje et al, 1995; Higgins, 1987; Horwitz, 1990; Kreindler, 2005; Monteith, 1993; Spears et al, 1997; Terry & Hogg, 1997; Trafimow et al, 2004) have a significant influence on the decisions that employees at all levels make for their organization (Christensen et al, 2004; Eagly & Wood, 1991). These social forces influence hiring decisions, determinations of candidate fit within the context of the organization, and actions taken to support the overall image of the organization, as well as the work-group specifically (Vogel, Wester, Heesacker, & Madon, 2003). The findings of this study suggest that the two organizations involved within this study share a common mindset and perspective with regard to the candidates they hire since the decisions that were made within each organization were fairly consistent which suggests that the norms and expectations of the organization have been ingrained in those hiring managers. Although this can be a positive influence there is a danger that lurks if organizations are not careful. Similarity has been observed as an important force within organizational dynamics, and the demands for similarity in the workplace are strengthened through the pressures that come with social bias (Kanter, 1977; Monteith, 1993; Monteith et al., 1993).

As this review previously discussed, within an employment context many have observed that, by and large, those applicants who are attractive tend to be viewed as more qualified than applicants who are less attractive (i.e., Beehr & Gilmore, 1982; Cann, Siegfried, & Pearce, 1981; Carlson et al., 1971; Cash, Gillen, & Burns, 1977; Dipboye, Arvey, & Terpstra, 1977; Dipboye,
Fromkin, & Wiback, 1975; Forsythe, Drake, & Cox, 1985; Gilmore, Beehr, & Love, 1986; Heilman & Saruwatari, 1979; Kinicki et al., 1990; Marlowe, Schneider, & Nelson, 1996; Rynes & Gerhard, 1990; Springbett, 1958). At the outset, physically attractive individuals are assumed to dominate a full range of positive traits that unattractive persons are assumed to lack (Dion et al., 1972; Hatfield & Sprecher, 1986). Heilman and Saruwatari (1979) found evidence that attractive females were at a distinct disadvantage when being considered for a male-typed role. The present study tested this theory but did not find evidence that was consistent with those of Heilman and Saruwatari (1979).

Between 1950 and 1998 women's presence in the workforce increased 26%, from 34% to 60%, while men's decreased 11%, from 86% to 75% (U.S. Department of Labor, 1999). Due to these and other changes, it has been reported that women's attributes have increasingly shifted, out of a necessity to incorporate the traits that are associated with working individuals in order to succeed in the work environment (Richeson & Ambady, 2001). The process of overcoming some stereotypes takes time and deliberate effort to evolve. The social role theory (Eagly, 1987) offers an additional insight: As women earn leadership, management, or any male gender-typed role, this provides a cue that directs the intrinsically understood theories of individuals and the roles that they personally see as appropriate (Ross, 1989), changing them slowly over a period of time. There are signs of optimism that progress is being made. For example, a 1995 study by Gallop found that between the years 1990 and 1995, the majority of Americans (74% of men and 65% of women) reported that they feel the perception of women is improving. The present study offers additional evidence of hope that society has evolved since earlier research and
organizational leaders are more aware of the potential for biased decision-making and the associated dangers.

Limitations

A variety of limitations existed which should be considered in interpreting the data of the present study. The most significant of these was the small sample and the limited population that was used within this study. The small number of participants (36) dictated the type of non-parametric statistical analysis that was used which might have limited the study’s capacity to draw statistically significant conclusions. Although small sample is a noted limitation, the field study design used involving hiring managers actively involved in the hiring process the findings did reflect bona fide decision-making behaviors of hiring managers during the pre-interview stage of the hiring process. A second limitation involves the scope of the study which was limited to female candidates rather than investigating both female and male stimuli candidates which would often occur during a routine resume review.

Third, this study’s use of paper people (Bull & Rumsey, 1988) involved no opportunity for dynamic interaction between the hiring manager and the stimuli candidates being evaluated (Gorman, Clover, & Doherty, 1978). Although this paper people limitation may be considered a notable the conditions are reflective of the initial stage (pre-interview phase) of the hiring process where only non-dynamic information is available to hiring managers. It is important to acknowledge that although some candidates include a photo when submitting resumes it is not customary for hiring managers to have regular access to a candidate's physical appearance during this initial decision-process. Nevertheless, tools made available through the internet offer employers increased access to personal information about candidates including photos which
have the potential to impact a hiring manager’s decision before a candidate is given the opportunity for further consideration. Investigating further stages of the interview process (phone interview and in-person interview meeting) would offer insight into what impact (if any) this early knowledge of a candidate’s appearance would have on the dynamic interaction that takes place later. A forth limitation of the study may have existed surrounding the male-typed position used to evaluate the bias of hiring managers. Heilman and Saruwatari (1979) observed that the effects of appearance are mediated by the perceived fit between the applicant attributes (feminine or masculine), job requirements, and the perceived incongruity between the two, which may produce a negative reaction, resulting in biased decision-making. Such bias could be more prominent and conflicted because of nature of the position and the sex-role stereotype that might exist in addition to the potential physical attractiveness stereotype.

Finally, the resumes and photos within this study might have presented limitations difficult to eliminate completely. If the photos or resumes used within the study were too similar or too diverse it might have impacted the findings of the study. To reduce the impact of the inherent limitations that come with a study such as this consideration was given to the photos chosen; the photos were cropped to eliminate extra detail that might have complicated or changed the perceptions of hiring managers (Hosoda, Stone-Romero, & Coats, 2003). As advised by previous research attention was given to the photos used to ensure that they were consistent in terms of appropriateness (professionalism, dress, colors, etc) (Posthuma et al, 2002). To enhance to validity of the study and to reduce the impact of this potential limitation the measure of physical attractiveness and candidate qualifications for the production supervisor
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position were operationalized by conducting a pilot study involving a small sample of raters from each company to judge the photos and resumes before the study began (Shahani et al, 1993).

Despite these limitations the following research opportunities existed as a result of the study’s design: (a) The study was focused on a group of participants who work within the same work environments and share in the decision-making process. (b) The study focused on female stimuli and avoided the potential for conflicting variables. (c) Due to the nature of the field study, the participants evaluated the candidates within the context of the real employment environment; thus eliminating the potential of drawing responses that did not reflect the decision-making behaviors of the hiring team (Scandura & Williams, 2000). This study was designed to investigate the pre-interview phase of the hiring process with isolated variables and did not attempt to assume that a decision to hire could be determined from a review of paper credentials.

Practical Implications

The present field study investigated the influence of a female candidate’s level of physical attractiveness and qualifications during the pre-interview phase of the hiring process. Hiring managers within two organizations rated the candidates according to their perception of the candidate’s qualifications. The practical implication of this finding is that the results generalize to hiring practices for production supervisors within the two organizations that served as the research population for this study. Although the results can not be generalized to all organizations the design of the study paves the way for future research to take a more practical approach to investigating organizational behavior and decision-making. More questions were identified within the course of this study than answers however it is of continued importance that
organizations create an open environment where a hiring team can work collaboratively to identify the right talent while also addressing any challenges that come with implicit bias such as those discussed throughout this study. Research that is conducted with organizations in mind would help to break through some of the uncertainty that remains. When research is conducted to support the ongoing needs of organizations who are seeking answers and solutions it can only enhance the knowledge and understanding that needs to surround organizational behavior and decision-making.

Conclusion

This study has contributed to the literature on physical attractiveness bias within the pre-interview stage of the hiring process leaving more questions than answers. Helping to bring light to the importance of conducting research that investigates the behavior and decision-making of professionals to evaluate how organizations and individuals can be more effective. Although the majority of the findings of the present study are not statistically significant there were some interesting findings that spur additional questions that warrant further research. Future field research could unlock some of the mysteries of human behavior within the dynamics of the organization.

It is possible that implicit bias surrounding things such as physical appearance are less of an issue within some organizations due to the support structure and systems in place. Further research and analysis is needed to know for sure, however there remains a need to investigate organizations using working professionals to better understand. It remains clear that organizations must acknowledge the risks involved in implicit bias and the potential that exists for hiring managers to unintentionally use information that is not job related to make decisions.
during the earliest stage of the hiring process. As organizations face tight labor markets and increased competition there is an increased need to capture competitive leverage within the market through the talent of employees who work for the company. The many pressures that organizations face is creating a need for more knowledge and a deeper understanding of organizational behavior and decision-making within context of the actual work environment.

Although there are many things that remain unknown, physical attractiveness and the interaction between a woman's appearance and her gender have the potential to create significant implications within the employment context yet today (Cowan, Neighbors, DeLaMoreaux & Behnke, 1998). This research suggests that the physical attractiveness stereotype is not as simple as it might first appear. While there are certainly reported advantages that come with being physically attractive within many contexts, there are also potential disadvantages that must be considered when making employment decisions and personal assumptions inside and outside of the employment environment. It is difficult to draw significant conclusions from the present study however it does bring to light the need for further research aimed to better understand organizational behavior and decision-making in realistic light.

Employers must be careful about the level of unmitigated predisposition within the hiring process as it can put the organization at risk for unethical employment practices while preventing the organization from hiring the best talent and creating barriers that exclude certain individuals without legitimate reasons (Kleinman & Farley, 1988). Research has shown that people are influenced by the context of their decisions (Hamermesh & Biddle, 1994; Postmes et al, 2001) and that organizational culture (Schein, 1992; Schein, 1999; Schein, 2004; Umberson & Hughes, 1987) and work groups (Janis, 1972; Janis, 1983; Janis, 1992; Reichers & Schneider, 1990) have
the potential to influence the way that managers determine a candidate's fit for the specified job. Although this study is only a tentative step toward filling a gap in practical field research that involves the behaviors that take place within the context of organizations. The basic methodological approach will, hopefully, serve as a guide for future studies of this nature which seek to create true knowledge and understanding that can be generalized and applied in an organizational environment.

Suggestions for Future Research

Many questions have yet to be explored to understand the changing relationship of employers and employees and the decisions made by both parties during the hiring process. A more comprehensive field study that includes a larger sample population with a more diverse set of job types to investigate the decisions made between one position type and another, and between one organization and another. Additional research could also be extended to investigate further stages of the hiring process in an effort to explore the impact of physical attractiveness during later stages of the hiring process (such as phone interviews and on-site, dynamic interviews).

Previously, few studies have given practical consideration to the hiring process within organizations. For example, within most organizations, one person rarely makes hiring-decisions alone; instead, organizations have hiring teams with key individuals who work collectively to determine what candidates will proceed through the hiring process (Gilmore, Beehr, & Love, 1986). It is also important to note that not every employee in an organization is qualified to interview candidates and determine a candidate’s fit for the organization, yet many prior studies have assumed that students or others not qualified to make hiring decisions can simulate the
decisions made by professionals within the field. When individuals join a group and make collective decisions (Janis, 1972; Janis, 1983; Janis, 1992), the accurate measure of their behavior is determined by the way that they respond to the norms and values demonstrated within the culture and shared mindset of the company (Paulhus, 1993; Schneider, 1987). The findings of this study reveal evidence that the qualifications of the right candidate might be evaluated differently between hiring managers.

Other studies might investigate the potential relationship between a participant's formal position within the organization and his or her level of bias regarding the attractiveness of a candidate, the participant's type of educational background, the participant's level of diversity training and if training on implicit bias would reduce the bias during the hiring process, the relationship between the amount of interview experience that a participant has had, and the potential relationship between a participant's own physical attractiveness and his or her propensity to demonstrate physical attractiveness bias during the hiring process. Finally, future research might investigate a potential relationship between the specifics of the organization and potential for physical attractiveness bias: highly structured organizations with strict parameters for the hiring process versus decentralized organizations with few parameters or defined processes; the organizational culture of one organization versus that of another. As earlier stated; research has shown that people are influenced by the context of their decisions (Hamermesh & Biddle, 1994) and that organizational culture (Bolman & Deal, 1999; Deal & Kennedy, 1982; Schein, 1992; Schein, 1999; Schein, 2004; Umberson & Hughes, 1987) and work groups (Janis, 1992; Reichers & Schneider, 1990) have the potential to influence the way
that managers determine a candidate's fit for the specified job. Further exploration in this area might arm organizations with additional knowledge that could be used to develop action plans.

Within some areas of employment considered high-exposure fields such as modeling, news reporting, acting, and the like, there are certain accepted expectations that surround the necessary appearance of individuals as a qualification for employment due to the image that they create for the organization (Cash & Kilcullen, 1985). Within these occupations it is considered socially acceptable and legally defensible to base hiring decisions on an individual’s appearance because of the requirements and general nature of these types of jobs. The question becomes whether these expectations carry over into other areas of employment, and if they do, what effect does the attractiveness stereotype have on the fields of employment that are impacted? Future research would be needed to investigate the true value of certain candidate attributes that many would consider subjective to understand if these attributes do in fact have any impact on an individual’s success within that job.
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