Does Résumé Presentation Medium and Reference Group Affect Perceptions about a Job Applicant?

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Abstract
Businesses and corporations receive many résumés that are used in the initial stages of the selection process. However, the two basic résumé forms (paper and electronic) may not be perceived similarly. The purpose of this study was to investigate the perceptions associated with applicants who submit either a paper résumé or an electronic résumé. This study also investigated the effect that a reference group had upon the résumé reader's perceptions about the job applicant. One-hundred undergraduates viewed either a paper résumé or an electronic résumé of a journalist applying for a vacant position at a newspaper. Respondents were then given a job description that either required internet research experience (technical reference group) or not (non-technical reference group). Then the respondents rated the applicant on seven attributes (intelligence, technical skills, interpersonal skills, leadership ability, motivation, resourcefulness, and overall qualifications). A MANOVA, with résumé medium and reference group as independent variables and the seven attributes as the dependent variables, was conducted. The results showed a significant effect of résumé medium, $E(1,96) = 9.77$, $p = .000$. Univariate ANOVAs revealed the paper résumé applicant was perceived as more friendly while the electronic résumé applicant was viewed as more intelligent, technologically advanced, and possessing better overall qualifications. The results also indicated a significant effect of reference group, $E(1,96) = 4.03$, $p = .001$. The applicant in the non-technical reference group was perceived as more intelligent, technologically advanced, and possessing better overall qualifications than the applicant in the technical reference group. Implications of résumé medium and reference group as well as limitations of the study are discussed.
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Does Résumé Presentation Medium and Reference Group Affect Perceptions about a Job Applicant?

All employers need to evaluate potential job applicants for employment. Presumably, this selection process consists of the employer's appraisal of the probability of the job applicant's success in a particular job position (Foster, Dingman, Muscolino, & Jankowski, 1996). That is, from an employer's perspective, examinations must be made on the individual differences associated with each job applicant and the compatibility of the job applicant with the vacant position. Does the applicant have the necessary education? Does the applicant have adequate previous work-related experience? How well does the applicant comply to the requirements of the job? Employers attempting to answer these questions generally begin with screening applicants' résumés (Foster et al., 1996). The résumé provides initial information about the applicant, leading to the development of first impressions (Knouse, 1994). It allows the résumé reader to infer attributes or dispositions concerning the job applicant.

The two most important aspects of the résumé, which generally constitute the bulk of the résumé's content (Greenly, 1993), are the applicant's past work experience and formal education (Knouse, 1994). The résumé reader may be heavily influenced by previous work experience. Essentially, the employer (résumé reader) compares and evaluates past job titles and responsibilities of the potential employee to those necessary to fulfill a position's requirements (Knouse, 1994). The résumé reader also may use education as criteria for certain jobs; a CPA position,
for example, requires an accounting degree. These two aspects provide the basis for initial personnel selection decisions. "Perhaps the most important attribute of the résumé is its purpose: to generate sufficient interest to produce an interview. The résumé must provide the reader a compelling reason to want to know more and show that the candidate has potential to succeed in the position" (Divita, 1995, p. 6). Thus, it benefits résumé writers to present their work experience and educational history effectively.

There are two ways in which job applicants can distribute their résumés to create an initial impression. Applicants can send their résumé through the mail service, the traditional paper method, or applicants can go on-line, sending their résumé electronically via the internet. The fact that an employer makes inferences about attributes or dispositions of a job applicant when viewing a résumé and that these inferences are critical to initial selection decisions, raises some concerns about whether these inferences are the same regardless of résumé medium. Therefore, one focus of this study was to examine whether job applicants are perceived the same by the résumé reader when the applicants submit paper and electronic résumés.

Use of Electronic Résumés

Employers are constantly plagued with the problem of finding job applicants for employment. To add to this problem, many varied recruitment methods (e.g. newspaper ads, college job fairs, employee referrals) have been implemented. Employee referrals are the cheapest and may result in longer tenure (McDaniel & Johnson, 1992), but for employers seeking large numbers of applicants with specific skills, employee referrals are not effective because of the limited job applicant
pool (McDaniel & Johnson, 1992). Going on-line via the internet can help ease this struggle. Companies have turned to on-line recruiting services to gain a competitive edge in recruiting qualified people (Jobsite.com, 1998). The internet can be utilized as a resource by human resource managers, personnel directors, and employers to access large quantities of résumés through résumé databases, possibly locating potential future employees. Such databases (e.g., Job Bank USA™, Career Path™, and E-Span™) generally contain in excess of 125,000 résumés (Arthur, 1997).

Résumé database recruitment is becoming more and more popular (McDaniel & Johnson, 1992). In fact, its use by employers has been referred to as explosive (Leonard, 1993). Access to résumé databases can increase the probability of finding suitable individuals to fill vacant job positions. Many corporate recruiters realize the potential of résumé databases (Leonard, 1993), noting that this resource should not be ignored (Loeb, 1995). Currently, 5,800 companies (Interbiznet.com, 1998) are incorporating this approach to their selection processes, an approach which accounts for approximately one-fourth of all their hires (Jobsite.com, 1998).

Applicants who do not post their résumé on-line may miss the opportunity for a better job position (Arthur, 1997). Posting a résumé on the internet is like placing a billboard on the information superhighway (Ol-resume.com, 1999). Apparently, job applicants have begun to realize this and the number of people enrolling in résumé databases has also increased (Leonard, 1993). In fact, according to the 1997 Electronic Recruiting Index, in December 1996, there were approximately one million potential job applicants who posted on-line résumés (Interbiznet.com,
Recently, the internet has become a valuable tool where individuals can market their talents (Loeb, 1995).

Despite their increased popularity, little research has been conducted on the use and effectiveness of résumé databases. A few studies conducted in the early 90's questioned the usefulness of computer on-line résumé recruitment. A study by McDaniel and Johnson (1992) examined the effectiveness of applicant recruiting using computer résumé databases. Some preliminary hypotheses of the study were: (1) Companies subscribing to the databases were using the system for on-line job recruitment, and (2) college graduates who placed their résumé online would receive a substantial number of contacts from subscribing companies. The results of the study reported that one college graduate out of 64 received a call from a subscribing company; none were offered a job position. Also, McDaniel and Johnson (1992) obtained surveys from 133 personnel directors, results of which indicated that 18% used the database for recruitment and only 1.7% of hires resulted from on-line résumé database recruitment. This suggests that, at the time of the study, résumé databases had not become fully integrated into the recruitment process.

The use of résumé databases can be costly for a subscribing company. Estimates from 1993 showed that, at the time, it typically cost a company approximately $1,000 to search through a Pro-Net\textsuperscript{TM} database, a process which yielded only three or four potential job candidates (Leonard, 1993). In 1993, some electronic database companies charged between 20 and 30 percent of the employee's first year salary to conduct a résumé database search (Leonard, 1993; Ettorre, 1993). An estimated $30 million was spent for on-line recruitment in 1997, and such figures
are projected to exceed $200 million by the year 2000 (Croal, 1997). With such high expenditures going to résumé database searches, it would be valuable to know if this method is cost-effective and if there are some perceptual differences between résumé mediums. This is especially important since résumé readers only spend, on average, between 10 and 30 seconds (Bohn, 1994; Greenly, 1993) and at the most, three minutes (Hornsby & Smith, 1984) reviewing an applicant’s résumé. Are companies subscribing to résumé databases getting the most for the money they spent on résumé databases if electronic résumés are perceived differently from paper résumés? McDaniel and Johnson (1992) found that personnel directors viewed résumé databases as cost-ineffective and considered them the least preferred job recruitment method when compared to employee referrals, newspaper ads, and job fairs.

Regardless of these limitations, the use of on-line résumé database recruitment continues to increase. This does not mean that the traditional method of mailing paper résumés will become obsolete (Jobsite.com, 1998). Most employers still rely on the traditional methods of reviewing an applicant’s paper résumé (McDaniel & Johnson, 1992). However, the increased use of electronic résumés raises an important question. Are job applicants who place their résumés on the internet perceived the same as those who send résumés through the mail? Will an electronic résumé be understood or perceived the same as one on paper? One purpose of the present study was to examine whether the attributions made about applicants differ depending on the résumé presentation medium.
Factors Influencing Perceived Differences

Reading Comprehension

Several factors may differentiate on-line (electronic) résumé perception from paper résumé perception. One such factor may be reading comprehension. It is possible that levels of reading comprehension differ between electronic résumés and paper résumés, thus affecting perceptions about the applicant. In a number of studies examining the difference in reading comprehension of electronic versus traditional text, participants were asked to recall some specific text items that were presented on paper or on a computer screen. The results of these studies indicated no differences in the amount of text items recalled for each presentation medium (Rice, 1994; Oborne & Holton, 1988; Askwall, 1985). In essence, the reader gathered the same information from paper and the computer screen. Indeed, the majority of the present research suggests that presentation medium, paper or electronic, does not affect reading comprehension.

Some studies, however, do show that paper presented material is easier to read than electronically presented material. This is especially true when reading continues for extended periods of time (Glynn, Andre, & Britton, 1986). Thus, a problem of reading comprehension may occur if the reader has been looking at a computer screen most of the day. Glynn et al. (1986) suggested that, if the goal is gathering new information, the paper medium is ideal. A study by Belmore (1985) reported that reading comprehension from the computer medium was 47% less than that for paper presented text, but that this difference was due to the novelty of the presentation medium, reading from the computer screen. Assumed in this research is that, employers who regularly utilize résumé databases
will experience reduction in the novelty of the electronic résumé and, as a result, any differences in comprehension will disappear.

In summary, previous research suggests that most résumé readers will not demonstrate comprehension differences in the contents of paper and electronic résumés. However, in some cases, employers may miss some information contained within the electronic résumé because of fatigue (Glynn et al., 1986), or unfamiliarity (Belmore, 1985) with the electronic format.

Attribution Differences

Another factor that may affect how résumés are interpreted is variation in the attributes associated with résumé medium. According to Heider (1958), attributions begin with the attributor searching for causes to understand the behavioral outcomes of another person. For example, when an individual learns that a specific student passed a test (the outcome), causal explanations are formed by the individual to understand why the student was able to succeed. Heider's (1958) theory of attribution states that the most fundamental distinction between explanatory causes is the differentiation between the personal (internal) and environmental (external) dimensions. "In common-sense psychology (as in scientific psychology) the result of an action is felt to depend on two sets of conditions, namely factors within the person and factors within the environment" (Heider, 1958, p. 82). For example, (from Heider, 1958) an individual successfully paddles across a lake on a windy day. Reaching the other side can be perceived to be due to factors within the person (ability, physical exertion) or factors in the environment (task difficulty). In this case, ability refers to the individual mental or physical capacity necessary to perform an action while exertion is the
effort put forth by the individual to perform the task. Task difficulty is the extent to which the environment impedes success. Similarly, in the previous example, passing a test can be attributed to personal characteristics (i.e. aptitude, test preparation) or environmental factors (i.e. an easy test, good professor).

Weiner, Frieze, Kukla, Reed, Rest, and Rosenbaum (1971), compelled by Heider's (1958) attribution theory, identified a similar attribute realm, the internal/external dimension. As with Heider (1958), this dimension provides the basis for causal perceptions about other's behavioral outcomes. Weiner et al's. (1971) attribution model of achievement indicates that internal/external attributions in achievement situations fall into four distinct categories: aptitude, objective task characteristics, temporary exertion, and chance. Attributions about a person's aptitude (ability), a fixed capacity, are made when the person is consistently successful at performing a task. Attributions about objective task characteristics refer to the degree of difficulty of the task. Temporary exertion is associated with the effort put forth by the individual to produce the outcome. Chance attributions imply that the outcome is the result of luck. Aptitude and temporary effort dominate in this model, as competence is deemed the most frequent explanation of success and failure (Weiner, 1986).

Thus, according to Weiner (1986), personal success at a task can be primarily attributed to internal factors. Since the résumé reflects the personal achievements of the job applicant, it is presumed that the employer perceives the applicant's résumé as reflecting primarily internal attributes (i.e. aptitude, specific skills). Thus, in this study, because the primary concern is with personal dispositions regarding the
job applicant, the external (environmental factors) dimension of Weiner et al.'s. (1971) attribution model of achievement is not considered.

Attributional analysis, in the context of the present study, begins with an outcome, résumé presentation medium (Weiner, Perry, & Magnusson, 1988). The attribution process in this scenario consists of explaining the causes behind the outcome (behavior reflected within the résumé). Such explanations may depend upon factors such as the medium in which the résumé is presented (electronic or paper) and the information obtained by the attributor (résumé content). Essentially, the résumé reader will search for causal explanations for sending the résumé as well as explanations for the job applicant's successful endeavors.

Support for Weiner et al.'s. (1971) attribution model of achievement can be found in numerous studies. Prussia, Kinicki, and Bracker (1993) implemented the model to examine the perceived cause (internal or external) behind a recent employment layoff. Since no standardized measures of attributes concerning job loss existed, the researchers interviewed groups of displaced workers to identify such attributes. Eleven attributes were established. In order to assess these attribute's dimensionality, a pilot study was conducted. Thirteen doctoral students evaluated each attribute on a ten point locus scale (1= internal, 10= external). Results of the pilot study indicated that ability, immediate and long-term effort, education, and skill were viewed as internal attributes, whereas foreign competition, union demands, company desire for profit, economic conditions, luck, and other employees were perceived as external attributes. These attributes were then tested on 79 recently unemployed individuals, asking them to assess the extent to which each attribute was the cause for their unemployment. These unemployed
individuals formulated their causal explanations along the internal/external attributes established from the pilot study (Prussia et al., 1993). The results of the study provide empirical support for Weiner et al.'s. (1971) attribution model of achievement in that people explained an outcome (unemployment) internally as well as externally. The results from these respondents were used as a basis for some of the attribute dimensions established in the present study.

Another perspective on personal attributions is found in Jones and Davis’s (1965) correspondence inference theory. This theory examines the degree of similarity between an outcome and the inferred internal, personal disposition of the individual (Shaver, 1975; Howard, 1985; Lipe, 1991). The theory suggests that observers see an individual’s decision as a reflection of the person’s characteristics or qualities. Two tenets form the basis for the correspondence of inference. One tenet is that the correspondence of an outcome to the inferred personal disposition increases as the social desirability of the action decreases. Social desirability refers to the degree to which an outcome conforms with predominant societal norms. For example, a stronger internal attribution is made to an individual who donates half of his/her money to charity (less socially desirable) than to an individual who simply gives $20 (more socially desirable). Essentially, the person who donates half of his/her money will be perceived as more charitable than the other individual. The social desirability of the behavior helps facilitate the formulation of attributes about the individual.

The second tenet of the correspondence inference theory is based on the notion of noncommon effects. According to this tenet, people should attribute an outcome to personal disposition if the outcome is uniquely
distinct among all other possible choices of behavior (Howard, 1985; Read, 1988; Lipe, 1991). That is, if a chosen outcome is distinctly unique among other choices, high correspondence of inference will occur because this idiosyncrasy makes it easier to explain the reason for the behavior. Say that an applicant has been offered a job position at two different companies. To an outside observer, both companies offer the same benefits and are similar in salary, but one company appears more "friendly." The applicant chooses the friendly company over the other one. The outside observer may attribute the outcome, the applicant's choice, to the individual's personal preference for company friendliness because company friendliness is an uncommon factor which offers high correspondence with the choice.

A combination of low social desirability and uncommon elements would lead to strong internal attributions (Jones & Davis, 1965). However, the perceiver does not have to witness a behavior to make inferences (attributions) about an underlying disposition (Jones & Davis, 1965). For example, juries pass judgment without having first hand knowledge of the situation; they infer the cause of the outcome based upon testimony. In the present study, the résumé reader does not have first hand knowledge of the job applicant's experiences. The résumé reader is making inferences based upon the résumé presentation and résumé information.

The correspondence inference theory requires the existence of a reference group. The reference group provides the basis for the comparisons made when examining uncommon behaviors for an outcome (Jones & Davis, 1965). For example, if the behavioral outcome is writing a book and the reference group is people walking on the street, this outcome
is uncommon and low in social desirability for this reference group (unless it is a street near a writers' conference), and would lead to a personal disposition. However, if the reference group is college professors, writing a book is not an uncommon behavior because published writing is an expected behavior. The outcome does not uncover any new characteristics about the professor; the activity does not tell the perceiver anything unexpected. Therefore, the outcome would not lead to a strong personal disposition.

In the case of résumé presentation, an attribution to personal disposition develops when a person's behavior deviates from what is expected from the reference group used for comparison (Jones & Davis, 1965). A different personal disposition should be made about a high school English teacher who sends a résumé through the internet than about a computer programmer's electronic résumé. The behavior of sending electronic résumés conforms more to the reference group of computer programmers than to that of English teachers. Similarly to the correspondence theory, Weiner (1986) stated that novel, unexpected (uncommon) behaviors elicit more extensive causal ascriptions, possibly leading to more extensive explanations of outcomes. Therefore, uncommon outcomes should elicit different personal attributes.

Read (1988) examined the noncommon effects principle. One-hundred and thirty-four undergraduates were administered a questionnaire containing ten stories, each describing an individual making an important decision, such as what job offer to accept. Following each individual's choice was a list of three possible explanations. Respondents were asked to rate the probability that each explanation was the reason for the individual's choice. Of particular interest are the t-test results
examining the probability ratings between a chosen and nonchosen alternative. As Read (1988) expected, the explanation that contained a common alternative to both choices was rated significantly lower than the choice containing a noncommon alternative. These results indicate that people search for noncommon elements when determining a possible explanation between a chosen and nonchosen alternative.

In summary, Weiner et al.'s. (1971) attribution model of achievement suggests that people form attributions about behavioral outcomes to identify the cause behind the outcome. These attributions may be internal, factors within the person, or external, factors within the environment. Attributions made when reading a résumé fall within the internal dimension. Attributions associated with the internal category are personal characteristics such as intelligence and personal skills as well as motivation and taking initiative. Thus, the internal dimension is most relevant to the attributes associated with a job applicant using different résumé mediums.

The correspondence inference theory outlines the process wherein people compare chosen and nonchosen alternatives, and identify the elements that are unique to the alternative chosen. Specifically, the correspondence inference theory examines the idiosyncrasies associated with the chosen alternative (Read, 1988). The more idiosyncratic the choice, the more the observer will explain the choice as a reflection of the individual's personal disposition. Correspondence of an outcome to inferred personal characteristics increases as the social desirability of the action decreases. The observer also compares the individual's chosen outcome to that of a reference group. If the behavior is not directly
associated with the reference group, the observer will develop a strong underlying personal disposition about the individual.

**Direction of Study**

To date, few studies have been conducted on electronic résumés and none of these have focused on possible differences in attributions based on presentation medium. Yet, attribution theory suggests that some differences may exist. A résumé reader will use varied pieces of information before making internal attributions about the job applicant. Mode of résumé presentation is one piece of information that may affect attributions. Based on the theories discussed above, strong internal attributions may be drawn about an internet user. "The perception is that if you’re on the Internet, your IQ automatically goes up ten points" (Loeb, 1995, p. 252). This represents an attribution that is in accordance with Weiner et al’s. (1971) attribution model of achievement. It reflects strong internal attributions about aptitude. This theory suggest the first premise of this study: résumé presentation medium (paper or electronic) may have an effect on attribute ratings.

In this study, attributions made about an applicant for a journalism job are examined when a résumé is presented via the internet or on paper, and when the reference group is varied. A journalism position was selected primarily because it was not perceived as highly technical. According to the correspondence inference theory, employers who receive electronic résumés for non-technical job positions should develop strong personal attributions towards the job applicant. Because the social desirability of sending an electronic résumé is low (journalist are not strongly associated with technical skills) and the outcome is uncommon in relation to a non-technical reference group (sending an electronic résumé
is not strongly related to journalists), strong personal dispositions should be associated with this outcome (Jones & Davis, 1965). Changing the reference group for a job position should also affect the résumé reader's perception of the job applicant. Specifically, if the reference group for a non-technical job is changed to a group that is more technically oriented, according to the correspondence inference theory, the effect of sending an electronic résumé will be more common. As a result, perceptions of technical orientation for a technical group will be lower than for the non-technical group. This leads to the second premise of the study: attributions made about a journalism applicant may vary depending upon the technical requirements presented in the job description. The goal of this study is to identify whether applicant attributes are perceived differently for paper and electronic résumés and whether manipulating the reference group has an effect on the attribute ratings.
Participants

One-hundred (36 males, 64 females) introductory psychology students from a midwestern university participated in the study. Their average age was 19.51 (SD = 2.16). They received extra credit for their participation in this study. A power analysis conducted prior to the study revealed that 100 participants would be sufficient for detecting a moderate effect size (.64), exceeding alpha at .05, and maintaining power at .80 (Stevens, 1980).

Materials

Selection of Job

The selection of the job used in the context of the present study derived from a pilot study. The pilot study was conducted to identify a gender neutral job position to control for sex stereotyping. A prior study by Beggs and Doolittle (1993) was used as a basis for the pilot study. Beggs and Doolittle (1993) tested the gender neutrality of a series of jobs. Of the jobs tested, those that had a mean rating which fell in the mean range of 3.5-4.5 on a seven-point Likert scale (1 = masculine, 7 = feminine) were selected for the pilot study. This resulted in 32 jobs. Participants (6 males, 23 females) of the pilot study were instructed to rate these 32 jobs according to how well each job was represented by males and females, using the same rating scale that Beggs and Doolittle (1993) utilized. Participants were instructed to skip any unfamiliar job titles.
Several criteria were used for selecting a job from those rated. These criteria were: (1) must have a mean rating that is close to 4 (gender neutral), (2) has small standard deviation (<1.00), (3) must be familiar to college undergraduates, and (4) must have a non-technical reference group. Results from the pilot study indicated that the job title of "Journalist" was perceived as gender neutral ($M= 3.90$, $SD= 0.86$). This job obtained the smallest standard deviation, indicating that there was not much variability among the respondents. Besides reflecting gender neutrality, this job was also selected on the basis of the available sample: the participants (college undergraduates) are more familiar with this job than with others. Finally, it is not a highly technical job that is readily associated with sending a résumé via the internet.

**Résumé Development**

The résumé used in the present study is a fictitious one-page chronological résumé (see Appendix) for the job of Journalist. To ensure the realism of the résumé, a journalism professor was consulted and résumés from actual journalism students (personal information omitted) were used as models. The résumé contained information describing the qualifications and experience of an average college graduate job applicant applying for a vacant journalism position. A gender neutral name (Chris Murphy) was used to help control for possible sex stereotyping (Hannon, Kuntz, Van-Laar, & Williams, 1996). Upon completion of the résumé, the paper résumés were printed on quality résumé paper, while the electronic résumé was downloaded to a website on Netscape 2.2™. Résumés on both mediums were identical except for presentation medium.

**Job Description**
A job description which included the job title (Journalist), major duties, and job specifications was developed for a journalism job (see Appendix). Some of the major duties were adapted from the title of Reporter in the Dictionary of Occupational Titles (U.S. Department of Labor, 1991). The major duties were as follows: (1) analyzes and collects information about newsworthy situations to write news stories for publication either through assignments or investigating leads and news tips, (2) gathers information regarding the news through research, observations, and interviews, (3) organizes the information, placing emphasis on the major headlines, writing in accordance with a standard format, (4) may monitor emergency communication to obtain possible leads, and (5) may assist in editing, organizing the stories before the final publication is released. The job specifications were taken directly from the fictitious résumé (i.e., prior experience in reporting and training and/or education in journalism). Of importance to the present study is the manipulation of the reference group in the job specifications. For a technical reference group, the following statement was added to the job specifications: internet research experience necessary. This manipulation of the reference group was expected to affect the résumé reader's perception of the job applicant.

Evaluation Sheet

The job applicant was rated on a series of attributes using an evaluation sheet. The attributes on the sheet consisted of internal characteristics divided into seven specific categories: intelligence, technical skills, motivation, leadership skills, interpersonal skills, resourcefulness, and overall qualifications.
Previous studies provide some support for the attributes used in the present study. First, Prussia et al. (1993), as described earlier, identified some of the internal attributes individuals formulate to explain a recent employment layoff. Another study by Gerdes and Garber (1983) asked managers who use résumés in large corporations to conduct competency evaluations on male and female engineering job applicants. Among the study's dependent variables (measured on six point Likert scales) were potential for technical, administrative, and human relations aspects of the job, potential for long service to the company, potential for advancement, and overall suitability for the position. These attributes were deemed as necessary competency measures for engineering positions. A similar study by Delvin (1997) examined the résumé evaluations for male and female architect job applicants. Respondents received either a male or female version of the résumé and were asked to evaluate the job applicant on seven qualities: technical aspects of the job, administrative aspects, interpersonal aspects, contribution to growth of the firm's client base, creative contribution, advancement, and over-all rating. Each rating was on a seven point Likert Scale.

In the present study, some of the attributes correspond with the Delvin (1997) résumé evaluation study (e.g. technical orientation, interpersonal skills, leadership skills, and resourcefulness). Other attributes (e.g. motivation and intelligence) are supported by the Prussia et al. (1993) unemployment study. The overall qualifications attribute, representing applicant competency, comes from the Gerdes and Garber (1983) study.

Several statements (N=5) were developed for each of the seven attributes. Using the retranslation method first postulated by Smith and
Kendall (1963, as cited in Cascio, 1998), these statements were tested to ensure that others agreed on the attribute to which the statements corresponded. Four graduate students were given a list of 35 statements as well as a list of attributes. They were instructed to match each statement to the attribute to which it corresponded most. Statements were eliminated if there was not clear agreement among the judges (+75%) regarding the attribute to which each statement belonged. Thirty-two statements reached the percent agreement criteria. The statements were to be rated on a seven-point Likert scale (1= disagree strongly, 7= agree strongly). A copy of the evaluation sheet as well as a copy of statements within an attribute are included in the Appendix.

To test for possible differences in reading comprehension across résumé mediums, the evaluation sheet also included a list of specific items taken directly from the résumé. The items were measured on a dichotomous scale (T/F); a total correct score was used to determine overall reading comprehension. Differences in scores across résumé mediums would suggest a difference in reading comprehension. The last element on the evaluation sheet measured the participant’s comfort level using a computer and the internet (both on a seven-point Likert scale, 1= disagree strongly, 7= agree strongly).

Procedure

As mentioned above, two variables were manipulated in the study, résumé presentation medium and reference group. Participants, in groups of four to six, were divided into one of four conditions, the paper résumé presentation or the electronic résumé presentation with a non-technical reference group and the paper résumé presentation or the electronic résumé presentation with a technical reference group. After informed
consent sheets were signed and collected (maintaining confidentiality), participants were given an instruction sheet indicating that they were to play the role of an owner of a newspaper with a vacant journalism position, searching for a qualified college graduate of journalism. First, the participants were told that a college graduate in the field of journalism had placed a résumé on the internet or on paper and that the applicant had forwarded (or mailed) the résumé directly to the newspaper company. Paper condition participants were verbally instructed to open the envelope to view the applicant's résumé. The electronic résumé participants were instructed to access Netscape 2.2™ and type in an internet address to view the résumé. Macintosh™ LC III computers with Apple Color Plus™ 14” display monitors were used to present the electronic résumés. Netscape 2.2™ window parameters were pre-checked to ensure that the electronic résumés were identically displayed on all computer screens. Participants were informed to adjust the computer monitor to reduce glare and to use the mouse to scroll through the electronic résumé. In all conditions, the participants were allowed to view the résumé for three minutes. After viewing the résumé, participants were asked to place the résumé back into the manila envelope or exit out of Netscape 2.2™ and turn in the instruction sheet containing the job description. This was done to maintain as much realism to an actual newspaper owner reviewing a résumé as possible and to ensure that the reading comprehension manipulation check would be valid (it would not be valid if the respondents had the job description available when completing the reading comprehension items). Evaluation sheets were then distributed and the participants were informed that this was not a timed task; participants were given as long as they needed to complete
the evaluation sheet. Evaluation sheets were collected answer side down to maintain confidentiality; participant numbers and condition numbers were assigned. Participants were debriefed as a group. Total time to complete the experiment was approximately 30 minutes.

Hypotheses

The following hypotheses were examined:

Hypothesis 1: There will be a reading comprehension difference associated with résumé presentation medium.

Hypothesis 2: There will be a main effect of résumé presentation medium (paper or electronic) on attribute ratings. Ratings for Technical Skills and Intelligence will be significantly higher for electronic résumés, while ratings for Interpersonal Skills will be significantly higher for paper résumés.

Hypothesis 3: There will be a main effect of reference group (technical or non-technical) on attribute ratings. Ratings on Technical Skills will be significantly higher for the non-technical reference group than the technical reference group.

Hypothesis 4: There will be an interaction between the effects of résumé presentation medium and reference group for the technology attribute. Paper résumés will be rated significantly lower than electronic résumés in the technical reference group condition. Electronic résumés will be rated significantly higher than paper résumés in the non-technical reference group condition.
Chapter III

Results

A chi-square was conducted to determine if presentation medium had an effect on reading comprehension, $\chi^2(8) = 10.51$, $p > .10$. The results (presented in Table 1) indicate that presentation medium did not have an effect on reading comprehension; résumé readers comprehended the same information regardless of presentation medium. Therefore, the first hypothesis was not supported.

Table 1

<table>
<thead>
<tr>
<th>Number Correct</th>
<th>Paper</th>
<th>Electronic</th>
<th>Total</th>
</tr>
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<td>5</td>
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<td>1</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>4</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>10</td>
<td>9</td>
<td>15</td>
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</tr>
<tr>
<td>11</td>
<td>11</td>
<td>8</td>
<td>19</td>
</tr>
<tr>
<td>12</td>
<td>8</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>13</td>
<td>7</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>14</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

Cronbach alphas were then calculated for each dependent variable to determine whether the attributes showed acceptable internal consistency. The analysis revealed the following reliability coefficients: Interpersonal Skills ($\alpha = .81$); Technical Skills ($\alpha = .96$); Intelligence ($\alpha = .88$); Motivation ($\alpha = .84$); Qualifications ($\alpha = .88$); Leadership Ability ($\alpha = .90$); and
Resourcefulness ($\alpha = .76$). These reliability coefficients, ranging from acceptable to high, demonstrate that the individual items within each attribute were consistently rated similarly to the other items in that attribute. Table 2 illustrates Cronbach alphas, overall means, and standard deviations for each attribute.

Table 2
Reliability Coefficients for Attributes

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Cronbach's Alpha</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal</td>
<td>.81</td>
<td>22.62</td>
<td>3.30</td>
</tr>
<tr>
<td>Technology</td>
<td>.96</td>
<td>17.42</td>
<td>6.60</td>
</tr>
<tr>
<td>Intelligence</td>
<td>.88</td>
<td>21.05</td>
<td>3.89</td>
</tr>
<tr>
<td>Motivation</td>
<td>.84</td>
<td>29.96</td>
<td>5.90</td>
</tr>
<tr>
<td>Leadership</td>
<td>.89</td>
<td>23.04</td>
<td>4.40</td>
</tr>
<tr>
<td>Resourcefulness</td>
<td>.76</td>
<td>17.84</td>
<td>3.19</td>
</tr>
<tr>
<td>Qualifications</td>
<td>.88</td>
<td>27.18</td>
<td>5.17</td>
</tr>
<tr>
<td>Overall</td>
<td>.90</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To examine how the respondents grouped the 32 items from the attribute questionnaire, a principle components analysis was conducted. A varimax rotation was then applied. Using a minimum eigenvalue of 1.00, eight factors were extracted which accounted for 76.8% of the variance. The factor matrix is presented in Table 3. The intent behind the factor analysis was to determine if the items were grouped into their respective attributes. Respondents grouped all the attribute items depicting Leadership Ability and all but two Motivation items into Factor 1, which accounted for 26.1% of the variance. Two Resourcefulness items also loaded on this factor as well as on Factor 6. Factor 2 represents the items assessing Technical Skills and one Intelligence item (is gifted). It
accounted for 19.1% of the variance. Overall qualifications were grouped into Factor 3 (8.7% of the variance). Factor 4 (6.9% of the variance), a personality factor, contained all but one item from Interpersonal Skills, while Factor 5 was comprised of the items dealing with Intelligence (5.5% of the variance). The attribute items assessing Resourcefulness were grouped into Factor 6, which accounted for 3.8% of the variance. Factor 7 (3.4% of the variance) contained two items from the Motivation attribute associated with résumé development. Finally, only one item (has good interpersonal skills) loaded onto Factor 8, accounting for 3.2% of the variance. The factor structure was rather clean and supports, for the most part, the items grouped into each attribute established by the retranslation method. With the exception of the items for Leadership Ability and Motivation, which loading into one factor, and the Interpersonal Skills attribute, which was divided into two factors, the remaining items were grouped into their respective attributes.
Table 3

Factor Structure of Attribute Items (N=100)

<table>
<thead>
<tr>
<th>Attribute Items (32)</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
<th>VIII</th>
<th>Comm.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has guided others</td>
<td>.85</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.82</td>
</tr>
<tr>
<td>Has directed others</td>
<td>.83</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.77</td>
</tr>
<tr>
<td>Can manage others ef.</td>
<td>.82</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.76</td>
</tr>
<tr>
<td>Has leadership skills</td>
<td>.77</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.80</td>
</tr>
<tr>
<td>Is highly motivated</td>
<td>.69</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.73</td>
</tr>
<tr>
<td>Takes initiative</td>
<td>.66</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.73</td>
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<tr>
<td>Is a self-starter</td>
<td>.59</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.43</td>
<td></td>
<td>.72</td>
</tr>
<tr>
<td>Has high incentive</td>
<td>.52</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.76</td>
</tr>
<tr>
<td>Has good computer sks</td>
<td></td>
<td>.93</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.93</td>
</tr>
<tr>
<td>Is technologically advanced</td>
<td></td>
<td>.91</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.91</td>
</tr>
<tr>
<td>Has knowledge of computers</td>
<td></td>
<td>.91</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.93</td>
</tr>
<tr>
<td>Needs computer training</td>
<td></td>
<td>.82</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.83</td>
</tr>
<tr>
<td>Is gifted</td>
<td>.59</td>
<td>.43</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.67</td>
</tr>
<tr>
<td>Is a strong candidate for job</td>
<td></td>
<td>.86</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.83</td>
</tr>
<tr>
<td>Has necessary qualifications</td>
<td></td>
<td>.84</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.78</td>
</tr>
<tr>
<td>I would hire this person</td>
<td></td>
<td>.83</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.78</td>
</tr>
<tr>
<td>Is a competent applicant</td>
<td></td>
<td>.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.75</td>
</tr>
<tr>
<td>Has valuable job-related exp.</td>
<td></td>
<td>.60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.51</td>
</tr>
<tr>
<td>Has a warm personality</td>
<td></td>
<td>.88</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.79</td>
</tr>
<tr>
<td>Is friendly</td>
<td>.86</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.78</td>
</tr>
<tr>
<td>Is thoughtful</td>
<td>.81</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.69</td>
</tr>
<tr>
<td>Is neighborly</td>
<td>.77</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.66</td>
</tr>
<tr>
<td>Is smart</td>
<td>.87</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.90</td>
</tr>
<tr>
<td>Is intelligent</td>
<td>.83</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.85</td>
</tr>
<tr>
<td>Is bright</td>
<td>.83</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.84</td>
</tr>
<tr>
<td>Uses varied search methods</td>
<td></td>
<td>.82</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.79</td>
</tr>
<tr>
<td>Is resourceful in finding job</td>
<td></td>
<td>.67</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.68</td>
</tr>
<tr>
<td>Uses diff. methd prblm slve</td>
<td>.54</td>
<td></td>
<td>.59</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.65</td>
</tr>
<tr>
<td>Commences own ideas</td>
<td>.46</td>
<td>.53</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.60</td>
</tr>
<tr>
<td>Is careful developing resume</td>
<td></td>
<td>.81</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.78</td>
</tr>
<tr>
<td>Puts effort to submit resume</td>
<td></td>
<td>.71</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.76</td>
</tr>
<tr>
<td>Has good interpersonal skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.91</td>
</tr>
</tbody>
</table>

Eigenvalues: 8.36  6.12  2.77  2.19  1.77  1.22  1.09  1.04
% of variance: 26.1  19.1  8.7  6.9  5.5  3.8  3.4  3.2

Note. Factor matrix coefficients greater than .40 were used.

Pearson correlations show the strength of the relationships between each attribute (see Table 4). Qualifications was positively correlated to
Technical Skills, \( r = 0.36, \ p < 0.01 \), Intelligence, \( r = 0.46, \ p < 0.01 \), Motivation, \( r = 0.70, \ p < 0.01 \), and Leadership Ability, \( r = 0.24, \ p < 0.05 \). Leadership Ability was positively correlated with Interpersonal Skills, \( r = 0.23, \ p < 0.05 \), Intelligence, \( r = 0.23, \ p < 0.05 \), Motivation, \( r = 0.30, \ p < 0.01 \), and Resourcefulness, \( r = 0.53, \ p < 0.01 \). A positive correlation was also found between Motivation and Interpersonal Skills, \( r = 0.36, \ p < 0.01 \), and Resourcefulness, \( r = 0.65, \ p < 0.01 \). Finally, Technical Skills was found to be positively correlated with Intelligence, \( r = 0.63, \ p < 0.01 \).

Table 4
Intercorrelation Coefficients

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal</td>
<td>1.0</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Technology</td>
<td>-0.16</td>
<td>1.0</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Intelligence</td>
<td>-0.08</td>
<td>0.63**</td>
<td>1.0</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Motivation</td>
<td>0.36**</td>
<td>0.10</td>
<td>0.11</td>
<td>1.0</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Qualifications</td>
<td>0.12</td>
<td>0.36**</td>
<td>0.46**</td>
<td>0.70**</td>
<td>1.0</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Leadership</td>
<td>0.23*</td>
<td>-0.01</td>
<td>0.23*</td>
<td>0.30**</td>
<td>0.24*</td>
<td>1.0</td>
<td>--</td>
</tr>
<tr>
<td>Resourcefulness</td>
<td>0.19</td>
<td>0.11</td>
<td>0.07</td>
<td>0.65**</td>
<td>0.17</td>
<td>0.53**</td>
<td>1.0</td>
</tr>
</tbody>
</table>

** \( p < 0.01 \); * \( p < 0.05 \)

A MANOVA was then conducted using presentation medium and reference group as independent variables and the seven attributes as the dependent variables. Results showed presentation medium had a significant effect on attribute ratings, \( F(1,96) = 9.77, \ p = 0.000, \) Wilks = 0.56. Univariate analyses identified significant effects of presentation medium on Interpersonal Skills, \( F(1,96) = 11.43, \ p = 0.001, \) \( \eta^2 = 0.10 \); Technical Skills, \( F(1,96) = 48.51, \ p = 0.000, \) \( \eta^2 = 0.34 \); Intelligence, \( F(1,96) = 20.27, \ p = 0.000, \) \( \eta^2 = 0.17 \); and Qualifications, \( F(1,96) = 6.64, \ p = 0.012, \) \( \eta^2 = 0.07 \). All other attributes failed to show significant differences between
groups. On Interpersonal Skills, the paper résumé was rated higher (M= 23.70, SD= 3.81) than the electronic résumé (M= 21.54, SD= 2.34), demonstrating that the paper résumé was perceived as being a more personable résumé than the electronic résumé. However, Technical Skills, Intelligence, and Qualifications were rated significantly higher for electronic résumés (M= 21.10, M= 22.64, M= 28.38) than their paper résumé counterparts (M= 13.78, M= 19.46, M= 25.98 respectively). These results (presented in Table 5) indicate that the applicant who submitted the electronic résumé was perceived as being more technologically advanced, more intelligent, and having better overall qualifications for the position. These results support the second hypothesis.

Table 5
Univariate Effects of Presentation Medium

<table>
<thead>
<tr>
<th>Attribute</th>
<th>F</th>
<th>Eta Square</th>
<th>Power</th>
<th>Paper</th>
<th>Electronic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal</td>
<td>11.423**</td>
<td>.106</td>
<td>.92</td>
<td>23.70</td>
<td>21.54</td>
</tr>
<tr>
<td>Technology</td>
<td>48.514**</td>
<td>.336</td>
<td>1.00</td>
<td>13.78</td>
<td>21.06</td>
</tr>
<tr>
<td>Intelligence</td>
<td>20.268**</td>
<td>.174</td>
<td>.99</td>
<td>19.46</td>
<td>22.54</td>
</tr>
<tr>
<td>Motivation</td>
<td>0.161</td>
<td>.002</td>
<td>.05</td>
<td>30.20</td>
<td>29.72</td>
</tr>
<tr>
<td>Qualifications</td>
<td>6.636*</td>
<td>.065</td>
<td>.72</td>
<td>25.98</td>
<td>28.38</td>
</tr>
<tr>
<td>Leadership</td>
<td>0.049</td>
<td>.001</td>
<td>.04</td>
<td>22.94</td>
<td>23.14</td>
</tr>
<tr>
<td>Resourcefulness</td>
<td>0.385</td>
<td>.004</td>
<td>.16</td>
<td>17.64</td>
<td>18.04</td>
</tr>
</tbody>
</table>

df= (1,96)
** p<.01; * p<.05

The MANOVA also revealed a significant main effect of reference group, F(1,96)= 4.03, p=.001, Wilks= .76. Separate univariate ANOVA’s (see Table 6) revealed significant differences in Technical Skills, F(1,96)= 12.40, p=.001, eta²= 0.11; Intelligence, F(1,96)= 4.04, p<.047, eta²= 0.04; and Qualifications, F(1,96)= 13.00, p=.000, eta²= 0.12. On Technical Skills, the reference group requiring technical abilities (M= 15.58, SD=...
6.12) was rated significantly lower than the non-technical reference group (M= 19.26, SD= 6.61). Similar ratings were found in the Intelligence and Qualifications attributes. The technical reference group was rated significantly lower for Intelligence (M= 20.34, SD= 3.65) and Qualifications (M= 25.50, SD= 5.36) than the non-technical reference group (M= 19.26, SD= 6.60; M= 28.86, SD= 4.42 respectively). These results, presented in Table 6, demonstrate that the job applicant was perceived as being more intelligent, technologically advanced, and possessing better qualifications when technical requirements were lower (non-technical reference group). These findings support the third hypothesis.

Table 6
Univariate Effects of Reference Group

<table>
<thead>
<tr>
<th>Attribute</th>
<th>E</th>
<th>Eta Square</th>
<th>Power</th>
<th>Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Technical</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>0.004</td>
<td>.000</td>
<td>.03</td>
<td>22.60</td>
</tr>
<tr>
<td>Technology</td>
<td>12.400**</td>
<td>.114</td>
<td>.91</td>
<td>15.58</td>
</tr>
<tr>
<td>Intelligence</td>
<td>4.040*</td>
<td>.040</td>
<td>.51</td>
<td>20.34</td>
</tr>
<tr>
<td>Motivation</td>
<td>0.040</td>
<td>.000</td>
<td>.04</td>
<td>30.08</td>
</tr>
<tr>
<td>Qualifications</td>
<td>13.000**</td>
<td>.119</td>
<td>.95</td>
<td>25.50</td>
</tr>
<tr>
<td>Leadership</td>
<td>0.197</td>
<td>.002</td>
<td>.05</td>
<td>22.84</td>
</tr>
<tr>
<td>Resourcefulness</td>
<td>0.465</td>
<td>.005</td>
<td>.09</td>
<td>17.62</td>
</tr>
</tbody>
</table>

|                  |    |            |       | Non-Technical  |
| Interpersonal    | 22.64 |       | .03 | 22.60         |
| Technology       | 19.26 |       | .91 | 15.58         |
| Intelligence     | 21.76 |       | .51 | 20.34         |
| Motivation       | 29.84 |       | .04 | 30.08         |
| Qualifications   | 28.86 |       | .95 | 25.50         |
| Leadership       | 23.24 |       | .05 | 22.84         |
| Resourcefulness  | 18.06 |       | .09 | 17.62         |

df= (1,96)
**p<.01; *p<.05

The MANOVA also examined the interaction effects of presentation medium and reference group. The analysis revealed a non-significant interaction, F(1,96)=1.42, p=.206, Wilks=.90, indicating an absence of an interaction between presentation medium and reference group. These findings do not support the fourth hypothesis.

A second MANOVA was implemented to determine if a gender difference existed in the attribute ratings. The analysis indicated a non-
significant gender effect on the ratings, $F(1,98)=.55$, $p=.793$, Wilks = .96. Essentially, males and females gave similar ratings to the applicant.

Finally, a one-way ANOVA was conducted to determine if computer comfort level differed by résumé presentation medium. The results demonstrate that individual computer comfort levels did not differ between presentation mediums, $F(1,98)=.04$, $p=.842$. 
Discussion

This experiment demonstrated that a journalist applicant's attribute ratings were different as the result of résumé presentation medium as well as reference group. In essence, despite the fact that both résumés were identical in format and content, the résumés were not perceived in a similar fashion by the résumé readers. These differences cannot be attributed to reading comprehension and show no association with gender. These perceptual differences could be important to both the applicant as well as an employer.

Résumé Presentation Medium

Paper résumé formats produced the impression of friendliness, a warmer personality, while the electronic résumé gave the impression of higher intelligence, more technological advancement, and overall better qualifications.

Several explanations may exist for the fact that, with the paper résumé, the applicant was viewed as friendly and more personable than with the electronic résumé. Receiving a paper résumé, specifically directed towards the résumé reader may have a more personal connotation than the electronic counterpart. This "personal" or "more friendly" stigma may explain why résumé database recruitment has not become more integrated into the selection process. Perhaps the computer is perceived as an impersonal tool in itself, and this characteristic generalizes to information transmitted through the computer, including an electronic résumé.
The findings that the applicant was more technologically advanced, more intelligent, and possessed more of the necessary qualifications to fulfill the vacant position complies with the correspondence inference theory postulated by Jones and Davis (1965). The method of submitting an electronic résumé was not socially desirable and was an unexpected behavior for the occupation of journalism. Therefore, the résumé reader developed some personal dispositions about the applicant to possibly understand why the applicant submitted the résumé in this fashion. Does the applicant possess some superior intellect that makes it possible to present a résumé on the internet? This may be one question that the respondents were trying to answer when responding to the attribute items. Intuitively, this makes sense: The applicant must have some underlying knowledge behind the process of sending an electronic résumé, therefore, the applicant must have strong technical skills. The strong significant intercorrelation between Technical Skills and Intelligence may suggest a perception that in order to be technologically advanced, the applicant must be more intelligent. Furthermore, since the electronic résumé depicts more intelligence and more technical skills, the respondents overall perception about the applicant’s qualifications will also be higher. Intelligence is the predominant construct to predict future success within a position (McHenry, Hough, Toquam, Hanson, & Ashworth, 1990; Ree, Earles, & Teachout, 1994). Therefore, if the respondents are rating the electronic résumé as more intelligent, this would raise their ratings of the applicant’s overall qualifications.

The results of the reading comprehension analysis did not reveal a significant difference between the paper and electronic résumé on recall of information, demonstrating that the résumé readers gathered the same
information regardless of résumé presentation medium. This finding is in accordance with previous research conducted by Rice (1994), Oborne and Holton (1988), and Askwall (1985), showing that there is no difference in reading comprehension in material that is presented on paper or computer screen. With this non-significant difference, the effect of reading comprehension can be eliminated as a possible confound in interpreting the significant main effect of presentation medium.

Several other possible confounds can be eliminated. The absence of gender differences in the attribute ratings indicated that both genders rated the applicant similarly. Thus, gender does not present a confound when interpreting the main effect of presentation medium. The absence of a significant difference between computer comfort level (how comfortable one feels about using a computer and accessing the internet) and résumé medium demonstrates that respondents in each condition felt equally comfortable using a computer. This eliminates the confound of novelty (Belmore, 1985) using a computer. Both of these non-significant effects support the main effect of presentation medium.

**Effect of Reference Group**

The correspondence inference theory requires a reference group to provide a basis for comparing uncommon behaviors (Jones & Davis, 1965). In the context of the present study, personal dispositions are formulated when the applicant's behavior deviates from the expectations established from the reference group. Weiner (1986) supports this notion, stating that unexpected behaviors elicit more elaborate causal explanations. The analysis revealed that the manipulation of the reference group (either technical or non-technical) produced different perceptions about the job applicant. When the job description listed a specification requiring
internet research experience, respondents rated the applicant less technologically advanced than when this specification was absent. The technical requirements also significantly lowered the respondents' ratings on Intelligence. The presence of a technical reference group also resulted in a lower attribute rating of overall qualification when compared to a non-technical reference group. In essence, the applicant was perceived as being more qualified for the vacant position when the job did not refer to a technical reference group. One plausible explanation for these results is that when the respondents were given the specifications of a technical position, they might have established higher expectations for the job applicant. Therefore, when the résumé readers completed viewing the résumé, they were expecting an applicant to comply with these high technical expectations. Essentially, the respondents were looking for someone who may have been more intelligent and technologically advanced because the position required advanced technical skills.

The lack of a significant interaction effect between presentation medium and reference group indicates that each main effect was not affected by the other. Essentially, the difference between the ratings of paper résumés and electronic résumés were the same when the job description referred to a technical reference group as when it referred to a non-technical reference group.

Limitations

One of the major limitations of this experiment was the use of college students to play the role of a newspaper owner. The undergraduates may not have the same motivation to locate an individual to fill a position as a real newspaper owner. Also, college students do not
have comparable experience in reviewing résumés and making selection decisions as people in the business community. These limitations inhibit the generalizability of the results to the real work world. Further experiments should test similar effects utilized in this experiment to determine if the results can be extended to real world employers and human resource managers.

Another limitation was the job position implemented to measure the different attributes. This position was selected to fulfilled the requirements (gender neutral, familiarity, and non-technical) established in the job selection pilot study. A Journalist is just one of the plethora of occupations that require résumés as a precursor to the selection process. Therefore, these findings may not generalize to other occupations.

The fact that the experiment was essentially conducted under some controlled conditions limits the realism of the experiment. That is, the résumés were controlled for gender stereotyping, content and format. Typically, résumé readers receive many different forms of résumés, each differing in content as well as the gender of the applicant. Also, a standardized rating form was used. Most employers do not use this when reviewing résumés.

Implications

As stated earlier, the résumé provided information concerning the job applicant that eventually lead to the development of a first impression about the applicant (Knouse, 1994; Greenly, 1993). This study provided evidence that, despite the fact that résumés may be similar in content, résumés using different presentation media may not be perceived the same. Presentation medium may directly affect the type of impression an applicant makes upon an employer. Since the résumé must
provide the résumé reader with a compelling reason to want to gain more information from the applicant through an interview (Divita, 1995), the manner in which the résumé is presented can either enhance or hinder the impression made upon the résumé reader. Essentially, the presentation medium of the résumé can increase or decrease the applicant’s chances of a future interview. It is the applicant’s résumé that creates the initial impression that is difficult to alter (Greenly, 1993).

One question we may ask is which résumé presentation medium is more effective? Effectiveness of a résumé will be affected by what an employer is looking for in a job applicant. This may depend upon the information placed in the job ad or the dynamics of the position. For example, if an employer is looking for an individual with a friendly personality, based upon the results in this experiment, they may be biased toward an applicant who submits a paper résumé. On the other hand, if an employer prefers an individual who possesses advanced technology skills, the employer may be biased toward an applicant who sends an electronic résumé.

Choice of résumé medium may be affected by the impression the applicant wants to portray. If the applicant thinks that the employer is looking for an individual who is friendly and possesses people skills, again, a paper résumé may enhance these features about the individual. The paper résumé can create a friendly impression upon the employer. To the contrary, if the applicant thinks that the employer is looking for an individual who is technologically advanced, more intelligent, and having better qualifications, an electronic résumé may enhance these aspects of the applicant.
This study also showed that reference group can have an effect on the résumé readers’ expectations of the applicant, regardless of résumé medium. What type of reference group is more effective? This may depend upon what type of applicant the employer is seeking. A technical reference group may raise an employer’s expectations for the applicant, possibly lowering the perception of the applicant’s technical skills, intelligence, and overall qualifications. When an applicant does not meet or surpass these expectations, this may affect the impression developed by the employer. This may limit the number of applicants who surpass these expectations and progress through the selection process, possibly reducing the number of interviews. However, a non-technical reference group may lower expectations, also affecting the employer’s impression of the applicant. This may increase the number of applicants who pass the initial screening, possibly increasing the number of interviews. In any case, the employer’s perception of the applicant will be biased by the reference group to which the applicant is compared.

A job specification on the job description establishes a specific reference group that may bias perceptions about the applicant. The results indicated that when a specific reference group is established in the résumé reader’s mind, an evaluation bias occurs. But what about the other mental reference groups that are used in evaluations when a reference group is not specified? If varied other reference groups are used for evaluation purposes, this suggests that applicants may not be evaluated the same. For example, if two applicants possess similar qualifications but are compared to different reference groups, one applicant may receive a more favorable evaluation than the other. Establishing a set reference group can help control this.
The power and eta square values support the implications of presentation medium and reference group. Power is the probability of correctly rejecting the null hypothesis when it is false; eta square indexes the strength of the relationship between the independent and dependent variables (Jaccard & Becker, 1993). Despite the fact that most of the eta square values approached a weak effect, there were enough participants in the study to provide sufficient power. Most of the significant effects had a power values greater than .90, indicating that at least 90% of the time, the null hypothesis will be rejected (Stevens, 1980). These findings also tended to have moderate eta square values (.10 to .25; Jaccard & Becker, 1993). While these effects may seem small, they may be sufficient to provide one applicant an edge over another. This supports the notion that presentation medium and reference group can affect the résumé reader's perception of the applicant.

**Future Research**

Replications of this study may explore the effects that paper and electronic résumés have upon employers, managers, and/or human resource managers. The results of this study should provoke the interest of businesses and corporations who view résumés (paper and electronic) on a daily basis. It may be evident that the effects found in this study can be extended to the business environment, where similar effects may be evident. If this is the case, résumé readers in the business world may need to be informed of the influences associated with the different résumé mediums, incorporating them into the selection process.

Another interesting extension of this study would examine the effects that different reference groups have upon applicants in the corporate world. The effects found in this study may extend into business
résumé readers. It would be interesting to examine how different reference groups, established by the job specifications, may affect the applicant's evaluations. Based on the results of this study, it would be expected that different reference groups would affect the résumé reader's attribute ratings for the applicant. Knowledge of the effects of different reference groups can also be incorporated into the selection process.

Future studies should be pursued to examine if the effects of résumé medium and reference group are evident for positions that may not be perceived as gender neutral. A study could examine if a possible gender stereotype exists when evaluating different résumé mediums and if the stereotype exists when the reference group is altered. Would men and women be perceived similarly depending upon résumé medium? Are men and women perceived similarly depending upon job specifications? The results from such a study could determine if such stereotypes exists. If any stereotypes do exist, the results would help determine what résumé modality is more or less effective for each gender.

Also, it would be interesting to see if similar effects are detected for technical positions such as a computer programmer or other highly technical occupations. Because of the technical reference group, sending an electronic résumé may not be uncommon and may be socially desirable. Low correspondence (Jones & Davis, 1965) may be established, in which case the electronic résumé would not indicate some underlying personal disposition.

Future research might investigate the perceptions associated with a résumé if it is submitted directly (as the case with paper résumés and electronic résumés sent via e-mail) or submitted indirectly (as the case with résumé databases). It would be interesting to discover if there is a
perceptual difference between paper and electronic résumés when one is submitted directly while the other is submitted indirectly. It may be the case that the directly submitted (paper or electronic) résumé may be associated with a friendly personality while the indirectly submitted résumé may not carry the same association. If this is the case, résumé readers may develop a more friendly initial impression about an applicant.

Conclusion

In conclusion, this study discovered that a journalist applicant's attribute ratings were affected by résumé presentation medium and reference group. These findings can have a profound effect on the applicant as well as the employer. This is the first study known to examine these effects, indicating that more research needs to be done in this area of the selection process. This is an important area to study in order to gain a more complete understanding of the influences involved in the selection process. Knowledge of these preferences can be used to ensure that applicants receive fair evaluations.
References


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Taft University, Langworthy, Wisconsin
BA in Journalism and Mass Communication
May 1997
Major: Journalism
3.5 GPA on 4.0 scale

Experience:
Intern, KEDP Channel Ten
Clearwater, Minnesota
May 1996 - August 1996
Assistant to News Anchor
- compiled stories for evening broadcast
- assisted reporters with line coverage and story headlines

The Bulletin, Taft University
Langworthy, Wisconsin
Editor-in-Chief
August 1995 - May 1996
- organized, edited, and designed student run newspaper
- taught basic news writing and reporting skills to incoming freshmen

River View Diner
Dubuque, Iowa
May 1993 - August 1995 (Summers)
- took food orders from customers
- operated cash register, calculating correct change
- helped clean restaurant during non-peak hours

Mike's Grocery Store
Dubuque, Iowa
May 1993 - August 1994 (Summers)
- bagged groceries

The '93 Jackson High School Year Book
Dubuque, Iowa
Editor-in-Chief
August 1992 - May 1993
- copy-edited all material before publication
- coordinated staff meetings
- organized publicity for publication dates

Honors:
Dean's List
Young Writers Club

References and clips available upon request
Job Description

Instructions:
You are the owner of a newspaper who is searching for a qualified college graduate of journalism to fill a vacant position. As the owner, you are looking to hire an individual who fits the journalist job description below. Please open the envelope (or type in the internet address) to view the resume the job applicant has submitted to the company. You will have three minutes to view the resume before completing an evaluation sheet.

Job Title: Journalist (Newspaper)

Major Duties:
--analyzes and collects information about newsworthy situations to write news stories for publication either through assignments or investigating leads and news tips.
--gathers information regarding the news through research, observations, and interviews.
--organizes the information, placing emphasis on the major headlines, writing in accordance with a standard format.
--may monitor emergency communications to obtain possible leads.
--may assist in editing, organizing the stories, before the final publication is released.

Job Specifications:
--prior experience in reporting.
--training/education in journalism.
--internet research experience necessary. (for technical reference group only)
**Evaluation Sheet**

Age ______
Gender ____M ____F
Major ____________

Based on your review of the resume and job description, please respond to the following questions.

1. Please rate the job applicant on each of the following statements by circling the appropriate number using the rating scale below:

<table>
<thead>
<tr>
<th>Disagree Strongly</th>
<th>Disagree Moderately</th>
<th>Disagree Mildly</th>
<th>Not Sure Mixed</th>
<th>Agree Mildly</th>
<th>Agree Moderately</th>
<th>Agree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

- Has good interpersonal skills
- Has knowledge of computers
- Is intelligent
- Is highly motivated
- Has directed others
- Is careful in developing the resume
- Has valuable job-related experience
- Has a warm personality
- Uses varied job search methods
- Is technologically advanced
- Takes initiative
- Has leadership skills
- Is resourceful in finding a job
- Puts effort into submitting the resume
- Is smart
- Has good computer skills
- Is friendly
- Has the necessary job qualifications
- Is a strong candidate for the job
- Is gifted
- Has high incentive
- Needs computer training
<table>
<thead>
<tr>
<th>Résumé Perception</th>
<th>51</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can manage others effectively</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>Is thoughtful</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>Is a competent applicant</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>Commences own ideas</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>Is bright</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>Is a self-starter</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>Has guided others</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>Is neighborly</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>Used different methods to problem solve</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>I would hire this person for the job</td>
<td>1 2 3 4 5 6 7</td>
</tr>
</tbody>
</table>
2. Please respond to these statements by circling Y if the statement is correct or N if the statement is incorrect (about the job applicant).

Y N Was editor for The Bulletin
Y N Wrote for Taft Magazine
Y N Graduated in December 1997 with 3.5 GPA
Y N Was manager of Mike's Grocery Store
Y N Published the high school year book
Y N Made the Dean's list
Y N Had internship with Channel Ten
Y N Worked the cash register at the River View Diner
Y N Was in the Young Writers Club
Y N Taught news writing skills to college freshman
Y N Graduated from Hoover University
Y N Was editor for the Langworthy Times
Y N Took food orders at the River View Diner
Y N Spent one summer in Minnesota

3. Please circle the number which corresponds to your feelings about yourself using the following scale:

<table>
<thead>
<tr>
<th>Disagree Strongly</th>
<th>Disagree Moderately</th>
<th>Disagree Mildly</th>
<th>Not Sure Mixed</th>
<th>Agree Mildly</th>
<th>Agree Moderately</th>
<th>Agree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

I feel comfortable using a computer 1 2 3 4 5 6 7
I feel comfortable using the internet 1 2 3 4 5 6 7
Attributes with Statements

Intelligence (4)
Is intelligent
Is smart
Is gifted
Is bright

Motivation (6)
Is highly motivated
Takes initiative
Is a self-starter
Has high incentive
Puts effort into submitting the resume
Is careful in developing the resume

Technology (4)
Has knowledge of computers
Is technologically advanced
Has good computer skills
Needs computer training

Leadership Skills (4)
Has leadership skills
Can manage others effectively
Has directed others
Has guided others

Interpersonal Skills (5)
Has good interpersonal skills
Is neighborly
Is thoughtful
Is friendly
Has a warm personality

Qualifications (5)
Has valuable job related experience
Is a competent applicant
Has the necessary job qualifications
Is a strong candidate for the job
I would hire this person for the job

Resourcefulness (4)
Commences own ideas
Is resourceful in finding a job
Uses different methods to problem solve
Uses varied job search methods