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# APPLICANT BEHAVIOR ON INTERNET JOB BOARDS: THE EFFECTS OF CONTENT AND STYLE

A Dissertation Presented in Partial

Fulfillment of the Requirements for the

Degree of Doctor of Philosophy

BY

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4/1/2012

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## <u>VITA</u>

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#### CHAPTER I

#### INTRODUCTION

The recruitment literature has seen dramatic growth over the course of the last decade (Breaugh, 2008). This is unsurprising given that effective recruitment is extremely important to organizational success (Barber, 1998). In fact, research by the Watson Wyatt consulting group determined that recruiting effectiveness was one of the five primary human resources practices that impacted ultimate shareholder value (Grossman, 2000). Barber (1998) notes that there are three major phases to the recruitment process: generating applicants, maintaining applicant interest, and influencing job choice. The first step of generating applicants can arguably be considered the most important step as failure here makes the next two steps irrelevant (Allen, Mahto & Otando, 2007; Rynes & Barber, 1990) thus substantially decreasing the utility of recruitment. This first step in the recruitment process is the subject of the present research, specifically as it relates to job postings found on major online job boards.

While a respectable amount of research focuses on applicant attraction in the online context, there is relatively little research around applicant generation within the context of major online job boards (e.g., CareerBuilder, Monster; Breaugh, 2007). The present research heeds the call of other recruitment researchers (Williamson, King, Lepak & Sarma, 2010) by addressing this gap in the literature. This research examines several hundred job advertisements found on one major online job board to determine what, if any, objective factors within the posting increase the likelihood that someone viewing the job will apply to it.

Unlike past research, the present research focuses less on proximal outcome variables such as attraction and focus instead on the more distal outcome variable of actual job seeker behavior. Specifically, this research examines actual pools of job seekers making real application decisions with the final outcome variable representing objective likelihood that job seekers will apply for a position.

Beyond the unique setting and scope of the research, this research also makes a theoretical contribution to the literature. Whereas past research on content relating to information about the job has generally failed to adequately distinguish between job duties and job requirements, this research separates these two different aspects of a job advertisement to analyze their unique effects on job seeker behavior. Additionally, information about the organization are linked to policies (e.g., supportiveness with work-life balance policies, emphasis on rewards with specified rewards policies) in a systematic manner that previous research has not done. Regarding the stylistic aspects of recruiting, different aspects of vividness (e.g., animations, videos) are parsed out in a way not seen yet in the online recruitment literature and hypothesized to uniquely contribute to job seeker behavior.

#### Recruiting and the Internet

Use of the Internet as a recruiting tool has become a major area of research efforts (Anderson, 2003; McManus & Ferguson, 2003). Galanaki (2002) defines online recruiting (or cyber recruiting, e-recruiting, or Internet recruiting) as "the formal sourcing of job information online" (p. 243). According to Galanaki, this "formal sourcing" generally consists of 1) adding recruitment pages to existing

websites that can be navigated by job seekers, 2) purchasing job advertisements in traditional media that will also appear on their websites, and/or 3) purchasing space on dedicated online job boards (e.g., CareerBuilder, Monster) that act as intermediaries between the job seeker and the employer. A fourth aspect of online recruiting that should potentially be considered is the use of social media (e.g., Facebook, Twitter, LinkedIn) to share information about job openings, which is on the rise among organizations in the past few years (Kaplan & Haenlein, 2010).

Kay (2000) notes that organizations save at least \$1,200 per employee when using the Internet as the recruitment medium versus more traditional methods, while Marcus (2001) estimates even more dramatic savings. The process can be made even more efficient through the use of recruitment-specific software, such as applicant tracking systems (e.g., Taleo, Bullhorn), that is readily available for organizations to implement (Millman, 1998). This is an extraordinarily important consideration as the cost efficiency of online recruiting is the primary reason organizations use it (Galanaki, 2002).

Anderson (2003) notes that the Internet has seen massive adoption due to its ease of reaching so many consumers and potential employees, and that a variety of tools may be used in this process. The Internet has become the primary source to receive résumés and find new hires (Cober & Brown, 2006), which has led recruiters to depend on the results it brings (Harrington, 2002). Seemingly justifying its use, organizations are generally pleased with the Internet as a recruiting tool and continue to use it (Galanaki, 2002).

Online recruiting benefits job seekers as much as organizations, if not more. Job-seekers who use the Internet were able to find more jobs than those who used traditional methods; similarly, job seekers who used these more "modern" job search approaches had the best affective reaction to the job search process compared to other groups of job seekers (Van Rooy, Alonso & Fairchild, 2003). Feldman and Klaas (2002) observed that using the Internet as a job search tool was the second-most preferred job search method overall behind personal networking. Working in tandem with this is the fact that information found during an Internet job search is perceived as more credible than other sources (Rozelle & Landis, 2002).

Two major reasons that individuals prefer the Internet as a recruitment method is the ability to look through a large number of jobs with dramatically reduced exit costs, and that the job search is less likely to interfere with current employment (Maher, 2000; Silverman, 2000). These job seekers are considered "passive" job seekers in that they are not necessarily in need of a new job, but they would be willing to take one. Prior to the use of the Internet as a recruiting tool, it was tough to access this group of passive job seekers because they would be less likely to actively contact an organization about employment opportunities even if they were qualified and would be interested in the position. Boehle (2000) noted that the ability to reach these passive job seekers is a major benefit to employers.

Another major benefit of online recruiting is the removal of geographic restrictions to one's job search (Feldman & Klaas, 2002). The Internet makes it

possible for individuals to look for jobs both in and outside of their immediate local geographic area. This opens up the potential applicant pool for employers to an enormous number of candidates who may be outside the immediate employment region and interested in their jobs for any number of reasons (e.g., no available jobs in their current location, interest in moving to new part of the country, general curiosity). The Internet changes the recruiting landscape in a way other recruiting tools cannot.

Estimates have shown that over 90% of organizations use the Internet to recruit candidates (Cappelli, 2001), with many placing a heavy reliance on the web as their primary recruitment source (Anderson, 2003). Most of the research on the use the Internet for recruitment purposes has focused on employer websites as the recruitment medium, while Breaugh (2008) observed that very few studies about online recruitment have examined major online job boards such as CareerBuilder and Monster (two notable exceptions: Brenčič & Norris, 2009; Jattuso & Sinar, 2003). This seems to be a dramatic oversight as these online job boards are very popular and visited often by job seekers; as of December 2010 the online traffic analytics company Alexa (http://www.alexa.com) lists CareerBuilder (http://www.careerbuilder.com) as the 123<sup>rd</sup> most popular website in America while Monster (http://www.monster.com) is 168<sup>th</sup>. Indeed (http://www.indeed.com), an aggregator for job postings placed on online job boards, displays the number of new jobs posted over the past seven days; this number almost always exceeds one million new job postings (http://www.indeed.com).

Past online recruitment literature has relied heavily on student samples as research participants (Chapman, Uggerslev, Carroll, Piasentin & Jones, 2005). While students may be more appropriate for research on organizational attraction, which forms the basis of the much of the theoretical foundation in the recruitment literature, they are less appropriate when attempting to examine behavioral outcomes or for examining the favorability of an employment opportunity. Research shows that an employed-persons sample varied substantially from a student sample when evaluating objective and subjective organizational attributes, likely due to the effect experience has on the evaluation process (Lievens & Highhouse, 2003). This research also addresses this shortcoming of the literature by relying on actual job seekers behavior to create the outcome variable.

The remainder of the introduction reviews a conceptual framework that distinguishes between content and style in online recruiting mediums (Cober, Brown, Levy, Cober & Keeping, 2004a; Huizingh, 2000) when discussing objective features of a job posting. Following that is a review of the theoretical basis for why job content may influence job seeker behavior. Research on organizational attraction serves as much of the empirical foundation for this proposal. Accordingly, the theory of planned behavior (Ajzen, 1991) is used to 1) link past research on organizational attraction to applicant pursuit intentions and behavior and 2) explain how and why job content would likely influence job seeker behavior.

Once that theoretical basis is established, a number of different types of job posting content (i.e., different information about the organization and the job)

are examined for their likely effects on job seeker behavior. The literature review then examines how job posting style may influence job seeker behavior. Signaling theory (Spence, 1973) provides the theoretical underpinning for why supposedly "non-relevant" factors such as colors and images may influence job seekers. Different stylistic considerations that are likely to influence job seeker behavior based on past research are discussed. A discussion of how job advertisement content may influence the demographic makeup of one's applicants is also presented, followed by the methodology and plan of analysis for the present research.

### Content and Style: An Online Framework

Early research using websites as the focal medium for communication established a distinction between the content and design of those websites (Huizingh, 2000). Huizingh's research examines how different groups of organizations used websites to convey a message about themselves to consumers in order to achieve organizational goals; based on the resulting content and design dichotomy, a framework for how researchers could analyze websites was created. *Content* refers to the actual information conveyed on websites such as information about the company, company services, organizational culture, societal contributions and job openings. *Design* refers to both the aesthetic considerations of the website and the "features" the design allowed, such as a website search function and navigational structure.

Cober et al. (2004a) adapted this model to an online recruitment context; while their conceptualization kept the content factor, their research differentiated

design into style and function, whereas Huizingh's (2000) model combined these two into a single factor. Style referred only to the aesthetic qualities of the online medium (e.g., use of colors, formatting) while *function* refers more to the utility of the online medium, such as the examples given above (i.e., search and navigation). Another difference from Huizingh (2000) is that Cober and colleagues were only interested in websites from a recruiting perspective, so their content was more focused on recruitment-specific content than the particular information about job duties and requirements, listed benefits and employee testimonials. While this conceptualization should apply directly to online job boards, it should be noted that function, while no doubt important in the online recruiting context (e.g., Kroustalis, 2009; Swaak, de Jong & de Vries, 2009), is held constant when all job postings are contained within the same website. Thus, the effect of function is inherently controlled across companies and job postings when recruiting on job boards. This allows the current research to target content and style of job postings specifically, and how these factors may affect job pursuit behavior.

Given this understanding of the conceptual foundation and importance of both content and style, a review of the specific ways each may contribute to impact job seeker behavior follows.

#### Job Posting Content

Recruitment research has focused on four main outcome variables: organizational/job attraction (which tend to be used interchangeably with job attraction), job pursuit intentions, job acceptance intentions, job pursuit behavior,

and job choice behavior (Chapman et al., 2005; Schreurs et al., 2009). Organizational attraction and recruitment intention variables are the nonbehavioral outcome variables, and as such are more often found in the recruitment literature. Organizational attraction is the most widely-used outcome variable in recruitment research because it is easier to collect than the other measures that depend on having an appropriate sample in the right context (e.g., professionals actually looking for or considering job opportunities). Conversely, this measure is more distally associated with actual job seeking behavior and is generally collected from student samples that may not be seeking jobs anytime soon. Despite the fact that influencing applicant behavior is the most desired outcome to recruitment, attracting applicants is the most immediate objective of any recruitment effort (Rynes, 1991) as it functions as a precursor for more distal behavioral effects (Gatewood, Gowan, & Lautenshlager, 1993). Further, Lawler, Kuleck, Rhode and Sorenson (1975) observed that attraction at one point in time is related to job choices at a later point in time, so as an outcome variable it is certainly informative. Pursuit and acceptance intentions are other common outcomes in recruitment research.

Intentions are discussed more below in the context of the theory of planned behavior (Ajzen, 1991) as a mediator between the attitudinal component of organizational attraction and actual job pursuit behavior. In short, recruitment intentions are more active and are more closely related to actual behavior; thus, they are typically a good indicator of behavior later in the recruitment process (Allen et al., 2004) even if they are not representatives of behaviors themselves.

Job pursuit behavior is often the most "ideal" outcome variable as it deals with a tangible outcome that is completely under one's own volition. Job pursuit behavior can refer to many things, having been operationalized in diverse ways such as a decision to apply to a job (e.g., Collins, 2007), attendance at recruitment and selection sessions (e.g., Schreurs et al., 2009), and use of recruitment agencies (David, 2007). Job choice is another behavioral outcome and is the least studied of the typical recruitment outcome variables due to the difficulty of obtaining a sample and the uncontrollability of whether, and for what reason, job offers will be extended. Because job choice relies on one or several companies to enable the behavior to occur (i.e., one cannot choose a job one when one is not extended a job offer) it is less often studied in the recruitment literature.

The present research uses job pursuit behavior as its dependent variable, and specifically looks at whether or not job seekers click the "Apply Now" or equivalent button found on online job boards. A unique condition of this research is that the application behavior is not operationalized at the level of the job seeker, but rather at the level of the job for which applicants are exposed to as the proportion of job posting viewers that choose to apply to the job once it has been viewed. This is a novel outcome variable that is rendered necessary by the way the data are obtained from the cooperating online job board, and result in the ultimate outcome variable of "likelihood to apply." This outcome is an objective and empirical probability of application based on aggregated job seeker behavior towards the jobs being analyzed.

Though the present research is focusing on job seeker behavior, as mentioned above organizational attraction is the most common outcome studied and thus much of that research serves as the foundation for the present research. Organizational attraction has traditionally been thought of as a function of three things: objective job and organizational attributes, subjective considerations, such as image or fit, and critical recruitment contact (Behling, Labovitz, & Gainer, 1968). The first of these factors (i.e., objective job and organizational attributes) is the interest in this research. Behling and colleagues' conceptualization provides the "what" of attraction (i.e., job and organizational attributes, subjective considerations and recruitment contact), but it doesn't explain how organizational attraction impacts job seeker behavior as was discussed above. To make that link we must turn to the theory of planned behavior (Ajzen, 1991).

## The Theory of Planned Behavior.

The theory of planned behavior is an extension of a similar theory, the theory of reasoned action (Ajzen & Fishbein, 1977). The former states that individuals form beliefs about a target (i.e., a person, object, entity), and these beliefs lead to attitudes about the target; positive beliefs manifest into positive attitudes toward the target, and negative beliefs manifest into negative attitudes toward the target. These attitudes toward a target manifest into attitudes toward behaviors associated with the target, which in turn manifest into intentions to engage in those behaviors. Finally, the intentions to engage in the behavior predict ultimate behavioral choices. A brief example would be someone believing a car dealership is deceptive, which leads to negative attitudes towards the car

dealership. These attitudes lead to negative attitudes toward buying from that car dealership, which increases the intention to avoid that car dealership and ultimately affects the behavior of visiting that dealership or not.

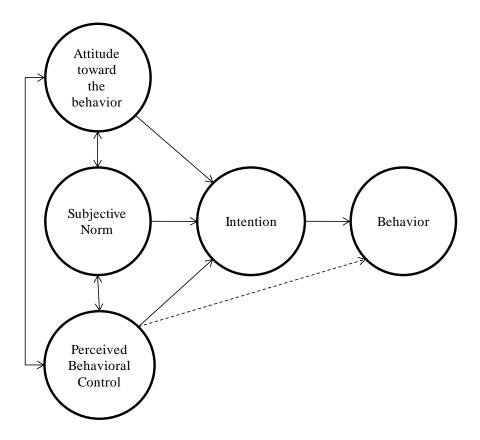


Figure 1. The Theory of Planned Behavior

The theory of planned behavior is not substantially different than the theory of reasoned action (Ajzen, 1991), but rather an update. The major difference is that the theory of planned behavior accounts for behaviors that are not under volitional control. Thus, if a person forms a belief about a target that leads to an attitude that in turn leads to an intention, this will only affect the behavior to the extent that the individual has the ability to engage in that behavior. In the car dealership example, a person may intend to purchase a car from a

different, more trustworthy dealership, but since there is no other dealership in town and they have no car to visit a neighboring town, their intentions cannot translate into behavior(s). Whereas most use Ajzen's theory in the literature refers to the theory of reasoned action (e.g., Allen, Van Scooter & Otondo, 2004; Highhouse, Lievens & Sinar, 2003), the way it has been incorporated in past research has not really required a distinction as someone viewing a job on an online job board will have the ability to apply for it. In this research study I refer to the theory of planned behavior rather than the theory of reasoned action simply because it is the more modern of the theories.

The theory of planned behavior has demonstrated an ability to explain a considerable amount of variance in behavioral prediction across a wide range of contexts (Ajzen, 2001), and supported the importance of conscious and unconscious attitudes in indirectly affecting behavior through intentions.

However, this same line of research also demonstrated that attitudes have direct effects on behavior; this finding is important for the present research as much of the recruitment research focuses on attitude and intention outcomes, and job seekers in the below methodology do not provide measures of their attitudes or intentions. Though the present research does not measure intentions in any way due to the nature of the data being collected, it is important to recognize that intentions have been shown to act as a mediating role (Ajzen, 2001); further, meta-analytic research has demonstrated that changes in intentions do in fact lead to changes in behavior (Webb & Sheeran, 2006). The present study assumes the presences of the mediator, but does not measure it, and directly links factors that

research suggests would change intentions and subsequently behavior with the behavior itself.

The theory of planned behavior has clear implications for the selection context. Job-seekers can form attitudes (i.e., attraction) towards organizations based on information presented during the recruitment process; these attitudes influence the job seekers' intentions to pursue employment in the organization, and choice of behavior regarding that pursuit. Highhouse et al. (2003) analyzed the ways organizational attraction was being operationalized in past studies and found the items consisted of 1) attitudes about an organization, 2) the perceived prestige of the organization and 3) intentions to pursue employment with the organization. Based on this finding they provided structural evidence using an undergraduate sample that demonstrated the first two factors influence the third (pursuit intentions) which was then related to organizational choice. Their analysis demonstrated that organizational attraction can be considered in multiple ways, but the attitudinal component is likely the most appropriate way given its distinctness from perceived prestige and intentions to pursue employment, and its direct effects on the latter. Meta-analytic research supports this interpretation by demonstrating that organizational attraction is related to intentions to accept a job and ultimate job choice (Chapman et al., 2005). Whereas organizational attraction is more centered on attitude and affect, pursuit intentions and behavior are more active constructs.

Research from Highhouse et al. (2003) provided initial support for the theory of planned behavior in the recruitment context with organizational

attraction acting as the attitudinal component, but their model did not demonstrate a significantly better fit than the non-mediated model where attitudes and intentions were both directly related to behavior. Allen et al. (2004) helped validate their findings in the recruitment context in their analysis of how different recruitment mediums influence behavior first through attitudes (i.e., organizational attraction), then through intentions, and finally with an effect on behavior. Additionally, this attitude  $\rightarrow$  intention  $\rightarrow$  behavior relation has shown to be minimally affected by moderators (Chapman et al., 2005). Finally, Shreurs et al. (2009) further validated the link in an international sample of job seekers.

This attitude formation process is an important component of online recruitment. Research in the consumer marketing literature has demonstrated that attitudes form in a short amount of time when exposed to online advertisements (Coulter & Punj, 1999); these attitudes are not confined merely to the object of the ad, but also to the organization sponsoring the ad. As organizational attraction is attitudinal and impacts job seeker behavior, companies must be mindful how actions impact attitudes (i.e., attraction) towards their organization and jobs. Thus, providing the appropriate information (i.e., content) in the recruiting context is of critical importance, and the amount and type of information provided must be considered (Schwab, 1982). The following sections explore the different types of content that job postings may contain, and how and why this information may influence whether job seekers apply for the available position.

### Information about the Organization

Job postings can provide a lot of information to job seekers, but all relevant information should primarily fall under 1) information about the organization and 2) information about the job (Allen, Mahto, & Otondo, 2007; Chapman et al., 2005; Popovich & Wanous, 1982). When providing information about the organization, some things that may have an effect in the online recruitment context are the amount of information provided and the types of organizational policies mentioned.

Amount of Information. Providing information about the organization is one of the primary goals during the early recruitment stages as organizations should desire to create informed job seekers (Popovich & Wanous, 1982). A long line of research demonstrates the importance of providing ample information to job seekers, even suggesting a linear relationship between the amount of information and positive job seeker reactions (e.g., Allen et al., 2007; Yüce & Highhouse, 1998). The realistic job preview (RJP) literature has demonstrated that those job seekers with more (i.e., quantity) and more accurate (i.e., quality) information make better employees based in part on the ability to set appropriate expectations for the job (Hom, Griffeth, Palich, & Bracker, 1998) and the ability to inoculate individuals against the less desirable parts of the job (Phillips, 1998). Cober et al. (2004a) state in their model of online recruitment that the amount of information is one of the most important determinants for job seeker attraction in the online context.

Early recruitment research demonstrates that job seekers react poorly when not enough information is provided (Downs, 1969). In an early study on the effect of recruiters on pre-hire outcomes (i.e., job attraction and willingness to attend a second interview), Rynes and Miller (1983) found that a student sample in the role of job seekers were more attracted to jobs when the recruiter provided more information; this effect existed even when the level of attractiveness, operationalized by the provision of job attributes, was held constant. Barber and Roehling (1993) had another student sample assume the role of job seekers as they evaluated job postings; these students verbally reported their thoughts as they evaluated these jobs, including what information they attended to, noting missing information, and evaluating the relative weight of job posting characteristics overall. One of the primary findings was that the overall amount of information, independent of job attributes of major importance (e.g., location, salary), had a significant impact on the interest in the participants in interviewing with that company for a job.

Research on the amount of information was further bolstered by the work of Yüce and Highhouse (1998). Their research exposed a student sample, once again assuming the role of the job seeker, to a variety of different job postings containing a variety of different types of relevant and irrelevant job attributes. In their first study these researchers found that merely providing information about more job attributes increased attraction towards the job regardless of attribute relevance; their second study found that including more information about a variety of attributes of varying importance increase attraction towards the job, and

that ambiguity within the job posting was viewed negatively by the participants.

Relatedly, Feldman and Klaas (2002) conducted qualitative research on online job postings and found that the lack of detailed information was the biggest frustration that job seekers encounter in job postings; they recommended that organizations provide more information to job seekers whenever possible.

Prior studies relied on fictitious job postings when evaluating the effect of the amount of organizational information on recruitment outcomes. Allen et al. (2007) addressed this shortcoming in the literature by placing a student sample in the role of a job seeker evaluating the job postings of real companies and real jobs. The researchers found that the online job postings providing more information about the organization than other similar job postings had a direct influence on attitudes toward the organization and that those attitudes positively influenced employment intentions.

Providing information about the organization is also an important consideration in the person-organization (P-O) fit literature as job seekers are likely to be just as concerned with choosing the right organization as they are with choosing the right job (Rynes & Cable, 2003). Kristof (1996) defines P-O fit as the "compatibility between people and organizations that occurs when at least one entity provides what the other needs or they share similar fundamental characteristics, or both," (p. 4) and notes that this compatibility can be actual or perceived. This true or perceived compatibility centers around the values that an organization projects and those held by the job seeker, such that higher congruence will lead to more organizational attraction both pre- and post-hire

(Kristof-Brown, Zimmerman, & Johnson, 2005; Werbel & DeMarie, 2005). Supporting this, Carless (2005) found that applicant perceptions of P-O fit were significantly related to organizational attraction even when including person-job (P-J) fit in the equation. Dineen, Ash and Noe (2002) likewise found that both subjective and objective P-O fit had important outcomes on organizational attraction, but subjective P-O fit fully mediated the effects of objective P-O fit. This is relevant because a job posting that does not provide much information about the organization removes the ability for job seekers to form perceptions of P-O fit.

A question then arises of whether providing more information about the organization leads to desirable applicant outcomes only when the information is positive. While this is an intuitive thought, there are reasons to believe this may not be the case. Online job postings are synonymous with the term "job advertisement" in both popular usage and the literature because this is a place for organizations to present themselves in a positive light; while organizations might present information about the job that increases self-selection out of the application process as discussed in the RJP literature, there is less motivation to display their organization as a whole in a negative light.

Even if organizations do provide information about themselves that is not positive, job seekers will still interpret that negative information as more favorable than a lack of information; when little or no organizational information is provided, job seekers assume the worst and believe that the organization is 1) careless when or 2) disinterested in recruiting quality candidates (Barber &

Roehling, 1993). Alternatively, job seekers may view the omission of information as a sign that the organization is avoiding a topic that reflects negatively on them (Rynes & Miller, 1983). Further, research reveals that job seekers react negatively to ambiguity (Einhorn & Hogarth, 1985; Highhouse & Hause, 1995; Levin et al., 1986) and use that as a negative signal about the organization. Thus, even if organizations do provide less-than-ideal information about themselves, there is reason to believe that such information is likely to be perceived more positively than an omission of information. However, the nature of this study does not allow for this to be empirically tested, and this lack of subjective variables is discussed further as a limitation the Discussion section.

Taken as a whole, there is a pattern of evidence that more information about the organization is better. Thus, it is hypothesized that:

Hypothesis I: Greater amounts of information provided about the organization will be positively related to increased application likelihood among potential applicants.

Organizational Policies. Of course it is likely that the specific information presented about an organization will exert effects on job seekers beyond simply the amount of information provided. One of the primary things a company can disclose about itself to job seekers in an online job posting are specific policies that potential employees will experience once they are employed. Organizational policies are rules, guidelines, principles or procedures designed to guide courses of actions and decision-making within an organization (Anderson, 2005), and specific policies may impact job seekers for different reasons. Braddy, Meade and

Kroustalis (2006) provided strong evidence that specific information around organizational policies are a primary determinant of job seekers perceptions of varying cultural attributes of that organization, and thus it may be that information about policies is actually having its effect through cultural perceptions. The policies discussed below were chosen for their likelihood of inclusion in online job postings and because each of them has some stream of research that indicates they may impact applicant behavior.

Obviously not all policies will appeal to everyone equally, and some policies may not appeal to anyone at all. For example, a policy around teamwork and unity is a something that is likely to be more favorably viewed by those with a more collectivistic or allocentric orientation (Walumba, Lawler, & Avolio, 2007). However, a company's emphasis on rewards, specifically defined as a company's overt orientation towards focusing on pay for performance, is more likely to enjoy widespread appeal. Information provided about rewards systems and policies that emphasize the importance of rewards to the company are something that potential employees will likely pay attention to. American workers have been clear that rewards are important to them, and that they prefer to be paid based on high performance (LeBlanc & Mulvey, 1998). Over 30 years ago, metaanalytic research by Locke, Feren, McCaleb, Shaw and Denny (1980) provided evidence that pay was the most motivating factor for employees, a finding subsequently supported by later meta-analytic work (Jenkins et al., 1998). Nyberg (2010) demonstrated that all job seekers have positive reactions to organizational rewards and inducements.

If employees are willing to work harder and change their behavior when presented with increased incentives in the workplace, then job seekers are likely to pursue job opportunities with a clearer emphasis on those incentives versus other jobs that are more ambiguous regarding their rewards; this is true because people avoid ambiguity when presented with non-ambiguous alternatives (Einhorn & Hogarth, 1985; Highhouse & Hause, 1995; Levin et al., 1986; Maurer, Howe & Lee, 1992). In line with the theory of planned behavior, the provision of rewards information should be perceived favorably among those individuals viewing the job and is thus likely to increase the positive attitude towards applying to the job; this in turn influences application intentions and behavior.

But to what extent can an organization's policies about its rewards and reward systems be communicated in the online context? Braddy et al. (2006) demonstrated that specific statements about organizational rewards policies and reward systems do inform job seekers about an organization's emphasis on rewards and affect impressions of the target companies. Braddy, Meade, Michael and Fleenor (2009) further validated their original findings using an experimental design. Their research was performed in an online context, however they used fictional companies, focused on the "Careers Page" of these fictional companies, and used a student sample. Conversely, my current study uses real organizations' actual job postings, and the dependent variable is created using behavior from actual job seekers.

There is once again an intuitive reason to believe that providing information about organizational rewards policies may not have a positive effect on job seekers if the information is negative. As discussed above, job seekers are likely to react worse to the omission of information than they are to less-than-ideal information that is actually provided (Barber & Roehling, 1993).

Organizations would be advised to provide information about themselves lest job seekers proactively assume the worst (Rynes & Miller, 1983) because of their discomfort with ambiguity (Einhorn & Hogarth, 1985; Highhouse & Hause, 1995; Levin et al., 1986). For example, an organization that makes it clear that they *do not* provide performance-based pay may generate better reactions than no information at all. This specific scenario is unlikely in practice however, and there were no observed instances of this scenario in the present research.

It is also possible that some gender differences may arise when specific rewards policies are mentioned, particularly those involving "pay-for-performance." These types of reward structures may signal a more competitive environment, something that women traditionally react worse to than men. In support of this, Dohmen and Falk (2010) found using a student sample that women avoid pay-for-performance systems. Similarly, in a large field study, Manning and Saidi (2010) found that women are less likely than men to work under performance pay conditions; however, the observed effect size was very small, and there was no effect of gender on earnings under performance pay systems. For this reason gender is not treated as a moderator of pay-for-performance specific policies and application likelihood.

Thus, the research on reactions to rewards in other lines of research leads to the following hypothesis:

Hypothesis II: Job postings that provide information about organizational policies on rewards will be positively related to increased application likelihood among potential applicants.

Work-life balance policies may also influence job seeker behavior. Early research on work-life balance policies centered around the belief that these policies would likely not affect those with fewer work-life conflicts, and thus not be a universal attractor for organizations (Friedman & Galinsky, 1992), though there were dissenters early on that maintained all employees appreciate flexibility (Hall, 1990). Bretz and Judge (1994) challenged the assumption that work-life balance policies are only important to certain groups in their research on human resource systems on job application decision process. They showed that while work-life balance policies may exert stronger effects on some over others, they were significantly related to job acceptance decisions (in a student sample) over an entire sample of MBA students.

Similarly, Grover and Crooker (1995) used data from the 1991 *General Social Survey* to examine how important access to work-life balance policies (e.g., flexible schedules, child-care assistance) were to employees in America. They found evidence that employees whose employers had these policies positively influenced attachment to the organization regardless of whether the individual used those policies. Additionally, their overall hypothesis that individuals only value policies that directly affect them received very little support. Further

strengthening the universal appeal of work-life balance policies, Honeycutt and Rosen (1997) found that family-friendly and flexible policies increased applicant attraction towards organizations regardless of the participants' present family or balance needs. More recent research showed that some work-life balance policies are more important than others depending on work-to-family conflict, but that all policies had an overall positive effect on organizational attraction (Rau & Hyland, 2002).

Casper and Buffardi (2004) helped expand the literature by examining schedule flexibility and dependent care assistance; rather than relying on student samples and other individuals placing themselves in the role of job seekers, their research used actual job seekers engaged in a job search at the time of the study. They found that both work-life factors were related to job pursuit intentions, and that this relation was fully mediated by anticipated organizational support. Similarly, Carless and Wintle (2007) found work-life balance policies had a positive effect on attraction for actual job seekers with no moderators for identity salience. However, further research indicated that while work-life balance policies may exert a positive effect on attraction and organizational attachment in the aggregate, gender may work as a moderator such that females react more positively to work-life balance policies, while only males that take advantage of those policies have positive reactions to them (Casper & Harris, 2008).

It is believed that work-life balance policies are important to job seekers in the recruitment process because they signal that the organization cares about the employee as a person, not just as a means to an end (Bretz & Judge, 1994; Grover & Crooker, 1995; Perry-Smith & Blum, 2000). Other related research has demonstrated that organizations that are mindful of employees' family and personal time signal support to those employees (Eisenberger, Fasolo, & Davis-LaMastro, 1990; Guzzo, Noonan, & Elron, 1994), a notion supported by Casper and Buffardi's research (2004); this perceived support has been shown to lead to enhanced commitment among employees (Settoon, Bennett, & Liden, 1990) and mediates the effect of work-life balance policies on outcomes (Allen, 2001; Casper & Buffardi, 2004; Rhoades & Eisenberger, 2002). Fairness also plays a role in the importance and potential universality in work-life balance policies as employees likely want recognition of their life outside of the workplace. Research on drug testing policies support this in that activities deemed to monitor or interfere with life outside of the workplace are looked upon negatively (Starlicki & Folger, 1997) as this is perceived unfair. Subsequently, it is hypothesized that:

Hypothesis III: Job postings that provide information about work-life balance policies will be positively related to increased application likelihood among potential applicants.

Policies geared toward corporate social responsibility (CSR) may also affect job seeker behavior. There is less research in this area than in others, particularly as it relates to recruitment. Early research demonstrated that corporations with socially responsible policies (e.g., obligations to the public, philanthropy, support for governmental regulation) were perceived as fostering a more viable business that better fit the needs of the public (Zahra & LaTour, 1987). CSR policies have been shown to have a positive effect on an

organization's reputation and corporate image among investors and consumers, and has increased satisfaction, commitment and retentions among employees (Smith & Langford, 2009). Given knowledge of an organization's CSR policies and practices, consumers are more likely to buy from those organizations that have positive CSR policies than a control group (Klein & Dawar, 2004), and are even willing to pay more for the same product if they are supporting a company with positive CSR policies (Bhattacharya & Sen, 2004).

Other research found that effects of CSR policies and reputations on consumers and potential employees were largely dependent upon knowledge of those CSR policies and reputations, and that perceptions towards a company (i.e., intent to consume the company's products or services, intent to seek employment at the company, and intent to invest in a the company) increased when participants were made aware of a company's CSR policy (Sen, Bhattacharya, & Korschun, 2006). Knowledge of CSR policies is problematic given the wide variation in knowledge among consumers (Bhattacharya & Sen, 2004) and the need for consumers to be informed for a company's CSR policy to have an impact (Maignan, 2001); this concern is somewhat controlled in online recruitment research as 1) most individuals have very little knowledge of organizational CSR policies (Smith & Langford, 2009) and 2) all job seekers viewing a job posting are exposed to the same information on that job posting. Thus, it is possible that CSR policies may exert an effect on job seekers in the online recruiting process.

A subsidiary stream of research to CSR policies is that of corporate ecological policies. Limited research on this topic exists as it relates to consumers

and potential job seekers. Zahra and LaTour's (1987) operationalized ecological policies as those that attempt to reduce water pollution, air pollution and/or preserve natural resources and habitats; their research above found that an ecological policy was indeed a factor within CSR, but had little impact on perceptions of organizational effectiveness. However, at the time of that research fewer organizations had enacted ecological policies, so perhaps things changed as American corporations became "greener" (Millstone & Watts, 1992). In support of that idea, research has emerged showing that ecological policies within an organization can be leveraged as a marketing tactic to positively affect how their company and products are considered by consumers (Menon & Menon, 1997).

Few applications of this concept are found in the recruiting world, with two notable exceptions. Bauer and Aiman-Smith (1996) found that a proenvironmental stance was positively related to both organizational attraction and job-pursuit intentions in a sample of students assuming the role of job seekers. Aiman-Smith et al. (2001) employed a policy-capturing approach and found that an organization's ecological rating was significantly related to both organizational attraction and pursuit intentions, though the relation with organizational attraction was stronger.

The available evidence suggests that job seekers will react positively to CSR policies, including environmentally-based ones; as discussed above, the theory of planned behavior suggests that this will lead to more favorable attitudes towards applying which will ultimately influence application behavior. Therefore, it is hypothesized that:

Hypothesis IV: Job postings that provide information about Corporate Social Responsibility policies, including ecological policies, will be positively related to increased application likelihood among potential applicants.

Diversity policies are another factor that can be considered. Unlike rewards and CSR policies, diversity policies may not affect all groups of potential applicants equally. Social identity theory (Tajfel & Turner, 1985) states that people categorize others into groups based on salient similarities and differences, and that this classification process is tied to a desire for in-group success and identity affirmation (Harrison, Price, & Bell, 1998). Thus, for the present discussion, diversity is referring to surface-level demographic differences that can be readily distinguished by an observer, specifically race and gender.

Research of the impact of social categorization has progressed most in the teams literature. For example, Lau and Murnighan (1998) presented a model of team diversity that showed the more opportunity for conflicting identities and categorization to emerge, the less individuals within the subgroups would identify with the overall group; their model has largely been supported (Lau & Murnighan, 2005; van Knippenberg & Schippers, 2007). Likewise, Chattopadhyay, George and Lawrence (2004) found that individuals identified less with the group as dissimilarities with the group emerged.

Researchers have proposed that this categorization process can have an impact on recruiting outcomes for minority and female candidates as well (McKay & Avery, 2006). Research tends to support the differential impact of diversity policies on potential applicants depending on race. Kossek and Zonia

(1993) discuss how diversity policies may negatively impact attraction to an organization for White males because this group feels they are disadvantaged by them, and because they are conflated with Affirmative Action programs which White males are known to be less favorable towards (Harrison, Kravitz, Mayer, Leslie & Lev-Arey, 2006). Thomas and Wise (1999) found that diversity policies had a significantly greater impact on employer evaluations for women and minorities.

While diversity policies have been found to increase attraction towards an organization in all ethnic and gender groups, the effect is stronger for minorities and women than for White males (Williams & Bauer, 1994). Similarly, research in the P-O fit literature demonstrated that minorities and women found diversity management to be an important consideration when accepting employment offers, whereas White males did not (Ng & Burke, 2005). The only study that could be found analyzing diversity policies in an online environment found that diversity statements were related to website engagement only for Black participants (Goldberg & Allen, 2008). Thus, it is hypothesized that:

Hypothesis Va: Job postings that provide information about diversity policies will have a greater proportion of minority applicants than job postings that omit such information.

Hypothesis Vb: Job postings that provide information about diversity policies will have a greater proportion of female applicants than job postings that omit such information.

## Information about the Job

Job seekers obviously are interested in the role they will be filling (i.e. what they will be doing, and what they need to do it) as well the organization they will be filling that role for. Information about the positions a job seeker may apply to is specific to the position and may not be the same for other members within the organization; in other words, information about the organization is often similarly relevant across different jobs in the organization, whereas information about one's specific role will show much more variance. Two things job seekers are interested in are the duties and responsibilities of the position they are evaluating, and the qualifications specified by the company that are needed to perform those duties (i.e., requirements). Some of the different things that employers may discuss in their online job postings specifically regarding the positions are the job duties and responsibilities and job requirements of the role and the particular attributes (e.g., salary, benefits, training) for the position in question.

Duties, Responsibilities and Requirements. This information specific to the job is important because individuals need it to make P-J fit evaluations. Edwards (1991) described two types of P-J fit: 1) the fit between a person's abilities and the demands of the job (i.e., demands-abilities fit) and 2) the extent to which the organization satisfies the needs and desires of the employee (i.e., needs-supplies fit). The demands-abilities fit is most relevant to the present research as it is the job duties and responsibilities and job requirements that are more easily communicated in job postings available to job seekers. Unlike P-O fit,

P-J fit is judged relative to the tasks performed and qualifications required on the job, not the organization in which the job exists (Kristof, 1996).

The importance of P-J fit to job seekers has its roots in the realistic job preview (RJP) literature (Wanous, 1977, 1992); this stream of research theorizes that accurate and realistic information enables applicants to make a judgment on the overlap between their knowledge, skills and abilities (KSAs) and the job details (i.e., job duties and responsibilities and job requirements), and these job seekers will choose to remain in the candidate pool if they determine their KSAs meet the requirements of the job (Breaugh & Starke, 2000; Wanous, 1992). Early research on P-J fit was primarily aimed at increasing post-hire satisfaction and decreasing turnover; while these relationships have largely been supported, there has been far less research on P-J fit as it relates to recruitment than there have been for other employment-related areas (e.g., selection, satisfaction), particularly compared to P-O fit (Kristof-Brown et al., 2005).

P-J fit and recruitment research finds generally positive results on employee outcomes such as job satisfaction, organizational commitment, performance, and turnover (Kristof-Brown et al., 2005). In a study examining the differential effects of P-J and P-O fit, Chuang and Sackett (2005) found that P-J fit is perceived as more important than P-O fit earlier in the recruitment process, while the difference between the two diminishes further into the recruitment process. This is an especially relevant finding for the present research as the exposure to job postings on online job boards is at the very beginning of the recruitment process for most job seekers. While both P-J and P-O fit predicted

organizational attraction during the recruitment process, only P-J fit predicted job acceptance decisions (Carless, 2005). Meta-analytic results find P-J fit is related to organizational attraction, and although the relationships between P-J and P-O fit with organizational attraction were very similar, only P-O fit was studied with intent to accept a job offer as an outcome (Kristof-Brown et al., 2005).

While it seems intuitive that providing information about the job duties and responsibilities and job requirements are important to job seekers, the effect job duties and responsibilities information has on job seekers in online recruitment is less intuitive. The issue for employers is that in online job boards it is difficult to determine to what degree job seekers viewing the job posting perceive P-J fit. Given that job seekers, and people in general, don't like ambiguity and tend to interpret it negatively (Einhorn & Hogarth, 1985; Highhouse & Hause, 1995; Levin et al., 1986), employers would seem advised to be more specific about the job to avoid deterring desirable candidates due to lack of information.

On the other hand, the more job duties and responsibilities and job requirements are presented, the greater likelihood there may be that individuals that are a good fit screen themselves out due to the over-specificity contained about the job duties and responsibilities and job requirements. In fact, research has supported this conclusion, at least when it comes to job requirements information. In one of the very few research efforts involving online job boards, Brenčič and Norris (2009) found the number of applicants to a job decreased as the amount of information about job requirements increased. Their conclusion

was that employers with high vacancy costs for open positions specify fewer requirements so more individuals, thinking themselves capable of performing the job, apply; conversely, when vacancy costs are low, or the price of an unqualified hire increases, employers specify more requirements to screen out an increased number of job seekers.

Thus, it seems that there are two competing lines of evidence and rationale about what effect varying amounts of job duties and responsibilities and job requirements information will have. The two lines of evidence may not be in direct contradiction, however, as each was addressing a different research question; it is possible that a curvilinear effect is operating regarding the effect of job duties and responsibilities and job requirements information on job seeker behavior such that job seekers are less likely to apply to positions when little information is present (due to avoidance of ambiguity) and when too much information is present (due to self-selection out of recruitment for negative perceived P-J fit). When considering this in the context of the theory of planned behavior, it is likely that positive attitudes toward applying only occur when a moderate amount of information is presented, and thus any effect of information on attitudes can only occur in this scenario. Thus, it is hypothesized that:

Hypothesis VI: The amount of information about job *duties and* responsibilities is related to application likelihood among potential applicants in a curvilinear manner such that there is decreased application likelihood at lower and higher amounts of requirement information, and increased application likelihood at moderate amounts of information (i.e., an inverted-U; see Figure 2).

Hypothesis VII: The amount of information about job *requirements* is related to application likelihood among potential applicants in a curvilinear manner such that there is decreased application likelihood from potential applicants at lower and higher amounts of requirement information, and increased application likelihood from potential applicants at moderate amounts of information.

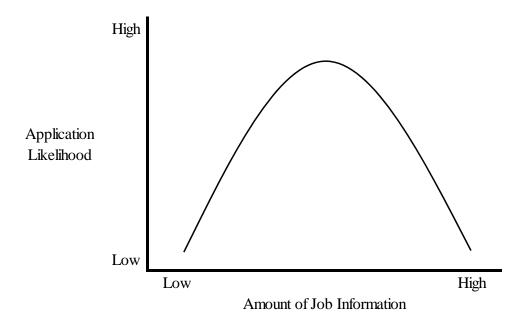


Figure 2. The Hypothesized Relation Between the Amount of Job Information in a Job Posting and Application Likelihood

Job Attributes. There are many attributes about a position that a job seeker would be interested in learning about before applying to the job. Research indicates that job attributes (e.g., pay, benefits, development) are extremely important in determining job seeker and applicant outcomes (Cable & Graham,

2000; Garcia, Posthuma, & Quinones, 2010), and that pay is the most important thing of all (Saks, Weisner, & Summers, 1996). This section explores the evidence suggesting that pay, benefits and development opportunities are job attributes that, if mentioned in a job posting, may increase the likelihood that the individual viewing the job posting will apply to that job.

It is unsurprising that information about pay would be valued so highly by job seekers. Rynes, Gerhart and Parks (2005) review the long line of research that highlights compensation, particularly pay (i.e., salary and wages), as the most powerful employee motivator that is known to exist. In line with this conclusion, Saks et al. (1996) found that pay was a very strong predictor of job choice in a student sample across different scenarios of other job duties and responsibilities information. In another student sample, Aiman-Smith et al. (2001) found that pay information predicted application rate more than attitudes toward the organization.

Following the logic presented above (e.g., Einhorn & Hogarth, 1985; Highhouse & Hause, 1995; Levin et al., 1986; Rynes & Miller, 1983), it is likely that simply providing information about pay will increase the likelihood that a job seeker would apply to that job as it is easier to evaluate the objective quality of the pay being offered. Casper and Buffardi (2004) similarly found a relationship between pay offerings and job pursuit intentions. However, there is also a reality that higher pay will exert stronger effects on job seeker behavior. In a verbal protocol analysis, Barber and Roehling (1993) demonstrated that more attention was paid to better compensation (i.e., pay, benefits) information. Similarly,

employing a policy-capturing approach, Cable and Judge (1994) found that organizations became more attractive as the pay level increased.

Thus, it is hypothesized that:

Hypothesis VIII: Competitiveness of pay information will moderate the relationship between the provision of pay information and application likelihood such that the relationship will be stronger at higher levels of pay competitiveness.

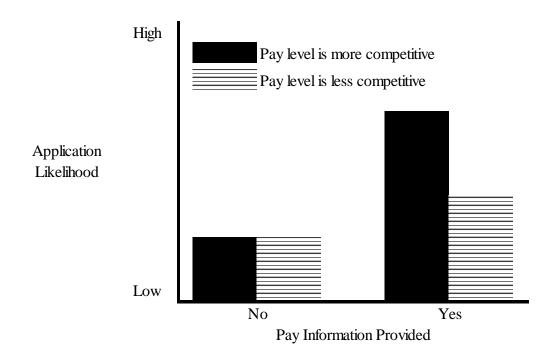


Figure 3. The Hypothesized Interaction Between the Provision of Pay Information and Pay-Level Competitiveness on Application Likelihood

Benefit information is another attribute of the job that may influence job seekers to apply for the same reason as pay. We know that compensation is the strongest motivator amongst employees (Rynes et al., 2005), and though pay is the most visible form of compensation, benefits account for a substantial portion of overall employee compensation (Williams & Dreher, 1992). Barber and

Roehling (1993) found that individuals spent a significant amount of time examining benefit information in job advertisements in addition to their time spent examining the pay information. Earlier research showed that the provision of specific information about certain organizational attributes, including benefits, positively influenced organizational attraction (Rynes & Miller, 1983). Other researchers note that specifying information about benefits "may help generate large pools of applicants who are likely to accept an offer if extended to them" (Roberson, Collins & Oreg, 2005, p. 337).

Similarly, in a study focusing exclusively on the effects of benefit information in job advertisements, evidence emerged that specifically highlighting benefit information was positively related to job pursuit intentions (Garcia et al., 2010). Further, unlike pay, it is harder to examine the adequacy of benefit information in a job posting as benefit policies are often complex and are not specifically described in job postings; thus, there is a decreased likelihood that potential applicants will, or even can, evaluate the adequacy of the positions benefits. Once again, the available evidence suggests that the provision of benefit information is likely to increase positive attitudes toward applying, and that, in line with the theory of planned behavior, this will increase the likelihood that someone would apply to the position. Thus, taken as a whole, it is hypothesized that:

Hypothesis IX: Job postings that mention the provision of benefits will be positively related to increased application likelihood among potential applicants.

Jobs that provide training and development opportunities are also likely to be perceived more favorably by job seekers than those that don't. Research has demonstrated that a job seeker sample paid a significant amount of attention to training and employee development provided by prospective employers and that the lack of these opportunities may work to screen out some prospective employers (Cable & Graham, 2000), though the conclusions were equivocal when those authors attempted to replicate their lab findings in the field. Other research around recruitment on college campuses found that employee development opportunities were significantly related to organizational attraction; in fact, the relationship between developmental opportunities and organizational attraction was stronger than the relationship between compensation and organizational attraction, or company image and organizational attraction (Turban, 2001).

Mentoring is another major aspect of employee development (Noe, Greenberger, & Wang, 2002), and has also been shown to positively affect recruiting outcomes. In one of the few studies examining mentoring and pre-hire rather than post-hire outcomes recruitment (i.e., recruitment), Allen and O'Brien (2006) found that organizations offering formal mentoring programs were rated as more attractive than those that did not. Horvath, Wasko and Bradley (2008) further supported this finding, showing that career-related mentoring is significantly related to organizational attraction versus psychosocial mentoring, as the career-related mentoring is inherently more developmental. In light of the present research, it is hypothesized that:

Hypothesis X: Job postings that mention the development opportunities, including training and mentoring, will be positively related to increased application likelihood among potential applicants.

# Job Posting Style

There is more to a job posting than its content. Aesthetics, be they good or bad, capture attention (Yüce & Highhouse, 1998), and attention must be captured to help facilitate exposure to the more job-relevant content. Research in the consumer literature has demonstrated that the way in which an organization displays itself in an online context is important for directing the attention of consumers to desired information, and facilitates later consumer-related behavior, such as purchasing decisions (Coyle & Thorson, 2001). Though the impact of style on recruitment was to a large extent ignored during the early decades of recruitment literature (Barber, 1998), the recruitment literature is changing. There are many reasons to believe that different stylistic considerations in job postings may affect job seeker behavior, it is important first to understand why. To this end, signaling theory is presented below as the mechanism through which stylistic factors affect pursuit intentions. Following that, I examine the different stylistic factors that may impact job seeker behavior and present hypotheses accordingly. Signaling Theory

Spence's signaling theory (1973) was proposed in research on how buyers make decisions, and how sellers can influence that decision. Spence's theory, and subsequent research supporting that theory, proposed that individuals may use information that could be considered irrelevant when making important decisions,

particularly regarding purchase behaviors. When individuals have a decision to make and find themselves with incomplete information about that decision, they have to rely on less-relevant information as cues, or signals, from which they can draw inferences to make a decision. These signals are information sent by the signaler to the receiver that the receiver used to inform his or her subsequent actions.

Signaling theory was initially conceptualized under circumstances where the signaler deliberately communicated positive informational cues to signal receivers, and was thus thought to be a higher-level persuasion tactic (Connelly, Certo, Ireland & Reutzel, 2011). However, the theory was expanded by scholars and practitioners to include situations where the signaler inadvertently communicates certain messages, be they positive or negative, to the receiver that the receiver interprets in a positive or negative way (Connelly et al., 2011; Myers & Majluf, 1984). An example of both deliberate and inadvertent signaling would occur if a college student was trying to decide what computer to purchase, knew little about the technical specifications of the two choices, and deemed one very colorful and one as visually bland; the company that designed the attractive one could have intentionally done so to drive sales, while the company that designed the visually bland computer could have unintentionally signaled to the college student that their computer was for professionals.

Rynes, Bretz and Gerhart (1991) applied this framework to the recruitment literature to say that a potential applicant will use peripheral (e.g., aesthetic) information to form inferences about an organization or job when there is less

information available that directly informs the potential applicant about the organization or job. The research of Rynes et al. (1991) demonstrated that recruitment experiences that are unrelated to the actual organization or job serve as signals about the attractiveness of the organizations. Goltz and Giannantonio (1995) found that not only were participants much more positive towards an organization when they watched a video featuring a "friendly" versus unfriendly recruiter, these respondents also made more positive inferences about organizational characteristics than were actually provided by the recruiter.

Turban, Forret and Hendrickson (1998) did not find that recruiter behavior influenced organizational attraction directly; rather, they found that that recruiter behavior influenced perceptions of objective organizational and job attributes, which then affected organizational attraction. Later research further demonstrated that peripheral information can influence attraction even when little information about the organization is known, though this finding was in the context of sponsorship of campus events (Turban, 2001). As it can be difficult to obtain information in the early stages of recruitment, peripheral cues become more important.

In the context of online recruiting, there are no recruiters per se, but the job postings themselves fill the function a recruiter. Thus, any peripheral information, such as style, provided by the job postings may also have an influencing effect on potential applicants. Turban (2001) notes that "unimpressive recruitment materials may signal that the company does not invest much in developing human resources" (p. 295). Job seekers are already limited in the

knowledge they possess (Rynes & Miller, 1983), and since signaling theory is proposed to exert stronger effects when less information is available to the decision-maker (Spence, 1973), and because job postings provide less information than an actual recruiter would due in part to the lack of two-way communication (Allen et al., 2004; Cable & Yu, 2006; Schmitz & Fulk, 1991), signaling theory may be even more applicable to online recruitment.

Supporting the importance of peripheral cues in online recruiting materials, Braddy and colleagues found the peripheral cue of navigational ease was related to the research participants' organizational image (Braddy et al., 2003) and culture (Braddy et al., 2006; Braddy et al., 2009) beliefs. Other research has shown that stylistic features of a page such as colors and font work to increase positive reactions to web pages (Schenkman & Jönsson, 2000), which can be applied to the online recruiting atmosphere as well. Scheu, Ryan and Nona (1999) found perceptions of organizational web site aesthetics influenced positive impressions of the organization.

Cober, Brown, Levy, Cober and Keeping (2003) attempted to analyze the contribution of job posting style on organizational attraction and found no independent effect of style beyond usability. However, their research was performed on different employer websites rather than online job boards in which usability is held constant; in the latter context, research has found that job posting style affected attraction towards an organization (Zusman & Landis, 2002). Thus, it is reasonable to believe that the style of a job posting may influence the behavior of potential job applicants. Below I review evidence on two stylistic

elements of a job posting, vividness and formatting, that may influence this behavior.

### Vividness

Vividness is a stylistic aspect of websites and job postings that may send positive or negative signals to potential applicants. Vividness can be defined as the manner or style in which information is presented, rather than the content of the information itself (Steuer, 1992). While this is a broad definition, vividness tends to be operationalized by images, animations, or audio/video present in the online medium (e.g., Coyle & Thorson, 2001; Williamson et al., 2010).

The limited research available has generally provided support for the important effect vividness plays in shaping perceptions, and thus potentially shaping intentions and actions. In the consumer literature, websites perceived as being more vivid evoked a more favorable attitude in a student sample (Coyle & Thorson, 2001); this finding would likely transfer from the consumer literature into the recruitment literature. Indeed, other research has found that vividness can influence evaluations of organizations as employers (Scheu et al., 1999).

It is thought that vividness makes websites, and thus potentially job postings, more appealing and memorable to potential applicants, thus serving as a signal of quality in low-information settings (Cober, Brown, & Levy, 2004b). This would indicate that the more information available about a given organization and/or position, the weaker the effect of vividness might be on potential applicant behavior. In partial support of this, Williamson et al. (2010) found that website vividness was more important when there was less information

provided, although this relationship was lessened for employers with poor reputation.

Given the limited research on this subject, it is difficult to ascertain the extent of reputation's impact on stylistic variables as a whole, be it vividness or something else; while it is possible reputation may impact all of the style-related hypotheses in the present study, it is not yet possible to determine whether that would be the case and doing so is outside of the scope of the current research. Regardless of that, the evidence indicates so far that vividness matters most when information is scarce.

One factor of vividness that may influence potential applicant behavior is color. In an early analysis of job advertisements, Koch (1990) discussed how a strong use of colors can play an important attention-grabbing role for potential job seekers. A particularly important factor for influencing potential applicant behavior may be that of contrast. Contrast is the notion that design elements must distinct, and that individuals react favorable to the use of distinct colors. Metz and Junion-Metz (1996) hypothesize that the use of contrasting colors is more memorable and attractive to viewers, and Chen and Wells' (1999) research provided evidence when they demonstrated individuals tend to prefer websites based in part on the use of contrasting colors.

Cober et al. (2004a) incorporates the above evidence into their proposed model, noting that contrast is perceived as one of the most important visual elements. In online job ads, one way to use the concept of contrasting colors is to avoid the use of standard or "stock" color templates provided by the major online

job board (e.g., orange and blue for CareerBuilder, purple and white for Monster; both rely on a primarily white background) and place a unique color template on the page. One reasons for this may be that the personalized color scheme signals to potential applicants that their organization takes its recruiting seriously, and that they seek to stand out from the competition; alternatively, it may signal an organization that is committed to excellence in all areas of functioning. While the evidence on the positive benefits of using contrasting color schemes is preliminary, what evidence exists suggest that:

Hypothesis XI: Amount of job posting information will moderate the relationship between the use of a contrasting (i.e., personalized) color scheme on a job posting and application likelihood such that the relationship will be stronger at lower levels of job posting information.

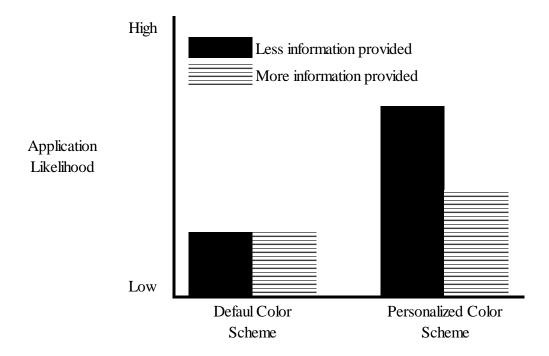


Figure 4. The Hypothesized Interaction Between a Personalized Color Scheme and Amount of Information on the Job Posting on Application Likelihood

Images are the second aspect of vividness that may influence potential applicant behavior. It is well known that the use of images can impact attitudes and intentions in a persuasive manner (Miniard, Bhatla, Lord, Dickson, & Unnava, 1991), and decisions to engage in behaviors or behavior patterns can be based entirely on non-relevant visual information (Mitchell & Olson, 1981). Furthermore, emerging research is demonstrating that they can be used to subconsciously prime individuals to engage in certain behaviors or behavior patterns (Latham, Stajkovic, & Locke, 2010).

When examining the impact of images in an online context, Schenkman and Jönsson (2000) found that a low text-to-image ratio led to more positive attitudes about websites. In research specifically on online job postings, Zusman and Landis (2002) found that more attractive web pages using images were preferred to those that didn't; this research combined use of images, colors and bulleted formatting, so the unique contribution of each was obscured.

Williamsons et al. (2010) also operationalized vividness as a text-to-image ratio and they found that vividness, primarily in the form of images, interacted with the amount of information provided to impact organizational attraction. Thus, based on the limited research available and extending the logic discussed above, it is hypothesized that:

Hypothesis XII: Amount of job posting information will moderate the relationship between the number of images on a job posting and application likelihood such that the relationship will be stronger at lower levels of job posting information.

Similar to the information presented for diversity policies, it is plausible that the content of images may impact ethnic groups in different ways. Specifically, the demographic makeup of the images in the job advertisement may act as a signal to potential applicants about the organization's stance on diversity or the demographics of their typical employee. In a study on recruiter characteristics, Turban et al. (1998) found that job seekers interpreted recruiter characteristics as a representation of an average employee at the recruiter's organization, while Thomas and Wise (1999) found that Black job seekers identify a recruiter's race as an important factor more than White job seekers. Other research has indicated that racial similarity between images in job advertisements and potential applicants increases organizational attraction (Perkins, Thomas, & Taylor, 2000); Avery, Hernandez and Hebl (2004) extended this finding by determining that Black and Hispanic job seekers are positively affected when images on minorities are present, even if those minorities don't match their own ethnicity. Avery (2003) found an effect for race in job advertisements, but only at supervisory levels.

While previous research has provided much evidence that job advertisement demographics are important for minority candidates, there is less evidence for an effect on White job seekers. Several researchers (Avery, 2003; Avery et al., 2004; Perkins et al., 2000) found White job seekers were unaffected by ad diversity. Conversely, one recent study on the demographics of employees giving testimonials on potential employer websites found that Whites responded significantly more negatively as the ratio of minorities to Whites giving

testimonials increased (Walker, Field, Giles, Armenakis, & Bernerth, 2009); for now this finding appears to be the outlier in job advertisement diversity. The most recent study of the interaction of race and displayed demographics on an employer's website found that enhanced visual diversity was positively related to perceptions of favorable organizational image perceptions for minority job seekers, but not for White job seekers (Walker, Field, Giles, Bernerth, & Short, 2011).

Less research on this topic has been conducted regarding gender. It is likely that the same effects operating regarding ethnicity operate for gender (particularly females) as well. Women have reported ruling out a potential employer based on lack of diversity information (Thaler-Carter, 2001), and diversity management is important for women in making P-O fit determinations, but not for men (Ng & Burke, 2005). Following the same logic, McKay and Avery (2006) included both ethnicity and gender in their propositions for the targeted recruitment of females and minorities.

Other research leads to a similar conclusion via a different mechanism, at least for women. Pfeffer and Davis-Blake (1987) found that an increased proportion of women in an occupation was inversely related to the average compensation in that field; they reasoned that an increased number of women was perceived as a signal of a lower-status job and pay dropped accordingly over time. Thus, it may be that, particularly for men, an increased number of displayed women may signal a lower-status job. Pfeffer and Davis-Blake argue that as the job is perceived more as women's work due to their presence in the occupation,

the status of the job is not only lowered but men begin to cease pursuing jobs within the occupation. However, Bottero (1992) notes that sometimes women enter after a profession that has already lost status, and then may actually pursue ways to increase the professions' status. Adams (2005) was unable to find evidence that increasing numbers of women in dentistry were associated with loss of occupational status of dentistry. This line of research is interesting, if equivocal, but does not appear to contradict the hypothesis that increased visual display of women to job seekers would have a positive influence on the attraction of women applicants.

Thus, given the research on ethnic diversity in job advertisement, and the more limited research on gender diversity in job advertisements, it is proposed that:

Hypothesis XIIIa: Among job advertisements displaying persons, the number of minorities displayed in a job advertisement will be positively related to the application ratio of minorities to all job seekers.

Hypothesis XIIIa: Among job advertisements displaying persons, the number of females displayed in a job advertisement will be positively related to the application ratio of females to all job seekers.

A third aspect of vividness that likely influences potential applicant behavior is the use of playfulness, most commonly operationalized by the use of animated visuals (Coyle & Thorson, 2001); this particular aspect of vividness is unique to websites in the realm of recruiting as it cannot be replicated on print ads or by human recruiters. Coyle and Thorson (2001) found that animations were

significantly predictive of attitudes toward a website. Other researchers found that animations used on websites positively influenced evaluations about employers and employers' websites. Cober et al. (2004a) incorporated animations in their model of Internet recruitment as one of the factors that indirectly influences the effectiveness of recruiting. There is little further research in this area, though animations were analyzed as images in Williamson et al.'s (2010) findings that vividness and information interact with firm reputation as discussed above. Thus, based on the limited prior research, and the extension of the logic behind other factors of vividness, it is hypothesized that:

Hypothesis XIV: Amount of job posting information will moderate the relationship between the presence of animations on a job posting and application likelihood such that the relationship will be stronger at lower levels of job posting information.

A final aspect of vividness that may influence potential applicants is the presence of a video in the job posting. There is very little research on the use of videos on recruitment advertising. However, we can take lessons from media richness theory (Daft & Lengel, 1986) which hypothesizes that richer media (e.g., video) is better than less-rich media at conveying messages and non-verbal cues. In the consumer literature, perceived media richness is related to intentions to use online stores for transactional tasks (Brunelle, 2009). In the recruitment literature, Cable and Yu (2006) found that richer media was perceived as more credible than less-rich media. Walker et al. (2009) found that media richness was positively related to attraction and credibility among potential job seekers, and that media

richness reduced race-related effects of employee testimonials. Thus, based on the limited information around videos in a recruiting context, it is hypothesized that:

Hypothesis XV: Amount of job posting information will moderate the relationship between the presence of video on a job posting and application likelihood such that the relationship will be stronger at lower levels of job posting information.

## **Formatting**

The second major stylistic concern when creating job postings is how the text is presented. A look through job postings on employer websites or online job boards reveals that many employers use text formatted into paragraphs to describe their job duties and responsibilities and job requirements, while many others choose to display this information in a bulleted list. Metz and Junion-Metz (1996) explain how bulleted lists are perceived as more attractive to Internet users, and that it is also makes the content more clear. In their instructional guide to using online surveys, Simsek and Veiga (2001) detail how clarity is important an online context given the lack of external support, and that bulleted lists substantially help increase that clarity for users.

As discussed above, Zusman and Landis (2002) found that individuals viewing job advertisements preferred those that were more attractive, and one way attractiveness was operationalized was with the use of bulleted lists; while the confound with images and colors make this finding less clear, it was preliminary evidence that formatting mattered. Braddy et al. (2003) did not find any effect of bulleted lists in online attraction, but they used a student sample that

did not have to scan among a large variety of ads as actual job seekers do. Further, they examined the website while the researcher observed, leading to a possible demand characteristic where all participants were more diligent in obtaining information than they otherwise would be. Researchers initially believed that usability mattered more than formatting (Cober et al., 2003), but more recent research suggests that job seekers place more value on a job postings format than website usability, and that formatting influenced willingness to pursue employment with an organization directly and indirectly through employer evaluations (Thompson, Braddy, & Wuensch, 2008). Thus, the available evidence suggests that:

Hypothesis XVI: The use of bulleted lists rather than text formatted into paragraphs will be related to increased application likelihood among potential applicants.

### Research Rationale

The present research is a major contribution to the literature on employee recruitment, particularly in an online context. Visiting online job sites is the most common job search method among U.S. job seekers (Van Hoye & Saks, 2008), yet research around job sites is minimal in the recruitment literature. This research makes a unique contribution to the field of Industrial and Organizational Psychology by applying concepts and evidence from related lines of research into the biggest recruitment tool available to job seekers. It is important that recruitment research not be confined to those avenues that are most convenient, but that research endeavors to explore the various mechanisms by which job

seekers can apply to organizations. Typically research has shied away from investigating recruitment on job boards primarily due to difficulty in obtaining the proprietary data, but this research was able to overcome that barrier.

The idea that content and style are influential in a context designed to both communicate information and persuade individuals into action is an intuitive and evidence-based conjecture; research cited above has shown that both content and style are influential in determining consumer (in the case of marketing research) and job seeker (in the case of recruiting research) behavior. There has been a call to expand this research into online job boards (Breaugh, 2008; Williamson et al., 2010), and this research answers the call.

Many know from their own experience that job content matters. When examining a job posting it is only understandable that the information provided informs the attitudes towards what action one would like to take towards that particular job (e.g., apply, don't apply, visit again later). Many different types of content are relevant to job seekers, so it is likely that the increased provision of desired content will lead to a greater effect on job seeker behavior. But the question of whether that content actually influences our behavior, as predicted in Ajzen (1991) theory of planned behavior, has not yet been analyzed in a field study of this nature with such directly relevant data.

Individuals also know from their own experience that style is not meaningless. For example, a job with adequate content placed on a plain white page in one block paragraph may send a bad signal about the company itself and thus deter one from applying. But the signals that are sent may be of little

importance if they have no impact on the cognitive process of decision-making, and ultimately on the behavior of deciding itself. Spence's (1973) signaling theory has demonstrated that these seemingly irrelevant data can impact cognitions and behavior in a variety of different scenarios, while other researchers (e.g., Cober et al., 2004a) have hypothesized that this same signaling mechanism should transfer to online recruitment. Yet this question has remained unanswered in the context of the most popular recruiting mechanism in America at the moment.

Now, research can finally analyze different aspects of these two factors within the context of America's most popular job search method. This research will discover whether the combined effects of content, operating through our understanding of Ajzen's (1991) theory of planned behavior, and style, operating through the understanding of Spence's (1973) signaling theory, have a tangible impact of job seeker behavior. The results of this study may provide illuminating findings to researchers and practitioners alike regardless of whether support for the hypotheses are found or not.

I have argued that much of the content in a job posting will influence job seeker behavior through its impacts on attitudes and intentions as described in the theory of planned behavior. It may be, however, that one enters a job board with a positive attitude toward applying to jobs already established and that the effects of content are minimal; this may even be more likely since the cost of applying to jobs online is exceptionally low. Job seekers visiting employer recruitment sites must spend more time searching for information and applying than they do using online job boards, which may change the way past relationships function. In this

way, a pre-formed attitude may blunt the predicted effects of job posting content operating through the theory of planned behavior. Similarly, perhaps job seekers don't give much weight to any signals sent by stylistic considerations on online job boards, choosing instead to reserve judgment for an interview or basing judgment entirely on an organization's pre-existing reputation; since reputation information is relevant, while stylistic considerations are not, this information may wash out the effects of signaling theory. While the literature review suggests this will not be the case, it is certainly a possibility.

As mentioned above, this dataset is unique in its scope because it focuses exclusively on objective characteristics and removes subjective perceptions.

While future research around recruiting using online job boards may want to combine the two, an appropriate starting place for this line of research is with the actionable, concrete factors that may impact application behavior. The research is also unique because it is focusing exclusively on actual, real job seekers who are engaged in their job search. Many studies in the past have been more experimental in nature using student sample; some of those that have used "job seeker" samples did so in a less realistic way (e.g., students near graduating entering the job market taking measures in a classroom [Walker et al., 2009]) that is prone to demand effects. This research's population makes an contribution to the recruitment literature in a variety of ways, and helps demonstrate the relevance of two prominent theories in the recruitment literature to America's most popular recruitment method.

# Statement of Hypotheses

Hypothesis I: Greater amounts of information provided about the organization will be positively related to increased application likelihood among potential applicants.

Hypothesis II: Job postings that provide information about organizational policies on rewards will be positively related to increased application likelihood among potential applicants.

Hypothesis III: Job postings that provide information about work-life balance policies will be positively related to increased application likelihood among potential applicants.

Hypothesis IV: Job postings that provide information about Corporate Social Responsibility policies, including ecological policies, will be positively related to increased application likelihood among potential applicants.

Hypothesis Va: Job postings that provide information about diversity policies will have a greater proportion of minority applicants than job postings that omit such information.

Hypothesis Vb: Job postings that provide information about diversity policies will have a greater proportion of female applicants than job postings that omit such information.

Hypothesis VI: The amount of information about job duties and responsibilities is related to application likelihood among potential applicants in a curvilinear manner such that there is decreased application likelihood at lower and

higher amounts of requirement information, and increased application likelihood at moderate amounts of information.

Hypothesis VII: The amount of information about job requirements is related to application likelihood among potential applicants in a curvilinear manner such that there is decreased application likelihood from potential applicants at lower and higher amounts of requirement information, and increased application likelihood from potential applicants at moderate amounts of information.

Hypothesis VIII: Competitiveness of pay information will moderate the relationship between the provision of pay information and application likelihood such that the relationship will be stronger at higher levels of pay competitiveness.

Hypothesis IX: Job postings that mention the provision of benefits will be positively related to increased application likelihood among potential applicants.

Hypothesis X: Job postings that mention the development opportunities, including training and mentoring, will be positively related to an increased likelihood among potential applicants.

Hypothesis XI: Amount of job posting information will moderate the relationship between the use of a contrasting (i.e., personalized) color scheme on a job posting and application likelihood such that the relationship will be stronger at lower levels of job posting information.

Hypothesis XII: Amount of job posting information will moderate the relationship between the number of images on a job posting and application

likelihood such that the relationship will be stronger at lower levels of job posting information.

Hypothesis XIIIa: Among job advertisements displaying persons, the number of minorities displayed in a job advertisement will be positively related to the application ratio of minorities to all job seekers.

Hypothesis XIIIb: Among job advertisements displaying persons, the number of females displayed in a job advertisement will be positively related to the application ratio of females to all job seekers.

Hypothesis XIV: Amount of job posting information will moderate the relationship between the presence of animations on a job posting and application likelihood such that the relationship will be stronger at lower levels of job posting information.

Hypothesis XV: Amount of job posting information will moderate the relationship between the presence of video on a job posting and application likelihood such that the relationship will be stronger at lower levels of job posting information.

Hypothesis XVI: The use of bulleted lists rather than text formatted into paragraphs will be related to increased application likelihood among potential applicants.

#### CHAPTER II

#### **METHOD**

Archival data were obtained from a major online job board for 600 job postings visible on the site over a two-week period. The job postings were coded for 17 objective factors relating to both content and style as a part of my job responsibilities during the course a work project. The procedure for the research is described below followed by the method of measuring the variables of interest.

## Procedure

Archival data were obtained from a major online job board based in the U.S. Data were chosen for inclusion if they were 1) posted by a for-profit organization, 2) were only posted locally rather than nationally, 3) were only listed in the US, 4) were posted by organizations in one of the industry groups (listed below) desired by the major online job board, 5) they were not posted by other recruiting or staffing firms, 6) were not posted by a newspaper's classifieds services, 7) were not cross-posted with other smaller job boards (e.g., http://www.sologig.com), 8) listed a single employment opportunity for a fulltime position, 9) were not posted by an organization already represented in the dataset and 10) did not involve relocation or work-from-home employment. The industry groups used for this research are based on the North American Industry Classification System (NAICS) codes and included 1) Merchant Wholesalers, Nondurable Goods (NAICS group 424\*), 2) General Merchandise Stores (NAICS group 452\*), 3) Credit Information and Related Activities (e.g., credit unions, commercial banking; NAICS group 522\*), 4) Telecommunications (NAICS

group 517\*), 5) Insurance Carriers and Related Activities (NAICS group 524\*), 6) Hospitals (NAICS group 622\*), and 7) Nursing and Residential Care Facilities (NAICS group 623\*).

There were 1,713 job postings that fit the criteria. In order to maintain data independence, only one job posting per organization was chosen resulting in an initial set of 600 job postings. These job postings were all placed online between 3/1/2011 and 3/7/2011 and the data were obtained on 3/15/2011; thus each job posting was visible for a maximum of 15 days and a minimum of eight days; their length of time available for viewing, however, should not affect the application likelihood among job seekers.

Of the 600 job postings available for analysis, 22 postings were removed from the site by the time they were captured for coding and thus could not be analyzed; 35 postings did not meet the criteria to be coded once they were viewed (i.e., posted for multiple job types, were actually career fairs for the position listed in the job title, were for multiple positions or were work-from-home opportunities); 29 postings did not have any applications during the analysis timeframe and were excluded since they did not garner enough views to create an application. After these exclusions there remained 515 jobs that were each manually coded by myself and another employee from the online job board for the hypothesized content as part of an organizational initiative by the job board; as information was found within the job, a checkmark was placed in the coding sheet (see Appendix A). Thus, much the dataset obtained for the present analyses

is binary (i.e., "present" and "not present"). All disagreements in the coding were resolved through discussions. The codebook can be found in Appendix A.

## Coding

# Information about the Organization

Five factors relating to information about the organization were coded: 1) amount of organizational information, 2) presence of reward policy information, 3) presence of work-life balance policy information, 4) presence of CSR policy information, and 5) presence of diversity policy information.

Amount of Organizational Information. The amount of information provided by the organization was operationalized as the number of words provided describing the organization. This information is often found in a "Company Overview" section, so a word count tool was used to determine the amount of organization information, if any. This method replicates the one previously used by Brenčič and Norris (2009). Information pertaining to the particular policies detailed below were excluded. Most of the remaining content was operationalized following the method used by Cober et al. (2004b), which is a review of the presence or absence of the information desired.

Reward Policies. Information about reward policies were operationalized by the provision of information about specific rewards policies operating within the organization (e.g., bonus information, stock-sharing information) and/or an overt statement about the organization's commitment to rewarding top performers; while referencing a certain reward structure is specific and generally

referencing a rewards philosophy is vague, both provide information that the organization is committed to rewarding its employees.

<u>Work-Life Balance Policies</u>. Job postings were said to include information about work-life balance policies if they specifically mentioned work-life balance, flex-time, flexible schedule, telecommuting, and/or family career paths.

<u>Corporate Social Responsibility Policies</u>. Job postings were marked as including CSR policy information if they specifically mention CSR policies, commitment to serving the local community, ecological policies, and/or CSR or ecological awards.

<u>Diversity Policies</u>. A job posting was indicated as mentioning diversity policies if it is specifically mentioned that 1) the organization has a formal diversity policy, 2) the organization actively seeks to have a diverse work environment and/or 3) the organization has an Affirmative Action policy.

<u>Information about the Job.</u>

Six factors relating to information about the job were coded: 1) amount of information about job duties, 2) amount of information about job requirements, 3) presence of anticipated compensation information, 4) competitiveness of compensation information 5) presence of benefit information, and 6) presence of developmental opportunities information.

Amount of Job Information. Similar to above, the amount of information provided about the job was measured with a word count of any position's overview, duties/responsibilities, and/or requirements. This information is often separated into different sections for ease of identification, but not always. Any

statements about what were done on the job or what is expected on the job from a performance perspective were categorized as duties/responsibilities. Any statements about required or preferred job applicant attributes, skills, characteristics, competencies, etc. were categorized as job requirements.

Statements about work scheduling (e.g., hours, days of the week), information about the job attributes captured below, and company information were ignored.

Compensation Information. Compensation information was whatever specific amount the organization disclosed that the job candidate could earn; if a range of pay was given, then the median of that range was chosen as the disclosed pay amount; hourly wages were converted into annual wages by multiplying the hourly rate by 40 (i.e., weekly work hours) and then again by 52 (i.e., weeks in a year). Additionally, pay competitiveness was obtained by dividing the disclosed pay by the median earnings for the occupation (or nearest similar occupation) found in O\*NET. The job board uses a technology that parses and codes all job postings into a relevant O\*NET code; codes were manually inspected by a colleague and I for correct classification.

Benefit Information. A posting was coded as including benefit information if it specifically mentioned that benefits are provided, even if it did not disclose which benefits those are. As mentioned previously the coding is binary so the presence of multiple benefit offerings are not be represented in the analysis. Specific benefit information that were eligible for coding are retirement plans, and health, dental, vision, life and/or disability benefits as those are the major benefits and are of the highest importance to employees (United States Office of Personnel

Management, 2006); benefit information that were excluded are things like gym memberships, merchant discounts, or anything that may be coded into another category (e.g., flexible hours was coded as a work-life factor).

<u>Development Information</u>. A posting was coded as including development opportunities if they specifically mentioned training (either on- or off-the-job), education reimbursement, mentoring opportunities, or a commitment to employee development in some way.

### Style

Seven factors relating to stylistic features of the job posting were coded:

1) use of a contrasting (i.e., personalized) color scheme, 2) the number of images in the job posting, 3) the ratio of minorities to all individuals displayed in the images, 4) the ratio of females to all individuals displayed in the images, 5) the presence of animated visuals, 6) the presence of a video, and 7) the use of bulleted lists rather than paragraphs in the duties and requirements sections. For the hypothesized interactions between stylistic variables and total amount of information (i.e., style is more important when the amount of information on the job posting is low), the values for the amount of organizational information, the amount of job duty information and the amount of job requirement information were summed into a single information variable representing the total amount of information on the job posting.

<u>Contrasting Color Scheme</u>. A contrasting color scheme was operationalized by the non-use of the default color scheme on the online job board (i.e., a white background with sparse use of the job board's colors).

Images. Images are defined as pictures displayed for visual and/or informational appeal (e.g., pictures of people at work, office buildings, a drawing of a corporate mascot, etc.); all non-text logo images that appear on the job postings were counted for this analysis, including images that may be rotating in and out of the posting through the use of an animation; demographic information of the individuals in the images was coded to create a "minority ratio" and "gender ratio." All individuals that do not appear to be White/Caucasian (e.g., Blacks/African-Americans, Hispanics, Asians) were coded as a racial or ethnic minority. This should be in line with the perception of the average job seeker that may be attuned to surface-level demographics regardless of actual ethnicity. If one's demographic status was ambiguous that person was omitted from the ratio calculation; similarly, children and babies were also omitted from the analysis because they do not necessarily act as a cue for the workplace, and it is often difficult to identify their race. Additionally, children and babies were very rarely displayed in any of the job postings so their inclusion or omission is unlikely to have an impact.

Animations. Animations were operationalized by the use of moving images on the site. Though animations could technically be considered a subset of images they were analyzed in a separate analysis.

<u>Video</u>. Video was operationalized by the presence of a playable video on the job posting. The video had to be housed on the job posting (i.e., a link to a video on an external site was not counted).

<u>Formatting</u>. The use of bulleted format in both the job duties and responsibilities and job requirements sections was the criteria to meet the "bulleted text" classification.

## **Application Likelihood**

Application likelihood, the study's dependent variable, is defined at the job level as the ratio of the number of job applicants (i.e., those that clicked the "Apply Now" or equivalent button on the job posting) to the total number of individuals that viewed the job in their web browser. This results in a ratio between zero (i.e., no applications regardless of the number of views) and one (i.e., every job posting view resulted in an application); that is interpreted, for this study, as the likelihood that a job seeker would apply to the position. It should be noted that it is possible some of these individuals did not actually complete the application process if there were additional steps the organization required after the "Apply Now" button was pressed, but this could not be tracked in the existing data.

A correction was made for multiple job posting views by the same individual by examining user identification codes (i.e., codes given to users logged into the job board) and browser identification codes (i.e., codes unique to individual browsers that are collected even for unregistered users of the job board) such that no identifiable job seekers was represented in the data more than once either as a job viewer or job applicant. The effect of multiple page views by a single individual cannot be entirely controlled for as individuals can clear their browser's cookies and reset their browser ID, but it is assumed that the effect of

multiple page views per job seeker are independently and identically distributed across the job postings. While it is technically possible that some users can apply to jobs on the job board used for this study without ever seeing the job details page, these individuals are not included in the analysis as this scenario was identifiable in the data-collection process.

Since this variable is a proportion expressed from 0 (no job viewers applied to the job) to 1 (all job viewers applied to the job) it had to be transformed. Proportions can't be used in regression analyses because they are truncated and cannot go below 0 or above 1 (Wilcox, 2005, p. 56). Subsequently, I performed a logit transformation on the dependent variable to make it appropriate for analysis as recommended in the literature (Warton & Hui, 2011). This transformation allows the data to more closely approximate normally distributed data and be analyzed using traditional regression techniques.

## Minority and Gender Ratio

The job board in this study is able to collect the demographic information of all applicants to any job that has self-reported this information as a part of the registration or application process. When self-reporting ethnicity, job seekers may choose from the following classifications which are presented here exactly as they are on the site: American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino, Native Hawaiian or Pacific Islander, White, and an option where they choose not to disclose the information which is also present when selecting gender. Demographic information is not available for those applicants who have 1) chosen not to disclose such information and/or 2) applied

for a job that took them to an external site which collected demographic information; these individuals were removed from the demographic-specific analyses.

For the analyses, the total number of self-identified minority job applicants were divided by the total number of job applicants for whom ethnicity/ gender is known. For ethnicity there were a total of 18,279 total known minority, 15,932 total known non-minority and 23,385 ethnicity-unknown applicants. The reader will note that there are, perhaps counter-intuitively, more minority applicants than non-minority applicants; this is likely a function of combining all non-White/Caucasian ethnicities into a single count and because the difficult economy has negatively affected minority populations to a greater degree (Reidenbach & Weller, 2010). Likewise, for gender the total number of self-identified female applicants was divided by the total number of applicants. There were 27,335 total known female, 27,112 total known male and 3,149 gender-unknown applicants dataset.

Job postings with zero minority or female applicants were excluded from the analyses as it may be there were not a sufficient number of page views necessary to generate the first minority or female applicant; for example, in an extreme circumstance a company's job posting may have a true minority ratio of .01, but if that company only received 80 applications they may not have had a single application from a minority candidate. For this reason, a company with a minority or gender ratio of zero were excluded from the appropriate analyses because it is assumed their true minority or gender ratio is undetermined. Finally,

since these variables were also proportions they were transformed using method described above for the application likelihood variable.

### Data Analysis

Since the dataset contains a mix of linear (e.g., amount of information, unemployment rate) and binary (e.g., benefits, diversity policies) variables, a mix of point-biserial correlations (which are mathematically equivalent to t-tests), Pearson r correlations, and multiple hierarchical regressions are run on the dataset. In instances where there is a single binary independent variable and a continuous dependent variable, the point-biserial correlation was run; when a single independent variable is continuous with a continuous dependent variable the Pearson r correlation was run; for multiple independent variables a multiple hierarchical regression was run. See Table 1 for a breakdown of the utilized analyses. Hypotheses predicting moderators were analyzed following Baron and Kenny's (1986) procedure for testing moderations. The same procedure was used when testing the curvilinear relationships predicted in hypotheses VI and VII, however the independent variable was squared (for a logarithmic relationship) and then cubed (for the predicted quadratic relationship) and added to the second and third steps, respectively, in the hierarchical regression.

The maximum amount of predictors in any of the hypotheses is three (i.e., hypothesis eight contains provision of pay information, pay competitiveness information, and the interaction of the two). A power analysis with this many predictors in hierarchical regression assuming a desired power level of .8 and

anticipated small effect size of  $f^2$ =.1 revealed the need for 100 units of analysis, well under that provided by the current data dataset.

Many hypotheses are tested for this research. To control for alpha inflation, a Bonferroni correction is made to all significant values by multiplying the *p*-value of each significant term in each hypothesis test by 18 (the number of analyses being run).

Table 1

Plan of Analysis by Hypothesis

Hypothesis	Independent Variable(s)	IV Type	Dependent Variable*†	Analytical Test
1	Amount of Organizational Information	Continuous	Application Likelihood	Pearson r
2	Rewards Policies	Binary	Application Likelihood	Point-Biserial
3	Work-Life Balance Policies	Binary	Application Likelihood	Point-Biserial
4	Corporate Social Responsibility Policies	Binary	Application Likelihood	Point-Biserial
5a	Diversity Policies	Binary	Minority Applicant Proportion	Point-Biserial
5b	Diversity Policies	Binary	Female Applicant Proportion	Point-Biserial
6	Job Duties and Responsibilities standard, squared and cubed	Continuous	Application Likelihood	Hierarchical Regression
7	Job Requirements standard, squared and cubed	Continuous	Application Likelihood	Hierarchical Regression
8	Pay Information, Competitiveness of Pay, Interaction Term	Mix	Application Likelihood	Hierarchical Regression
9	Benefits	Binary	Application Likelihood	Point-Biserial

10	Development Opportunities	Binary	Application Likelihood	Point-Biserial	
11	Amount of Job Posting Information, Contrasting Color Scheme, Interaction Term	Mix	Application Likelihood	Hierarchical Regression	
12	Amount of Job Posting Information, Number of Images, Interaction Term	Continuous	Application Likelihood	Hierarchical Regression	
13a	Number of Pictured Minorities	Continuous	Minority Applicant Proportion	Pearson r	
13b	Number of Pictured Females	Continuous	Female Applicant Proportion	Pearson r	
14	Amount of Job Posting Information, Animations, Interaction Term	Mix	Application Likelihood	Hierarchical Regression	
15	Amount of Job Posting Information, Video, Interaction Term	Mix	Application Likelihood	Hierarchical Regression	
16	Bulleted Lists	Binary	Application Likelihood	Point-Biserial	

<sup>\*</sup>All dependent variables are continuous

<sup>&</sup>lt;sup>†</sup>All dependent variables are transformed from proportions using the logit transformation described on pg. 69

#### CHAPTER III

### RESULTS

Descriptive statistics for the raw, untransformed data are provided in table 2 for the linear variables and table 3 for the binary variables. The data were then analyzed for violations of assumptions relevant to the analysis; for example, many predictors are binary, so while homoscedasticity can be evaluated with both linear and binary predictors, assumption regarding outliers only apply when the predictor is linear. After appropriate steps are taken to meet the assumptions, including some variable transformations, a correlation matrix is presented. Finally, the analysis of each hypothesis follows the transformations of variables as a result of the assumption testing.

## <u>Tests of Assumptions</u>

First, as described in Chapter II, the study's dependent variables underwent a logit transformation prior to analysis in the current study. All subsequent assumption and hypothesis testing utilize these transformed values.

Relationships among linear variables found in all of the hypotheses containing a linear predictor variable were analyzed for linearity. While linearity was weakly evident in a few of the plots, such as the relationship between job requirements and application likelihood, the majority did not display prominent linearity. An analysis of the descriptive statistics for the variables revealed that this is possibly due to the large number of zero values in many of the predictors (e.g., information about the organization), and the extreme positive skew for many of the variables (e.g., number of women pictured in the job posting)

Table 2 Descriptive Statistics for Linear Variables

			Std.	Skewness		Kurto	osis	Number
Variable	N	Mean	Deviation	Statistic	Std. Error	Statistic	Std. Error	of Zero Values
Means of Frequency Count Within Job Ads								
Amount of Organizational Information	515	94.32	89.85	1.25	.11	2.05	.21	120
Job Duties and Responsibilities	515	147.35	134.87	2.61	.11	13.55	.21	32
Job Requirements	515	92.43	69.13	1.77	.11	4.23	.21	4
Amount of Job Posting Information		334.74	190.42	1.30	.11	3.93	.22	1
Number of Images		1.94	3.19	2.73	.11	11.72	.21	284
Number of Pictured Minorities <sup>†</sup>	201	2.47	2.73	2.03	.17	6.90	.34	51
Number of Pictured Women <sup>†</sup>	201	3.74	3.57	1.59	.17	2.25	.34	16
Means of Frequency Count Among Job Ads								
Competitiveness of Pay	515	.24	1.42	5.29	.11	37.38	.21	448
Dependent Proportion Variables (Untransformed)								
Minority Applicant Proportion <sup>††</sup>		.45	.22	.29	.12	75	.24	0
Female Applicant Proportion <sup>††</sup>		.46	.24	.10	.11	-1.02	.23	0
Application Likelihood	515	.15	.09	.88	.11	.61	.21	0

<sup>†</sup>Only job postings that contained images with people were eligible for this variable.
†Rows with a proportion of 0 or 1 are excluded.

Table 3
Frequencies of Binary Variables

Variable <sup>†</sup>	Present	Not Present
Rewards Policies	3.7%	96.3%
Work-Life Balance Policies	1.7%	98.3%
Corporate Social Responsibility Policies	0.2%	99.8%
Diversity Policies	6.6%	93.4%
Pay Information Provided	13.0%	87.0%
Benefits	13.2%	86.8%
Development Opportunities	18.7%	81.3%
Contrasting Color Scheme	47.4%	52.6%
Animations	11.1%	88.9%
Videos	8.9%	91.1%
Bullet Format	77.3%	22.7%

 $<sup>^{\</sup>dagger}N = 515$ 

discussed below. An example of the common appearance of these scatterplots can be seen in Figure 5. Note that the application likelihood variable is able to go into the negative range due because it has been logit transformed.

The normality of the linear variables was examined next. Following guidelines recommended by Kline (2005), skewness was examined for values exceeding an absolute value of three, and kurtosis was examined for values exceeding an absolute value of 10. The pay competitiveness variable is the only linear variable demonstrating extreme skewness primarily because of the extremely large number of job postings that did not provide pay information; this

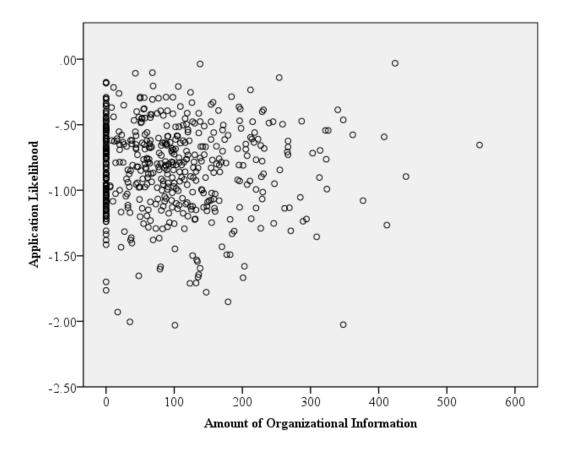


Figure 5. Scatter Plot of the Relationship Between the Amount of Organizational Information and Application Likelihood as Predicted in Hypothesis I

variable is an interaction term of presence of pay information competitiveness, so those zero values cannot be treated as missing. Because this variable also has extreme kurtosis, I was not able to examine the relationship between the provision of pay information, the competitiveness of pay, and their interaction on application likelihood as hypothesized. This is discussed further in the main analyses section.

The variables job duties and responsibilities and number of images both have unacceptably high levels of kurtosis. To account for this, a log transformation was applied to them in order to satisfy the assumption of

normality. The updated descriptive statistics for these transformed variables and the transformed dependent variables can be found in Table 4.

All hypotheses were tested for heteroscedasticity next. For hypotheses with linear independent variables plots of regression residuals were first examined. The residuals in the resulting charts did not appear to form an "envelope", indicating possible violations of the assumption. Accordingly, I followed the Goldfeld-Quandt procedure (1965) to determine the statistical level of heteroscedasticity for the relationships with linear variables. These results can be viewed in Table 5. Despite the visual evidence that the assumption of heteroscedasticity had possibly been violated, the computed statistics did not quite reach the level (i.e., p < .001) which would indicate severe enough heteroscedasticity that necessitates corrective action.

For hypotheses with binary independent variables, Levene's test of homogeneity of variance using an ANOVA was employed. Though a few hypothesized relationships got close, the assumption was again not violated as can be seen in Table 6. However, as noted in Table 6, hypothesis IV predicting a relationship between the presence of CSR policies and application likelihood was not evaluated as only one job posting contained the variable of interest (i.e., mentioning a corporate social responsibility policy in some way).

Table 4

Descriptive Statistics for Transformed Linear Variables

	N		Std.	Skewness		Kurtosis		Number
Variable		Mean	Deviation	Statistic	Std. Error	Statistic	Std. Error	of Zero Values
Log Transformed After Testing Assumptions								
Job Duties and Responsibilities	515	1.8	1.05	-2.93	.11	8.08	.21	32
Number of Images	515	87	1.27	0.27	.11	-1.81	.21	284
Logit Transformed Dependent Variables								
Minority Applicant Proportion <sup>†</sup>	429	10	.48	.48	.12	5.27	.24	14
Female Applicant Proportion <sup>†</sup>	470	10	.54	-10	.11	.07	.23	13
Application Likelihood	515	83	.34	54	.11	.57	0.21	0

<sup>†</sup>Rows with a proportion of 0 or 1 are excluded.

Table 5

Outcome of Goldfeld-Quandt Analysis for Heteroscedasticity

Independent Linear Variable used for	Danandant Variable	Sum of	Squares	E	DF	
Analysis	Dependent Variable	High	Low	- F	DГ	p
Amount of Organizational Information	Application Likelihood	23.87	18.94	1.26	190	.056
Job Duties and Responsibilities	Application Likelihood	20.63	15.89	1.30	190	.036*
Job Requirements	Application Likelihood	23.82	15.74	1.51	190	.002*
Competitiveness of Pay	Application Likelihood	23.12	14.99	1.54	190	.002*
Amount of Job Posting Information	Application Likelihood	19.73	14.20	1.39	190	.012*
Number of Pictured Minorities	Minority Applicant Proportion	20.27	10.88	1.86	57	.010*
Number of Pictured Females	Female Applicant Proportion	25.19	18.88	1.33	62	.132

<sup>\*</sup>Significant at the .05 level, but not at the threshold with which to take action (i.e., <.001).

Table 6

Outcome of Levene's Test for Homoscedasticity

Independent Variable	Dependent Variable	Levene's Statistic	p
Rewards Policies	Application Likelihood	.23	.63
Work-Life Balance Policies	Application Likelihood	.05	.82
Corporate Social Responsibility Policies <sup>†</sup>	Application Likelihood	-	-
Diversity Policies	Minority Applicant Proportion	.00	.97
Diversity Policies	Female Applicant Proportion	4.23	.05
Pay Information	Application Likelihood	.23	.63
Benefits	Application Likelihood	.89	.35
Development Opportunities	Application Likelihood	.70	.50
Contrasting Color Scheme	Application Likelihood	5.96	.06
Animations	Application Likelihood	1.13	.29
Video	Application Likelihood	.05	.83
Bulleted Lists	Application Likelihood	2.90	.09

<sup>&</sup>lt;sup>†</sup>Only one job posting in the dataset mentioned Corporate Social Responsibility Policies.

For those hypotheses being analyzed with multiple hierarchical regression, the tolerance level was used to indicate whether the assumption of multicollinearity was violated. Any tolerance level below .10 is an indication that the coefficient in the model is nearly a linear combination of the other coefficient(s) in the model with equally low tolerances. This only occurred with hypothesis VI which uses a cubed interaction term of the job duties and responsibilities variable to predict a curvilinear relationship, thus the common recommendation for multicollinearity to drop one or more variables from the equation cannot be followed. Finally, an analysis of Cook's distance was performed on the data in the study; no item in the study exceeded D=1, so there are no influential outliers present in the data.

With all of the assumptions now adequately satisfied, a correlation matrix is presented in Table 7. Note that the correlation matrix combines different forms of correlations: unformatted values indicate a standard Pearson r correlation (i.e., a correlation between two linear variables), italicized values indicate a point-biserial correlation (i.e., a correlation between one binary variable and one linear variable), and values in bold format represent a Phi coefficient (i.e., a correlation between two binary variables). Unlike the tests of the main hypotheses, the values indicated in the table have not undergone a Bonferroni correction.

Table 7

<u>Correlation Matrix of Study Variables</u>

Variable	Amount of Organizational Information	Rewards Policies	Work-Life Balance Policies	Diversity Policies	Job Duties and Responsibilities	Job Requirements	Amount of Job Posting Information
Amount of Organizational Information	-						
Rewards Policies	02	-					
Work-Life Balance Policies	.12**	03	-				
Diversity Policies	.02	05	04	-			
Job Duties and Responsibilities	.04	03	.04	.03	-		
Job Requirements	02	02	$.09^{*}$	.00	.27**	-	
Amount of Job Posting Information	.46**	04	.10*	.11**	.50**	.57**	-
Pay Information	06	.05	01	01	12 <sup>**</sup>	.03	09*
Competitiveness of Pay	08*	03	02	.00	10*	.12**	02
Benefits	.04	.05	.08*	.08*	06	12**	10 <sup>*</sup>
Development Opportunities	.30**	.10	.17**	01	.00	.00	.13**
Contrasting Color Scheme	.56**	.00	.11**	.06	05	02	.24**
Number of Images	.54**	02	$.10^{*}$	.05	04	03	.24**
Number of Pictured Minorities	04	04	.02	07	.10	.05	.01
Number of Pictured Females	08	10	07	01	.00	04	14*

Variable	Amount of Organizational Information	Rewards Policies	Work-Life Balance Policies	Diversity Policies	Job Duties and Responsibilities	Job Requirements	Amount of Job Posting Information
Animations	.21**	.06	.05	.06	01	05	.06
Video	.21**	.01	04	.05	.02	08*	$.08^*$
Bulleted Lists	.06	.01	07	.05	.10**	$.09^*$	.21**
Application Likelihood	02	.01	04	.02	.03	.04	02
Minority Applicant Proportion	.07	09*	.05	02	01	05	04
Female Applicant Proportion	.00	07	03	06	04	13**	12*

Variable	Pay Information	* Renetits		Development Opportunities	Contrasting Color Scheme	Number of Images	Number of Pictured Minorities
Amount of Organizational							
Information							
Rewards Policies							
Work-Life Balance Policies							
Diversity Policies							
Job Duties and Responsibilities							
Job Requirements							
Amount of Job Posting Information							
Pay Information	-						
Competitiveness of Pay	.43**	-					
Benefits	.00	01	-				
Development Opportunities	.01	05	.13**	-			
Contrasting Color Scheme	05	05	.01	.12**	-		
Number of Images	05	04	.04	.11**	.93**	-	
Number of Pictured Minorities	02	07	.07	.02	07	.45**	-
Number of Pictured Females	04	03	.03	07	06	.52**	.61**

Variable	Pay Information	Competitiveness of Pay	Benefits	Development Opportunities	Contrasting Color Scheme	Number of Images	Number of Pictured Minorities
Animations	.01	02	.06	.12**	.36**	.42**	.24**
Video	.00	03	.06	.12**	.33**	.34**	02
Bulleted Lists	.09*	.01	.05	.01	.00	.01	.02
Application Likelihood	.07	.05	01	03	08*	06	.07
Minority Applicant Proportion	07	09	01	.05	.03	.04	.15
Female Applicant Proportion	.02	.05	07	01	.03*	.06	.10

Variable	Number of Pictured Females	Animations	Video	Bulleted Lists	Application Likelihood	Minority Applicant Proportion	Female Applicant Proportion
Number of Pictured Females	-						
Animations	.20**	-					
Video	02	.26**	-				
Bulleted Lists	01	.04	01	-			
Application Likelihood	.08	02	02	.11**	-		
Minority Applicant Proportion	.06	.05	.05	.03	14**	-	
Female Applicant Proportion	.06	.03	.06	17 <sup>**</sup>	.05	.21**	-

Note: Values in standard formats represent a Pearson correlation; values in italicized format represent a point-biserial correlation; values in bold represent a Phi coefficient correlation. All displayed significant correlations are uncorrected for alpha inflation.

<sup>\*</sup>Correlation is significant at the 0.05 level

<sup>\*\*</sup>Correlation is significant at the 0.01 level

## Main Analyses

For the following analyses, the sample size is 515 job postings for each hypothesis except when minority or female applicant ratio acts the dependent variable; in those instances the sample size is 429 for the former and 470 for the latter. Displayed *p*-values have not undergone a Bonferroni correction unless specifically stated.

## <u>Information about the Organization</u>

Hypothesis I was tested using a Pearson r correlation; it predicted the amount of information about the organization would be positively related to the likelihood job seekers would apply for the position. This hypothesis was not supported (r = -.02, p = .30).

Hypothesis II was tested using a point-biserial correlation; it was predicted that the presence of information about rewards policies would be positively related to the likelihood job seekers would apply for the position. This hypothesis was not supported (r = .01, p = .42).

Hypothesis III was tested using a point-biserial correlation; it predicted that the presence of information about work-life balance policies would be positively related to the likelihood job seekers would apply for the position. This hypothesis was not supported (r = -.04, p = .20).

As discussed above, Hypothesis IV could not be examined because only one job posting in the entire dataset contained a mention of a corporate social responsibility program.

Hypothesis Va and Vb were tested using a point-biserial correlation. Hypothesis Va predicted that the presence of information about diversity policies would be positively related to the proportion of minority job seekers that apply for the position. This hypothesis was not supported (r = -.02, p = .31). Likewise, hypothesis Vb predicted that the presence of information about diversity policies would be positively related to the proportion of female job seekers that apply for the position. This hypothesis was not supported (r = -.03, p = .28).

### <u>Information about the Job</u>

Hypothesis VI was tested using hierarchical regression; it predicted that there would be a curvilinear relationship between the amount of information about the job duties and responsibilities and the likelihood that job seekers would apply to the position. This hypothesis was not supported ( $\beta$  = -1.05, p = .17). Posthoc examination revealed the relationship was not significant in a linear fashion either ( $\beta$  = .03, p = .52).

Hypothesis VII was tested using hierarchical regression; it predicted that there would be a curvilinear relationship between the amount of information about the job requirements and the likelihood that job seekers would apply to the position. This hypothesis was not supported ( $\beta$  = .05, p = .92). Post-hoc examination revealed the relationship was not significant in a linear fashion either ( $\beta$  = .94, p = .35).

Hypothesis VIII predicted that the provision of pay information would be positively related to the likelihood that job seekers would apply to the position when the pay is competitive and originally was meant to use hierarchical

regression. It was shown that the pay competiveness variable was extremely non-normal, as can be seen in Table 2. This occurred because the variable is treated as a linear variable since it is an interaction of a binary and linear variable, but the number of zero values due to job postings omitting pay information is extremely high as can be seen in Tables 4 and 5. Thus, an analysis of this hypothesis as stated would be very difficult to interpret. A post-hoc Pearson correlation shows that, after a Bonferroni correction, the presence of pay information by itself is not related to the likelihood that job seekers would apply to the position (r = .07, p = .06, N = 67).

Hypothesis IX was tested using a point-biserial correlation; it predicted that the presence of information about benefits would be positively related to the likelihood job seekers would apply for the position. This hypothesis was not supported (r = -.01, p = .40).

Hypothesis X was tested using a point-biserial correlation; it predicted that the presence of information about development opportunities would be positively related to the likelihood job seekers would apply for the position. This hypothesis was not supported (r = -.01, p = .43).

### Vividness

Hypothesis XI was tested using hierarchical regression; it predicted that the use of a contrasting color scheme would be more strongly related to the likelihood that job seekers would apply to the position when the total amount of information in the job posting was low. This hypothesis was not supported ( $\beta$  = .05, p = .54).

Hypothesis XII was tested using hierarchical regression; it predicted that the number of images would be more strongly related to the likelihood that job seekers would apply to the position when the total amount of information in the job posting was low. This hypothesis was not supported ( $\beta = .01$ , p = .90).

Hypothesis XIIIa and XIIIb were tested using Pearson r correlation; each of these tests had a sample size of 201 job postings included in the analysis while the remaining job postings did not visually display any human image. Hypothesis XIIIa predicted that the number of pictured minorities would be more strongly related to the proportion of minority applicants a job posting received when the total amount of information in the job posting was low. This hypothesis was not supported (r = .15, p = .68). Likewise, hypothesis XIIIb predicted that the number of pictured females would be more strongly related to the proportion of female applicants a job posting received when the total amount of information in the job posting was low. This hypothesis was not supported (r = .06, p = .22).

Hypothesis XIV was tested using hierarchical regression; it predicted that the presence of animated visuals would be more strongly related to the likelihood that job seekers would apply to the position when the total amount of information in the job posting was low. This hypothesis was not supported ( $\beta = .02$ , p = .70).

Hypothesis XV was tested using hierarchical regression; it predicted that the presence of a video on a job posting would be more strongly related to the likelihood that job seekers would apply to the position when the total amount of information in the job posting was low. This hypothesis was not supported ( $\beta$  = -.03, p = .59).

# **Formatting**

Hypothesis XVI was tested using a point-biserial correlation; it predicted that the use of bulleted formatting in the job posting would be positively related to the likelihood job seekers would apply for the position. After a Bonferroni correction, this hypothesis was supported (r = .11, p = .03).

### **CHAPTER IV**

### DISCUSSION

It was predicted that objective content and stylistic factors would impact the likelihood that job seekers would apply to online job postings. The results revealed that only one of the hypothesized factors (i.e., use of bulleted lists in the job description) had a significant effect on this outcome. In this chapter I examine potential reasons for these findings followed by a review of the subsequent practical and theoretical implications that the findings result in. Finally, I discuss the limitations of the current study and opportunities for future research.

## Major Findings

This research investigated the effects that objective characteristics in job posting have on the likelihood that job seekers will apply for the position. A large sample of actual job postings on a major online job board were obtained and coded for these content-related and stylistic factors. The primary dependent variable, application likelihood, was derived from the proportion of job seekers that applied to the position out of the total number of job seekers that viewed the position.

The results of the analysis failed to support the hypotheses on the study with one exception. The content of the job postings, both information about the organization and information about the job, did not have a significant impact on application likelihood. Job postings with little, moderate and large amounts of information about the organization and job were equally as likely to convert job posting viewers into applicants. Similarly, job postings with few or no stylistic

enhancements to their postings were equally as likely to convert job posting viewers into applicants than were those that did invest in those stylistic enhancements.

The only hypothesis to receive support in the present study was the hypothesis that the use of bulleted lists when describing job duties, responsibilities and requirements would increase the likelihood that a job posting viewer would choose to apply to the job. It was explained above that one reason bulleted lists were expected to exert the hypothesized effect was because they are perceived as more attractive than paragraph format (Metz & Junion-Metz, 1996; Zusman & Landis, 2002); however, given the lack of support for the other stylistic variables, many of which (e.g., contrasting colors, animations) are more salient to the observer, it may be that attraction is not the operating mechanism. Rather, it seems plausible that bulleted lists exert an effect on job seekers because they enhance the clarity of the information being presented (Simsek & Veiga, 2001).

There are a few possible explanations for the present findings. The first and most probable explanation is that because job application behavior is more distal than many other recruitment variables (e.g., organizational attraction, application intentions; Chapman et al., 2005); it may be that there are too many intervening mechanisms between objective factors of the job posting and behavior to find a direct relationship with a large enough effect size to be considered practical. When dealing with a more distal outcome variable(s), it is perhaps even more important to account not only for objective characteristics but subjective

characteristics as well as they are the likely intervening mechanism in a more inclusive model. In support of this explanation, researchers have been able to find such a relationship when a firm's reputation was entered into the regression model (Williamson et al., 2010); these researchers used a smaller, more controlled sample that better allowed for evaluating firm reputation, whereas the present research was too large in scope regarding the number of job seekers, employers, and geography to do the same. A similar consideration is more difficult in this study as most of the organization are regional rather than national so subjective perceptions would vary by the location of the job seeker(s).

A second possible explanation is that methods of attraction that were effective in other mediums do not generalize to effectiveness on job boards. Past research for online recruitment has primarily focused on employer websites (e.g., Braddy et al., 2003; Cober et al., 2004a) which offer a more complete look into the company; perhaps job seekers carry a higher expectation of what information should be provided on employer websites since the space to communicate that information is practically unlimited. Other research has come more from an advertising perspective (e.g., Coyle & Thorson, 2001; Schenkman & Jönsson, 2000) in which most of the targets of the ad do not make a concerted choice to view the ad in the first place. In this context, job seekers have already chosen to expose themselves to job postings rather than traditional advertising when the exposure is incidental. Due to the low transaction costs of applying (versus the literal costs of responding to an product/service ad), it is conceivable that job

seekers see little reason not to apply for every position they may remotely be qualified for.

Thus, the lack of support for the presented hypothesis leads to an interesting potential explanation: in a recruiting context with low transaction costs and high competitiveness, do intentions (i.e., to apply to a job) exist prior to exposure to the job posting? It may be that the mediating mechanism in the theory of planned behavior, intentions, exists prior to exposure to the job posting, so in most cases the content and style of the job posting do little to increase application likelihood. The job seeker may intend to apply to as many jobs to which they are at least marginally qualified for as possible thus making many objective factors less important; only bulleted lists impact application likelihood because the clarity bulleted format brings allows efficient (i.e., it takes less time to assimilate bulleted text) evaluation of the posting. If this is the case then the measurement of subjective variables, such as perceived person-job fit, may be even more informative.

The effect of subjective characteristics, such as firm reputation, and the presence of pre-existing intentions may operate in an interactive fashion. As discussed above, there is evidence that an employer's reputation impacts recruiting outcomes in the online context and attenuates the effects of content and style on employer websites (Williamson et al., 2010). In a medium in which less information and opportunity for visual appeal exists, employer reputation may exert an even stronger influence. Job seekers may never click into a job posting for an organization with a negative reputation which leaves the jobs with a

positive or neutral reputation remaining; job seekers see no reason not to apply to these positions once they click into them and so they follow through with their pre-existing intention to apply to jobs during their visit to the job board.

Alternatively, the job posting just may not possess enough information or credibility to influence attitudes, and thus intentions and behaviors, in the same way organizational career website or recruiters do. Subsequently, job seekers must rely on what prior knowledge, if any, they possess when deciding to apply for a position with an organization. This would lead to the same end of job seekers only viewing jobs for organization they know something about, and thus their intent to apply was formed prior to viewing the posting. The distinction between these scenarios is small, but if either or both are the case, organizations may see a greater return on their investment by cultivating a positive reputation among their desired talent pools than by increasing the amount of money they spend in a transactional manner to obtain more qualified candidates in the present.

A third explanation is the impact of the labor market at the time of the study. At the time the data were collected for the study, the national unemployment rate was above nine percent and there were relatively few new jobs being added to the economy. While some reports claim that the average number of applications per job has decreased to around 20 (Rooney, 2011), the jobs used in this study had an average of over 48 applications per posting; furthermore, a more recent analysis of the internal job postings within the major online job board used in this study shows that the average number of applications per job for the third quarter of 2011 was over 76. The amazing thing about these numbers is that they only

include applications from a single, albeit the largest, source of applicants (i.e., online job boards).

The resulting landscape then is a highly dense labor market that does not favor most job seekers. Thus, job seekers may perceive more benefit from being less discriminating in where they take initial steps to pursue employment, though they may become more discriminating at later steps. Even the best candidates can get lost in such volume, and so the most rational thing to do is to apply to as many companies as you can that are a marginal fit for your qualifications and hope the volume filters down into one or two opportunities. This scenario is plausible, but it is somewhat incompatible with the explanation described above where job seekers are more discriminating based on prior knowledge of the company posting the job and subsequent effects of pre-formed application intentions.

## **Implications**

The findings in this present study have several possible implications that were partially described above. First, organizations looking to employ best-practice recruitment recommendations derived from the literature may not see the tangible return on their investment that the academic literature may lead them to expect. While there are several potential explanations for this above, it may be disheartening for a practitioner trying to improve their recruiting outcomes in an evidence-based manner. That is not to say such best-practices should be abandoned, but, at least in the online job board context, there is more research needed to understand how outcomes are impacted and tools to determine the level of return necessary for investment (e.g., utility analysis) should be employed.

Organizations may have to re-think how they intend to attract applicants to apply to their positions using job boards. An investment in developing a firm's employment brand and/or reputation may be a fruitful investment in a high-volume recruiting environment. Organizations should probably collect other subjective information about their jobs as well, such as clarity and attractiveness of the job and organization descriptions. The present study attempted to analyze these factors from a quantity perspective, but since the effects of content and style are primarily thought to influence subjective evaluations, perhaps it is these evaluations that are important to analyze.

Theoretically, researchers need to examine how context (e.g., the labor market, the recruitment medium) affects traditional theoretical models (e.g., the theory of planned behavior, signaling theory) used to predict organizational attraction and recruiting outcomes. The theoretical foundation for the current study was grounded in established literature on how to affect recruitment outcomes, yet the result was different. Johns (2006) argues that context is not sufficiently addressed in organizational research, and this study adds support to that position. Thinking within Johns' omnibus view of context, much research has focused on the *what* of recruitment success, but fewer studies have revealed other contextual factors around *where* and *when*. The rarity of studies using job boards, despite their prominence, while simultaneously using phrases like "online recruiting", "e-recruiting" and similar wording for newer recruitment research shows that *where* has not been given enough attention. Further, the rare reporting of labor market conditions in recruitment research reveals the same for the *when* 

of much recruitment research. It may be that it is simply the distal nature of the variables and that context does not influence the models to a large extent, but only further context-focused research will provide more concrete evidence.

# Limitations

One limitation of the present study that has been discussed above is that the predictors were limited to objective characteristics. Subjective evaluations of the content and style listed above would have been a very revealing supplement to the dataset, and conceptually makes sense as a mediator between the objective characteristics and any outcomes. The lack of knowledge about the subjective evaluations reduces the power of the study to find recruitment outcome effects.

A second limitation of the research is that job seekers may very well find an available position on a job board and then apply through a different mechanism. Some bloggers and advice articles actually recommend to job seekers that if they see a position on a job board they are interested in that they should then take other steps to apply outside of the job board (Rosenberg, 2010). This is often mentioned because the volume of applicants on job boards is so great it may be easy to be overlooked even if you are qualified.

A third related limitation is that the quality of the job applicants was not examined. For any company, the goal during recruitment isn't about finding the most candidates, it's about finding the right number of quality candidates that you want to hire. Without a reliable ability to control for candidate quality, there was no way to evaluate whether the predictors in this research had any effect on that aspect of recruitment outcomes. It is possible that while no differences exist for

the application likelihood among the job postings due to content and style differences, the quality of the applicant pool might vary substantially as the more informed and experienced job seekers knew 1) how to search for the right position and 2) which companies hired for these positions.

# Future Research

Based on the above discussion, there is fruitful ground for future research opportunities. The first opportunity for research is to include subject perceptions into a model of recruitment predictors and outcomes in the online context, particularly that of job boards. Williamson et al. (2010) advanced this work in the field of company websites, so job boards are a likely next step given the non-effect of all but one of the objective characteristics in this study. Research in this area will likely have to be more controlled than the present study in terms of targeted occupations and geography as those two factors may act as sources of non-random error.

A second area for future research is much more ambitious. The online recruitment field would benefit greatly from a study on recruitment predictors and outcomes in different labor market conditions. The design could be concurrent across different geographies where local labor markets vary substantially, or it could be longitudinal in design while controlling for geography. A concurrent design might be easier, but researchers would need to find locations with comparable occupational demands and regional cultures but different labor market environments. A longitudinal design would likely be more difficult, but would not have the same inherent drawbacks as the concurrent design; it would,

however, be unable to anticipate the changing recruiting landscape as a function of new occupations or ways to find jobs. Perhaps researchers could also perform a meta-analysis while collecting information about the labor market that existed at the time of data collection from past research efforts; this may be more difficult as tracking down that data from researchers would be time-consuming, but it would provide important context for the past body of literature.

Another avenue of research would be incorporating more person-level predictors and outcomes to create a multi-level recruitment model. Some person level variables that could be incorporated are different demographic variables, user perceptions, measures of perceived P-J/O fit, and desire for employment among others combined with the objective characteristics and other firm-level characteristics could show unique, complex relationship operating in the recruitment context. Obtaining this data is always the challenge, but the possibilities for exploration are vast and would lead to a better understanding of the recruitment chain from the beginning of a job search to acceptance decisions.

### CHAPTER V

#### **SUMMARY**

The goal of the present research was to examine the impact objective content and stylistic factors within job postings present on job boards had on the likelihood that job seekers would apply for the position. The theory of planned behavior is used to theoretically explain how the content (e.g., information about the organization, information about the job) may affect job seeker behavior, while signaling theory is used to theoretically explain how stylistic factors (e.g., images, video, formatting) may affect job seeker behavior. Past research in this area has primarily relied on student samples and focused on employee website recruiting pages, whereas the current study adds to the field by focusing on American's most popular recruitment method (i.e., online job boards) using real job postings with real job seekers.

Despite much research indicating a litany of potential predictors in this relationship, only the presence of bulleted information had any impact on application likelihood. These findings lead to the conclusion that either 1) the behaviorally-based outcome variable in the present study was too distal to observe any significant effects from the job posting characteristics or 2) that evidence-based best-practices from past recruitment research does not generalize to online job boards, the current labor market, or both. By contrasting with the results of previous research efforts, there exists a greater need to expand recruitment research into more modern settings; this does not include just job boards, but also recruitment efforts taking place on social media sites as well as these have

become more prominent in the past couple of years even if its effectiveness is still in doubt (Hansen, 2011). Future research should explore if job boards truly do differ from other recruitment mediums, and if they do, under what context these differences exist.

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Appendix A

Study Coding Sheet

Company:	,	Job Location:	
Coder:		Job ID #:	
FORM & STYLE			
Visuals		Formatting	
Customized Page Skin		Uses Section Headers	
Animated Visuals		Bullet Point Style on Duties	
Embbedded Video (not link to video)			
		Bullet Point Style on Requirements	
		Notes:	
Number of land of the control of the			
Number of Images (not logos, maps)			
# of work-related images: # of non-work-related images:			
Number of whites/ Caucasians Number of minorities Number of men:			
Number of men:			
□ Number of women:			
	•		
CONTENT			
Job Information		Org. Information	
Discloses Expected Compensation		Specific Org. Policies	
How much (use median for range):		Mentions diversity pol.	
Mentions bonus		Mentions W/L balance pol.	
Mentions "Benefits"		Mentions rewards pol.	
Mentions health insurance		Mentions CSR or ecological pol.	
Mentions training/development			
Mentions advancement opps.			
Mentions retirement plan			
Mentions another insurance		Notes:	