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The Impact of Culture, Industry Type, and Job Relevance on Applicant Reactions

By

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In
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Table of Contents

Abstract.....	4
Introduction.....	5
Method.....	19
Results.....	22
Discussion.....	27
Summary.....	36
References.....	37

Abstract

The present study sought to understand how national culture, industry, and the perception of job relevance has an influence on an applicant's reaction to an online personnel selection assessment. A review of the literature on attribution theory (Fiske & Taylor, 1984; Ployhart & Harold, 2004) and organizational justice theory (Gilliland, 1993; Ployhart & Harold, 2004) provided the theoretical basis for the hypotheses of this paper. Applicant data from companies in manufacturing, finance, retail, and telecommunications were examined to explore differences in applicant reactions. Additionally, data between those in Mexico and the US within the telecommunications industry were examined to distinguish cultural differences in applicant reactions. Results indicated that job relevance was positively and significantly correlated with a favorable perception of the company and there were mixed results concerning industry differences in applicant reactions. Furthermore, analyses on cultural differences between applicants from the United States and Mexico indicated that applicants within the U.S. responded more favorably to the online assessment than those in Mexico and that applicants within Mexico rated the organization's image more favorably than applicants within the U.S. The applied and academic implications of these findings are discussed and suggestions for future research are proposed.

The Impact of Culture, Industry Type, and Job Relevance on Applicant Reactions

A large body of research suggests an applicant's experiences in the selection process can determine the extent to which they feel they have been treated fairly (Gilliland, 1993; Ployhart & Harold, 2004) and how the applicant attributes the reasons behind the job offer or rejection (Fiske & Taylor, 1984; Ployhart & Harold, 2004) can explain the reactions of applicants to a personnel selection process. Differences in reactions across job applicants may be accounted for by national culture (Hofstede, 2000) and type of industry. These reactions could inform one's opinion of the organization and the extent to which the applicant's opinion of the company changes because of the assessment (Hulsheger & Anderson, 2009). This is of particular importance to businesses concerned with protecting their brand's image and recruiting quality applicants. Therefore, organizations should seek to understand the ways in which an applicant is likely to respond to experiences during the selection procedure and the extent to which such experiences may influence the applicant's understanding of the company in the future, regardless of whether or not they become an employee. The purpose of this research is to examine theories on organizational justice and attribution in order to identify the extent to which the variance in applicant reactions can be explained by the job relatedness of the procedure, national culture and industry type.

Organizational Justice Theory

Perhaps the most influential theorist in the applicant reactions literature has been Gilliland (1993) who evaluated the extent to which applicant reactions are guided by perceptions of fairness at the organizational level. Within this context, research has primarily evaluated two types of perceived organizational justice: distributive and

procedural. Distributive justice is concerned with fairness of outcomes, such as whether or not an applicant is hired, while procedural justice is concerned with fairness in a particular organizational process, such the way in which one's manager decides to give a direct report a promotion (Skarlicki & Folger, 1997). Both types of justice are important in understanding applicant reactions and outcomes of these reactions during a selection process. Certainly, there is no universal code of fairness during selection procedures. For example, perception of fairness during the employment-testing phase of the selection process within one group might differ greatly within the context of another group (Scroggins, Benson, Cross, & Gilbreath, 2008).

An applicant's reaction to a pre-employment selection process can be defined as how one perceives and responds to various steps or procedures (Hausknecht, Day, & Thomas, 2004). Applicant reactions may be positive, negative, or neutral. Research in this area of personnel selection acknowledges that not only do organizations select applicants, but applicants must also choose the organizations to which they apply: ultimately, applicants decide whether or not to accept a job offer (Rynes, 1991). Evidence suggests applicants who are hired are more likely to perceive the process as fair than those who were not hired (Gilliland, 1994). In fact, applicants are more likely to recommend the organization to others when they are provided with an explanation concerning the company's use of their selection tools (Gilliland, 1994). This finding is of particular importance to organizations interested in the applicant's opinion of the company after they complete the selection procedure because an applicant's negative opinion of the company could tarnish the reputation of the organization. While it is never the aim of any company to have selection procedures that are perceived as unfair by

applicants, issues of fairness will likely emerge at some point in the selection process. Expectations of fairness could include the perception that an online assessment did not ask questions relevant to the job for which one is applying or one's understanding of fairness could be violated when an applicant discovers that they have not been chosen for the job. Perhaps an important aspect of fairness is the answer to the question "why?" after perceptions of fairness have been violated. It is likely that, after one's perception of fairness is violated, many applicants will try to explain why the event occurred.

Attribution Theory

It is likely that many people, and inevitably many job applicants, draw meaning from events that occur by asking why these events take place. This tendency can be explained by attribution theory. Attribution theory is comprised of a myriad of theoretical and empirical evidence that suggests people create explanations and causal attributions to events that occur in order to more fully understand one's world (Fiske & Taylor, 1991). Attribution theory is concerned with how an individual infers causality to an event (Fiske & Taylor, 1991). In a practical sense, this is an individual's tendency to ask why a particular event occurred. In the context of selection, one might ask, "Why was I not offered the job?" or "Why was I required to take an online assessment, when the job I applied for has nothing to do with computers?" The attribution model developed by Weiner (1985) is of particular importance to the present study because of its applicability to a variety of employment contexts.

Weiner (1985) advocated that an event, such as a hiring decision or something within the selection process, occurs and applicants give causality to that event based upon three dimensions. These dimensions are locus, controllability, and stability. Locus refers

to the extent to which the applicant thinks the event occurred due to internal or external forces. For example, if an applicant scores low on a math test someone with an internal locus of control might believe that they can do something about changing the score by studying more. An individual with an external locus of control might believe that things in the environment control the outcome of the math test (a friendlier test administrator, a different testing format, etc.). Controllability refers to the extent to which something can be controlled. For example, no individual or external force can control the fact that math is an abstract subject. The abstractness of math cannot be changed by external forces or by an individual's attempt to make the topic less abstract. Finally, stability is concerned with the permanency of the event (Ployhart & Harold, 2004). If an individual takes a math test and scores, takes it a second time and achieves the same results, and tries a third time to improve one's score, but does not do so it will likely impact the individual's explanation of their score. These three dimensions then inform self-perceptions, intentions, and expectations of the employee.

Because an applicant's behaviors, such as recommending (e.g. warning others about a company's selection practices or even accepting a job offer) often occur after these attributions are made, it is critical to acknowledge any misjudgments the applicant might make during selection process. There is evidence to suggest that individuals attribute various causes differently depending on whether or not the event is favorable or unfavorable for that individual. This is known as self-serving bias and occurs because of an individual's desire to describe one's behavior in a way that makes the individual look good in that given situation (Miller & Ross, 1975). Individuals are more likely to attribute success to one's self and attribute failures to situations or external forces

(Hastorf, Schneider, & Polefka, 1970). For example, if an applicant scores high on a math test, they are likely to think that they are inherently smart and that they deserved that high score. However, if an individual receives a low score on a math test, they are more likely to think that their low score had little to do with them and was a reflection of one's teacher, curriculum, and potentially other forces unrelated to the individual. Research (Ryan & Ployhart, 2000) suggests that self-serving bias is a persistent problem for companies concerned with applicant reactions. One can elucidate that if an applicant is not offered a job, they will blame the company for his outcome and they could respond negatively to the organization and its selection procedures. Therefore, it can be asserted that applicants who have negative experiences during the selection process are more likely to place blame on those employed at the company or about the organization as a whole rather than faulting one's self.

The self-serving bias has critical implications for organizations that are interested in more fully understanding the populations of applicants who respond negatively to the selection process. Certainly, organizations are interested in applicant reactions because of the implications it could have on the applicants' acceptance or denial of a job offer. The literature currently states that there could be several predictors that might precede one's decision. Some sources argue that the recruiters have little to no effect on the applicant's decision to accept a job (Rynes & Barber, 1990; Taylor & Bergmann, 1987) and delays in the recruitment process have a minimal impact on the applicant's job decision (Rynes & Boudreau, 1986; Taylor & Bergmann, 1987). However, these findings are in conflict with earlier findings that suggest recruitment timing and characteristics of the recruiter can be influential in the applicant's decision-making process (Rynes, Heneman, & Schwab,

1980; Glueck, 1973). The impact that an organization's recruitment process has on an applicant's decision to accept or deny a job opportunity is still unclear, but there could likely be aspects of industry, job type, or other external factors that might explain these differences.

In order to more fully understand applicant reactions separate from recruitment, research suggests that the quality of the applicant might explain an individual's behavior during the selection process. In particular, evidence indicates that better qualified applicants react differently to these procedures than lesser-qualified applicants (Rynes, Bretz, & Gerhart, 1991). The adverse self-selection hypothesis suggests that when better-qualified applicants encounter negative information about the job, they are more likely to withdraw from the application process in order to pursue other job opportunities (Bretz & Judge, 1998). In contrast, less qualified applicants are likely to remain in the applicant pool when they receive negative information about a job because they likely have fewer job options (Bretz & Judge, 1998).

Aspects of the selection process such as quality of applicants and duration of recruitment process are integral pieces to understanding how reactions to selection processes might vary across industries. For example, if certain industries have an inherently lengthy application process there is evidence that suggests this might influence the favorability of one's reaction among certain minority groups and better qualified applicants (Hunt & Cohen, 1971; Rynes, Bretz, & Gerhart, 1991); Bretz & Judge, 1998), which could be accounted for by differences in national culture (Hofstede, 1980). Arvey, Gordon, Massengill, and Mussio (1975) suggest that in large, private organizations and civil service operations, duration of application procedures might be of particular of

importance because the time between each step in the application process could be several months. Additionally, organizational characteristics and job type appear to be important factors in one's decision to accept a job offer (Chapman, Uggerslev, Carroll, Piasentin, & Jones, 2005; Turban, Eyring, & Campion, 1993). These include perceptions regarding perceived work environment and image of the company. For example, if the applicant has a positive understanding of the company before the selection procedure, they will be more likely to accept a job offer than if the company had a negative reputation.

Impact of Applicant Reactions on Organizations

While recruiting quality applicants is essential to the success of an organization, there are several other reasons why companies should be concerned with applicant reactions. One of the most prominent concerns is applicant withdrawal. Murphy (1986) explains that applicants who are disappointed by the selection process could withdraw their application before the company makes a hiring decision and the organization might lose an ideal candidate for the position. In addition, negative applicant reactions could mean poor publicity for the company if applicants share their experience with those outside of the organization (Hulsheger & Anderson, 2009). However, this idea is mostly speculated by some researchers and is not supported by empirical evidence. It is still important to consider how assumptions, expectations, and perceptions that applicants have concerning the application process, regardless of the hiring decision, impact the way in which applicants understand the company. In turn, this could ultimately influence the brand perceptions of the organization and the applicant's reaction to the pre-employment

assessment, which could inform the applicant's decision to accept or deny a job offer (Barber, 1998; Belt and Paolillo, 1982).

Gilliland (1993) advises that the experience of the applicant during selection could significantly influence that person's behavior in the workplace if they are hired in terms of legal implications concerning selection procedures. Applicants who perceive the process as unfair might initiate legal action if they feel as though they have experienced discrimination (Smither, Reilly, Millsap, Pearlman, & Stoffey, 1993). Lastly, information concerning job demands, organizational culture, and other factors by which an applicant can make predictions about fit with the job and organizational environment significantly influence the applicant's reactions (Harold & Ployhart, 2008). However, in an effort to be specific, employers could reveal too much detailed information that could deter high potential applicants who have not had specific training for which a job posting calls or could send an incorrect message concerning what type of applicant the company desires (Rynes and Connerley, 1993). The effort of balancing the right level of specificity while recruiting a substantial sample of applicants is the challenging reality of many companies. If it is done improperly, applicants could be deterred from reapplying to the organization or could be less likely to purchase the company's products if they have a negative reaction to the selection process (Hausknecht, Day, & Thomas, 2004).

Perceived Job Relatedness

Ployhart and Harold (2004) advocate that the information an individual retrieves from memory is likely to guide the attributions made to any given event. This also highlights the critical nature of an applicant's experience during the selection process. One of the strongest predictors of reactions in selection is perceived job relatedness of the

methodological approach to selection tests (Macan, Avedon, Paese, & Smith, 1994; Steiner & Gilliland, 1996), particularly for American applicants (Steiner & Gilliland, 1996). If an applicant has a negative encounter with an individual, selection tools or methodological approach, it could be one of the most salient memories that individual has of the organization. For example, questions concerning sales closing might be received well among applicants in retail because of the intuitive connection between the question and the industry. However, an individual who is applying for a position in manufacturing might not make the connection between sales and the job to which they applying. In turn, this uncertainty concerning job relatedness could result in the manufacturing applicant reacting negatively to the selection procedures. This is consistent with the literature on job relevance and applicant reactions (Steiner & Gilliland, 1996). Considering this, it can be speculated that industry type has an impact on one's perception of job relevancy during the selection process.

Industry Image, Reputation, and Brand

The literature on applicant reactions is clear about the importance of such reactions for organizations: particularly the extent to which applicant's perceptions of the company serves as both antecedent and outcome of applicant reactions. Collins (2007) tested a model of recruitment strategies and product awareness on applicant intentions and decisions. He determined that employer familiarity, image, and corporate reputation all had significant and independent relationships with applicant decisions. Certainly, the applicant's understanding of the company is important even during the stages prior to selection, most notably during recruitment. Some have even theorized that a company's reputation is equivalent to the company's brand (Cable & Turban, 2003). Given what is

known about reputation and brand, it is expected that we will see a similar relationship between industry type and relevancy of the assessment to that industry. For example, if applicants applying for entry-level jobs at a manufacturing company are asked to take an assessment on the computer, they might respond negatively to the selection method than applicant in telecommunications who expect computers to be an essential tool to the job for which they are applying.

Traditionally, one's notion of brand has fallen under the definition suggested by Kotler (1991). He defines brand as, "a name, term, sign, symbol, or design or combination of them which is intended to identify the goods and services of one seller or group of sellers and to differentiate them from those of competitors" (Kotler, 1991, p.442). Furthermore, customer-based brand-equity is primarily concerned with the beliefs an individual has about a product's brand, which then has an effect on that individual's decision to purchase that product (Collins and Stevens, 2002) based upon the consumer's knowledge of the brand. Brand knowledge encompasses image, awareness, and the connection one makes to the brand based upon characteristics and association with the brand (Keller, 1993). How the notion of brand overlaps with the industry of a particular company is unclear. It is likely that industry type is an integral component of a company's brand and sets the tone for an applicant's expectations during the assessment process.

Perhaps the most compelling aspect of brand equity within the context of selection procedures is the response the consumer has to a brand specific to industry. Certainly, this response can be influenced by many interactions with the company and the company's brand. The associations that applicants make to the company and industry

during the selection process can be significantly influenced by the applicant's reaction to the procedures. The aforementioned phenomenon of the self-serving bias could have a detrimental impact on a company's image and an industry's reputation. If the applicant reacts negatively to the selection process, it is likely they will fault the company for that reaction, not themselves. In the future, this could deter the applicant from recommending the company to others and could impact the applicant's decision to choose that company as an employer.

Cultural Differences

In addition to differences in applicant reactions across industries, cultural differences may also play an important role in dictating the way in which an individual reacts to a particular selection assessment (Scroggins, Benson, Cross, & Gilbreath, 2008). Quite often, multi-national companies administer selection assessments to groups of applicants with varying native languages between individuals. Typically, these language differences are an indicator of cultural differences that could account for variance in the applicant experience (de Meijer, Born, Terlouw, & van der Molen, 2006). Hofstede's (1980) four-dimensional model of national culture is of particular importance to these cultural differences that can exist between groups. The four aspects of the model are power distance, uncertainty avoidance, individualism-collectivism, and masculinity. In particular, power distance, uncertainty avoidance, and individualism-collectivism have significant implications for the field of personnel selection. National cultures that have a small power distance seek to minimize inequality between people and can easily access superiors in society. Conversely, cultures with large power distances have leaders who are not accessible and, as a society, believe that those who hold power are entitled to

certain privileges (Hofstede, 1980). Cultural standards concerning power distance could account for ethnic differences in selection procedures, particularly within the context of employment interviewing (Huffcutt & Roth, 1998; Motowidlo et al., 1992; Roth, Van Iddekinge, Huffcutt, Eidson, & Bobko, 2002).

Power distance is a key component in understanding cultural differences in personnel selection. However, another important aspect to Hofstede's (1980) model that could provide meaningful information is uncertainty avoidance. Individuals who belong to cultures that have a tendency toward avoiding uncertainty often avoid doing ambiguous tasks (Roosmand, Ghasem-Aghae, Nematbakhsh, Baraani, and Hofstede, 2011; Hofstede, 1980). Countries such as Greece, Portugal, France and Spain have a high score on uncertainty avoidance, which is in contrast with Denmark, Sweden, and the Netherlands because they are much more tolerant of uncertainty (Roosmand, Ghasem-Aghae, Nematbakhsh, Baraani, and Hofstede, 2011). This dynamic is most notable when evaluating corporate image and consumer behavior. For example, cultures that are tolerant of ambiguity are more open to adopt new products and technologies (Hofstede & Hofstede, 2005) while uncertainty avoidant cultures are less likely to be interested in companies with unknown brands (Mooij, 2003).

The third dimension of cultural differences on Hofstede's (1980) model is individualism-collectivism. National cultures that are high on individualism have a tendency to respond positively to selection procedures that showcase one's own merit. For example, because the United States' culture is highly individualistic (Hofstede, 1980), it is likely that applicants from the United States will respond more positively to selection questions that pertain to personal accomplishments than applicants from cultures that

value collectivism (Scroggins, Benson, Cross, & Gilbreath, 2008). For example, a selection question that many Americans might respond positively to could be, “Describe a time when you were successful at carrying out a task you were asked to do by your manager”. Conversely, applicants from cultures that are high in collectivism might not reveal any negative reactions to particular selection procedures because they feel a greater sense of duty to an organization (Hofstede, 1980).

The Present Study

Given what is known about perceived fairness of an organization’s selection methods (Gilliland, 1993; Gilliland 1994; Ployhart & Harold, 2004), it is likely that applicants who thought the assessment measured characteristics and abilities relevant to the job will report a greater favorability rating of the organization.

Hypothesis 1: There will be a positive relationship between perceived job relatedness and organizational favorability for participants across all industries.

Perceived job relatedness and organizational favorability will then be evaluated at the industry-level. In particular, it is expected that the manufacturing applicants will respond less favorably than retail, finance, and telecommunications group because of the web-based nature of the assessment and lack of internet use in the job for which the manufacturing applicants applied.

Hypothesis 2: Applicants in the manufacturing industry will react more negatively to the selection process than those applicants in retail, finance, and telecommunication industries.

Because Mexico has a strong aspect of collectivism in its culture (Hofstede, 1980), we expect these applicants to react less favorably to a web-based assessment than applicants from the United States because it might not be in-line with Mexico's culture norms. In particular, individuals from Mexico might be less likely to speak up, because of the predominant collectivist mentality, if they are displeased with the selection procedure because they do not want to be identified separately from the group. Conversely, applicants from the United States might be more willing to stand out apart from the group, due to the individualistic culture, to indicate whether or not they had a favorable reaction to the assessment.

Hypothesis 3: Applicants who completed the assessment in United States will react more favorably overall to the assessment process than applicants who have taken the assessment outside of the United States.

Additionally, these cultural differences between Mexico and the United States are expected to impact the perception the applicants have of the organization to which they are applying.

Hypothesis 4: Applicants who completed the assessment in Mexico will rate the organization more favorably than applicants who have taken the assessment in the United States.

Method

Participants

A total of 135,447 participants were available for inclusion in this study. All were taking part in an online selection assessment. There were 56,052 participants applying for an entry-level position at a call center within the finance industry, participants were taking the assessment for entry-level positions at two call center locations in telecommunications across the United States, which included one group of 61,690 and another group of 12,304 applicants. Additionally, there were 1,957 applicants in Mexico for entry-level positions at a call center within the telecommunications industry, 1,846 applicants for entry-level positions in manufacturing, and 1,598 participants applying for mid-level positions within the retail industry. A summary of these participant groups is provided in Table 1.

Table 1
Summary of Participants by Industry and Country

Industry	United States	Mexico
Telecommunications	<i>N</i> = 61,690 <i>N</i> = 12,304	<i>N</i> = 1,957
Manufacturing	<i>N</i> = 1,846	
Retail	<i>N</i> = 1,598	
Finance	<i>N</i> = 56,052	

Procedure

These four purposes were a small piece that fits within a larger research effort by an international assessment company, who offered its data on applicant reactions for use in this research. After completing the selection assessment, participants were asked to respond to a series of questions concerning their reactions to the assessment. The selection assessment, as well as the measures of reaction were only available online and were administered by a large corporate assessment provider. At the conclusion of the assessments, all applicants were asked to respond to general reaction questions concerning the selection process. Participants in manufacturing and one of the telecommunications locations in the United States were asked to provide demographics information including age, gender, race, and ethnicity.

Measures

The group of applicants within the finance industry was asked a total of 7 reaction questions with four Likert-type response options and only three of those questions were relevant to the present study. The content of these questions regarded clarity of instructions with (1= very clear, 5= very unclear), impressions of the company after the assessment (1= considerably more favorable, 5=considerably less favorable), relevance of the assessment to the job (1= strongly agree, 5= strongly disagree). Participants applying for positions within manufacturing responded to a total of six reaction items, while only responses to three items were included due to the specific hypotheses of this paper. Manufacturing applicants were asked questions with Likert-type response formats regarding ease of the assessment process (1=strongly agree, 5= strongly disagree), and

the extent to which the assessment might help the company select the highest performing employees (1= strongly agree, 5= strongly disagree).

Furthermore, the applicants in retail were asked to respond to seven reaction items and those in the telecommunications were asked nine reaction questions. There were seven items relevant to the present study and were the same questions in both retail and telecommunications. The item was concerned with difficulty of instructions (1=very difficult, 5= very easy), ease of navigating the website for the assessment (1= strongly disagree, 5= strongly agree), perceived job relevancy (1=strongly disagree, 5=strongly agree), reasonability of the length of assessment (1= strongly disagree, 5= strongly disagree), the extent to which the applicant had sufficient information about the job (1= strongly disagree, 5= strongly disagree), impression of the company after the assessment (1= considerably less favorable, 5= considerably more favorable), and the extent to which this company is the applicant's first choice employer (1= strongly disagree, 5=strongly agree). Due to confidentiality agreements with the client that created these measures, inclusion of the specific reaction items in this paper was not feasible.

Results

All responses to the applicant perceptions measure were compared across industry (i.e., applicants for positions within manufacturing, finance retail, and telecommunications) and culture (i.e., applicants for positions within the United States and applicants for positions within Mexico). Due to the nature of the data, a correlation, ANOVA, and series of t-tests were conducted to test study hypotheses.

Hypothesis 1 predicted that participants who thought the assessment evaluated characteristics and abilities relevant to the job for which they were applying would react positively to the assessment. In particular, it was expected that the more the applicant perceived the selection procedures to be job relevant, the more likely they were to retain a favorable image of the company after the assessment was completed. The following results from a correlation analysis indicate support for this hypothesis: The more the applicant thought the selection process was job relevant, the more likely they were to think favorably of the organization after the assessment, $r(108987) = .30, p < .001$.

Hypothesis 2 predicted that those who applied for jobs within the manufacturing industry would react more negatively to the assessment than applicants within the telecommunications and retail industries. The following results from a one-way, between subjects ANOVA indicate partial support for this hypothesis: Post-hoc analyses using the Games-Howell criterion for significance indicated that the average score on ease of instructions was significantly lower for manufacturing ($M = 4.34, SD = .821$) than retail ($M = 4.43, SD = .747$). Similarly, manufacturing applicants ($M = 4.22, SD = .890$) scored lower on perceived job relevance than applicants in retail ($M = 4.22, SD = .931$). Furthermore, applicants in manufacturing reacted more favorably ($M = 4.34, SD = .821$) to

the ease of instructions than those in telecommunications ($M= 4.07, SD= .863$). However, applicants in telecommunications ($M= 4.36, SD= .751$) reacted more favorably to perceptions of job relevance than those in manufacturing ($M= 4.22, SD= .890$). There were significant differences between all three groups regarding ease of instructions [$F(2, 67075) = 291.02, p < .001$] and significant differences on perceived job relevance between manufacturing and telecommunications, as well as retail and telecommunications [$F(2, 67075) = 40.10, p < .001$]. However, there were no significant differences between manufacturing and retail on perceived job relevance ($p = .99$). A summary of these findings is provided in Table 2. It is important to note that the assumption of heteroscedasticity was violated when running this statistic. After correcting for this, the Welch statistic revealed significant results for both ease of instructions ($p < .001$) and perceived job relevance ($p < .001$).

Table 2

Mean differences for applicant reactions between manufacturing, retail, and telecommunications industries

Applicant Perception Item	Manufacturing		Retail		Telecommunications	
	Mean	SD	Mean	SD	Mean	SD
Ease of instructions	4.34	.821	4.43	0.747	4.07	0.856
Job relevance	4.22	.890	4.22	0.931	4.36	1.28

Hypothesis 3 predicted that applicants within the United States would respond more favorably than those in Mexico. The following results indicate support for this hypothesis: Applicants in the United States ($M=4.6$) reported that the instructions were easier to understand than applicants in Mexico ($M=3.73$), $t(63634) = 16.66, p < .001$. Additionally, applicants in the United States ($M=4.34$) perceived the assessment website as easier to navigate when compared to the applicant group in Mexico ($M= 4.18$) who took the same assessment, $t(63634) = 8.91, p < .001$. Applicants in the United States ($M= 4.36$) and Mexico ($M= 4.31$) were compared on their perception of the relevance of the assessment. Results indicated that applicants in the United States were more likely to indicate that the assessment measured characteristics and abilities relevant to the job than applicants in Mexico, $t(63634) = 3.01, p < .05$. Likewise, applicants in the United States ($M= 4.30$) were more likely to report that the length of the assessment was reasonable compared to applicants in Mexico ($M= 4.05$), $t(63634) = 15.30, p < .001$.

Hypothesis 4 predicted that applicants for positions within Mexico would rate the organization as more favorable than applicants for positions within the United States. Results indicate this hypothesis also was supported. Applicants in Mexico had significantly more favorable perceptions of the organization after the assessment. Both groups felt as though they had enough information about the job opportunity, $t(63634) = -1.68, p = .093$, but they differed in their impression of the company after the assessment: Applicants in Mexico ($M = 4.48$) perceived the company more favorably than applicants in the United States ($M = 4.37$) after the assessment was completed, $t(63634) = -5.72, p < .001$. In addition, U.S. applicants ($M = 4.23$) were less likely than applicants in Mexico ($M = 4.39$) to report that the company was their first choice employer, $t(63634) = -8.47, p < .001$. Means and standard deviations for all analyses are for Hypotheses 3 and 4 reported in Table 3.

Table 3

Significant mean differences for applicant reactions between applicants in the United States and Mexico

Applicant Perception Item	United States		Mexico	
	Mean	SD	Mean	SD
Ease of instructions**	4.60	0.86	3.73	0.81
Ease of website**	4.34	0.75	4.18	0.94
Job relevance*	4.36	0.75	4.31	0.92
Length of assessment**	4.30	0.71	4.05	0.88
Image of company**	4.37	0.82	4.48	0.78
First choice employer**	4.23	0.80	4.39	0.79
Sufficient job information	4.12	0.80	4.15	0.84

*p<.05

**p<.01

Discussion

The purpose of the present study was to evaluate differences in applicant reactions across industry types and between applicants from the within United States and outside of the United States. In particular, data obtained from a large international consulting firm were analyzed from applicants within the finance, telecommunications, retail, and manufacturing industries. Data were collected from applicants in the U.S. and Mexico. For both data on industry and culture, reaction items generally focused on measuring perceived job relatedness, perceived image of the company, and overall ease in navigating some of the logistics involved in the online assessment.

The results of the present study indicate several important practical implications for organizations interested in learning more about group differences in applicant reactions. Additionally, there are several findings that could inform academic pursuits in further explaining the experience of applicants during personnel selection. The following discussion provides a closer look at the results of this paper and evaluates the meaning of these results for both applied and academic settings.

Perceived job relatedness appears to have a strong, positive relationship with favorability ratings for a company. This is consistent with previous findings from Gilliland (1993) and Steiner & Gilliland (1996) that suggest one of the most consistent predictors of applicant reactions is perceived job relatedness. Furthermore, these findings are consistent with those from Steiner & Gilliland (1996) that suggest applicants will likely have a positive reaction to the selection procedure if they perceived the procedure to be related to the job for which they are applying. Years of research has indicated that that job relatedness is important from applicant reactions and the results from this study

are no different: it is critical for organizations to design selection procedures that are likely to be perceived as highly related to the job by the applicant. In an organizational setting, this suggests that companies will greatly benefit from designing selection procedures that mimic the job to which individuals are applying. Furthermore, it might be useful for organizations to integrate selection techniques that are known to have high-perceived job relatedness, such as including interviews as one piece of the selection assessment.

While there was a strong relationship between perceived job relatedness and favorability of an organization when evaluating all participants, it is hard to draw a definitive conclusion when one evaluates the results at the industry-level. It is likely that there are differences in applicant reactions across industries although the connection between applicant reactions and industry might not be explicitly clear after an initial evaluation of the results in this study. Applicants in manufacturing scored lower on items of job relatedness than those in retail and telecommunications. The assessment that applicants took was a computer-based, online procedure. It is possible that the applicants for entry-level positions within the manufacturing industry could not easily determine the relationship between the job for which they were applying and the method of selection, which is consistent with the job relatedness literature (Gilliland, 1993; 1994; Ployhart & Harold, 2004; Steiner & Gilliland, 1996). Furthermore, applicants in manufacturing perceived the instructions as easier to understand than those in the telecommunications industry, but those in the retail industry thought the instructions were easier to understand than those in the manufacturing industry.

It is important to note that applicants in the manufacturing and

telecommunications industries were entry-level, but those in retail were not. Certainly, job-level might play a role in explaining the group differences apparent in these findings in addition to industry. For example, applicants who are assessed for advanced positions within an organization might have more experience in taking assessments. Therefore, they might be more attuned to nuances that someone at the entry-level might not notice. Someone interviewed at the managerial level might expect to be interviewed in addition to an online assessment, while someone interviewed at the entry-level could expect an online assessment to be the extent of their selection process. Furthermore, future research should evaluate the extent to which job-level impacts applicant reactions.

It is also worth noting that although applicants from the U.S. reacted more positively on the reaction items regarding ease of instructions and navigating the assessment website, length of instructions, and perceived job relatedness, there could be test-response differences at work here. It is likely that there are cultural differences in the way in which participants respond to Likert-type questions (Hui & Triandis, 1989; Lee, Jones, Mineyama, & Zhang, 2002). In particular, Hui and Triandis (1989) determined that when 5-point Likert-type scales were used, Hispanics had a stronger tendency to choose extreme scores than non-Hispanics. However, when 10-point Likert-type scales were used, the difference in responses between Non-Hispanics and Hispanics became less clear. The present study only used 5-point Likert-style scales, which could explain the group differences in reactions to assessment format. However, the average responses from applicants in Mexico were in the middle of the 5-point scale on ease of instructions, ease of navigating website, perceived job relevance, and length of assessment. Therefore, it is difficult to claim with certainty that varying cultural responses to Likert-type

questions impacts the group differences in the present study.

Although it is unlikely that cultural differences are influencing the way in which applicants respond to the reaction items, there are likely important cultural differences to note due to applicants from the U.S. responding more favorably on nearly every reaction item as compared to applicants from Mexico. Ideally, the results from the present study might be more robust if multiple cultures were examined. Past studies have evaluated applicant reactions in other countries such as France (Steiner & Gilliland, 1996), Singapore (Phillips & Gully, 2002), Morocco and Ireland (Scroggins, Benson, Cross, & Gilbreath, 2008), and Germany (Marcus, 2003). However, few studies have addressed applicant reactions between the U.S. and one of our largest trading partners, Mexico. Considering that more than 18,000 companies with United States investment have operations in Mexico (U.S. Dept. of State, 2011) it is surprising that no previous research has addressed national cultural differences in reactions to selection processes between these neighboring countries. However, data were only available from companies in the U.S. and Mexico for the present study. The results between applicants from the U.S. and Mexico that are discussed in this paper could be more robust if considered in conjunction with previous studies on other national cultures and applicant reactions.

In addition to differences regarding reactions to the general format of the assessment and perceived job relatedness, there were also differences between U.S. applicants and applicants from Mexico concerning perceptions of the company to which they were apply. More specifically, while both groups felt as though they had sufficient information regarding the job opportunity, the group of applicants from Mexico had a more favorable perception of the company when compared to applicants from the United

States. This finding can likely be explained by Hofstede's (1980) four-dimensional model, particularly with the dimension of individualism. Hofstede (1980) rates Mexico low on individualism, but rates the United States very high. Using this model as a framework to understand the result of hypothesis four, one might suggest that applicants from Mexico reported a more favorable perception of the company out of an interest to remain part of the group and not to stand out. Conversely, applicants from the United States might be more likely to assert their opinion of the company without concern of group membership. This could have critical implications for multi-national companies that are interested in more fully understanding cultural differences in applicant reactions.

Contributions & Benefits

The present study offers several unique contributions to the growing body of applicant reactions literature. First, the findings of this study support the overwhelming notion that practitioners and scientists who work with or study applicant reactions should be concerned with perceived job relevance. This is a particularly important aspect of the selection process for companies concerned with the extent to which applicants think favorably of the organization. For a company interested promoting their image or engaging in strategic marketing initiative, it might make sense for the company to evaluate their selection practices. From the findings of the present study, it could be in the best interest of organizations to ensure that applicants perceive the selection procedures as highly job-related.

In addition to contributions regarding industry, this study has made a significant impact on the research concerned with cultural differences in applicant reactions. There is little empirical evidence to suggest differences in reactions might occur between

applicants and from Mexico and the United States. The specific cultures studied in this paper had not been previously evaluated, making these findings on culture the first of its kind in the applicant reaction literature. Particularly for American companies, understanding these cultural differences could give the organization leverage over key competitors. In a broad sense, explorations in applicant reactions are primarily concerned with the applicant experience during selection. This is of practical important employees from Mexico are changing the landscape of many companies within the United States. Certainly, the increase of Mexican immigrants in the American workforce makes the findings of this study of particular interest to organizations that are seeking to expand and diversify their workforce. However, because this study is one of the first explorations of Mexican and American culture in applicant reactions, it is critical that this research is continued and evaluated in greater depth. As more Mexicans move to the United States, it might become increasingly important to understand how applicants who identify as both Mexican and American might react to selection procedures. Moreover, longitudinal studies could evaluate how applicant reactions change over time as Mexicans repeatedly apply to more job positions within the United States. Longitudinal research could evaluate if these applicant reactions can be influenced by any external factors (time, context of the organization, economic variables, etc.) or if these reactions are concrete and unchanging.

Additionally, this type of research could serve multinational and consulting-type organizations very well. It provides large-scale comparisons across many applicants and several industry types. Most lab-based or single-organization research cannot address the kinds of questions evaluated in this paper. The findings of this study are particularly

useful for consulting organizations designing selection instruments for use in organizations in varying countries and across multiple industries.

Limitations

While there are several contributions that the present study offers research on applicant reactions, this study is not without its limitation. In particular, due to restrictions in data collection this study was only able to evaluate Mexican and U.S. cultures. This seriously limits the generalizability of the results on cultural differences and applicant reactions. It can be speculated that in some ways, Mexican and American culture are quite similar and will continue to be integrated as immigration from Mexico into the United States increases. These findings would be more robust if a range in cultures were evaluated using reaction measures. There are likely many subtle and overt aspects of culture that influence an applicant's reaction. For example, religion is a key contributor to national culture. One might obtain greater variance if comparing reactions from applicants in the United States, a predominantly Christian nation, and the United Arab Emirates, a predominantly Muslim nation.

In addition to a restriction of cultural variety, the data used in this study worked within the telecommunications industry. It is difficult to determine the extent to which applicant reactions were impacted by cultural differences, the fact that these were applicants within the telecommunications industry, or if the results were a product of some interaction between culture and industry. It could be that a particular industry employs a lot of people from one particular cultural background. For example, industries that are concerned with natural resources might have the majority of their offices within one particular region of the world. It is likely that if one were to gather data from oil

companies that the sample would be from areas on the earth that have an abundance of oil. Certainly, a further investigation into cultural differences in applicant reactions should collect data across several industries to more fully understand what aspects of culture are responsible for explaining differences in applicant reactions.

Furthermore, the hypotheses in the present study were client-driven, meaning these were questions that a company wanted addressed. While many of the findings have important practical implications due to the client-oriented nature of the purpose of the study, this paper might seem a bit disjointed to a reader who was not aware of the client's role throughout the process of this study. Clearly, the client's activity in this study might increase its appeal to practitioner. Conversely, this study might raise concerns by scientists seeking to increase the field's understanding of group differences in applicant reactions.

Future Research

Research on applicant reactions is quite extensive regarding the topic of job relatedness (Gilliland, 1993; 1994; Ployhart & Harold, 2004; Steiner & Gilliland, 1996), but there is a large gap in applicant reactions literature concerning culture differences. Certainly, Hofstede (1980) has proposed a model that has implications for organizations. However, this model is based on theory and has little empirical evidence. More research is needed to more fully understand the cultural subtleties that likely influence applicant reactions. As mentioned previously, past research on cultural differences in applicant reactions has primarily focused on Morocco, the United States, and Ireland (Scroggins, Benson, Cross, & Gilbreath, 2008). While this research offers a distinctive contribution to the study of applicant reactions, the present study has laid the groundwork for further

explorations in cultural differences with a nation that could offer significant economic benefits to the United States. Mexico and the United States are close trading partners, not only in geographic proximity, but they are also close in the vast quantity of goods the two countries trade.

In addition to the need for continued research on Mexican and American cultural differences in applicant reactions, there is a need to expand upon the empirical evidence regarding industry differences in applicant reactions. Currently, there have been a limited number of studies exploring industry-specific differences. While there is some literature on organizational brand (Keller, 1993; Kotler, 1991) and understanding industry type as a critical piece to one's brand, there is limited research on the explicit connection between industry type and applicant reactions. Certainly, one can make some assumptions regarding industry type and selection expectations (i.e. applicants for an entry-level position in a manufacturing setting might not react positively to a selection test evaluating one's ability to close a sale) based upon what is known concerning job relatedness. However, additional studies are needed to more fully understand this relationship and to ground these assumptions in empirical evidence.

Summary

This paper evaluated organizational just theory (Gilliland, 1993; Ployhart & Harold, 2004) and attribution theory (Fiske & Taylor, 1984; Ployhart & Harold, 2004) in order to more fully understand applicant reactions of selection procedures. In particular, the present study evaluated differences in applicant reactions across industry and national culture. Responses to reaction items were evaluated from applicants within telecommunications, manufacturing, retail, and finance industries. The results on industry differences provides an initial assessment of the impact of industry on applicant reactions, but could be developed more fully by future research that evaluates an even more varied assortment of industry types. Moreover, analyses regarding national culture indicated that there are, in fact, differences in reactions between applicants from Mexico and the United States. While previous research on national culture and applicant reactions is quite limited, this paper lays the groundwork for further research on differences in applicant reactions specifically between Mexico and the United States. Work in this area could potentially have important implications for the landscape of business within the United States. Furthermore, this study provides additional evidence of the importance of perceived job relatedness of selection procedures and the critical nature of company image throughout the selection process.

References

- Arvey, R. D., Gordon, M. E., Massengill, D. P., & Mussio, S. J. (1975). Differential dropout rates of minority and majority job candidates due to "time lags" between selection procedures. *Personnel Psychology, 28*, 175-180.
- Barber, A. E. (1998). *Recruiting employees: Individual and organizational perspectives*. Thousand Oaks, CA: Sage.
- Belt, J. G., & Paolillo, J. P. G. (1982). The influence of corporate image and specificity of candidate qualifications on response to recruitment advertisements. *Journal of Management, 8*, 105-112.
- Bretz, R. D., & Judge, T. A. (1998). Realistic job previews: A test of the adverse self-selection hypothesis. *Journal of Applied Psychology, 83*, 330-337.
- Cable, D.M., & Turban, D.B. (2003). The value of organizational reputation in the recruitment context: A brand-equity perspective. *Journal of Applied Psychology, 33* (11), 2244-2266.
- Chapman, D.S., Uggerslev, K.L., Carroll, S.A., Piasentin, K.A., & Jones, D.A. (2005). Applicant attractions and job choice: A meta-analytic review of the correlates of recruiting outcomes. *Journal of Applied Psychology, 90* (5), 928-944.
- Collins, C.J. (2007). Interactive effects of recruitment practices and product awareness on job seekers' employer knowledge and application behaviors. *Journal of Applied Psychology, 92* (1), 180-190.
- Collins, J.C. & Stevens, C.K. (2002). The relationship between early recruitment-related activities and the application decisions of new labor-market entrants: A brand equity approach to recruitment. *Journal of Applied Psychology, 87* (6), 1121-1133.

- De Meijer, L. A. L., Born, M. P., Terlouw, G. & Van Der Molen, H. T. (2008). Criterion-Related Validity of Dutch Police-Selection Measures and Differences Between Ethnic Groups. *International Journal of Selection and Assessment*, 16: 321–332.
- Fiske, S.T. & Taylor, S.E. (1991) *Social Cognition*. New York, NY: McGraw-Hill.
- Gilliland, S.W. (1994). Effects of procedural and distributive justice on reactions to a selection system. *Journal of Applied Psychology*, 79 (5), 691-701.
- Gilliland, S.W. (1993). The perceived fairness of selection systems: An organizational justice perspective. *Academy of Management Review*, 18 (4), 694-734.
- Glueck, W.F. (1973). Recruiters and executives: How do they affect job choice? *Journal of College Placement*, 34, 77-78.
- Harold, C.M. & Ployhart, R.E. (2008). What do applicants want? Examining changes in attribute judgments over time. *Journal of Occupational and Organizational Psychology* 81, 191-218.
- Hausknecht, J.P, Day D.V., & Thomas, S.C. (2004). Applicant reactions to selection procedures: An updated model and meta-analysis. *Personnel Psychology*, 57, 639-683.
- Hastorf, A., Schneider, D., & Polefka, J. (1970). *Person perception*. Reading, MA: Addison-Wesley.
- Hofstede, G. H. (1980). *Culture's consequences: International differences in work-related values*. Beverly Hills, CA: Sage Publications.
- Hofstede, G. & Hofstede, G.J. (2005). *Cultures and organizations: Software of the mind*. Revised and expanded 2nd Edition. New York: McGraw-Hill USA.
- Huffcutt, A. I., & Roth, P. L. (1998). Racial group differences in employment interview

- evaluations. *Journal of Applied Psychology*, 83, 179–189.
- Hulsheger, U.R. & Anderson, N. (2009). Applicant perspectives in selection: going beyond preference reactions. *International Journal of Selection and Assessment*, 17(4), 335-345.
- Hui, H. C. & Triandis, H.C. (1989). Effects of culture and response format on extreme response style. *Journal of Cross-Cultural Psychology* 20, 296-309.
- Hunt, I. C. & Cohen, B. (1971). Minority recruiting in the New York City police department. The New York City Rand Institute.
- Keller, K.L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of Marketing*, 57 (1), 1-22.
- Kotler, P. (1991). *Marketing management: Analysis, planning, implementation, and control*. Englewood Cliffs, NJ: Prentice-Hall.
- Lee, J. W., Jones, P. S., Mineyama, Y. & Zhang, X. E. (2002) Cultural differences in responses to a likert scale. *Research in Nursing & Health*, 25, 295-306
- Macan, T. H., Avedon, M. J., Paese, M., & Smith, D. E. (1994). The effects of applicants' reactions to cognitive ability tests and an assessment center. *Personnel Psychology*, 47, 715-738.
- Marcus, B. (2003). Attitudes towards personnel selection methods: A partial replication and extension in a German sample. *Applied Psychology: An International Review*, 52, 515-532.
- Miller, D.T. & Ross, M. (1975). Self-serving bias in the attribution of causality: fact or fiction? *Psychological Bulletin*, 86, 213-225.
- Mooij, M.D. (2003). *Consumer behavior and culture: Consequences for global*

marketing and advertising. India: Sage Publications.

Motowidlo, S. J., Carter, G. W., Dunnette, M. D., Tippins, N., Werner, S., Burnett, J. R.,

et al. (1992). Studies of the structural behavioral interview. *Journal of Applied Psychology*, 77, 571–587.

Murphy, K.R. (1986). When your top choice turns you down: Effect of rejected offers on utility of selection tests. *Psychological Bulletin*, 99 (19), 133-138.

Phillips, J.M. & Gully, S. M. (2002). Fairness reactions to personnel selection techniques in Singapore and the United States. *International Journal of Human Resource Management*, 13, 1186-1205.

Ployhart, R.E. & Harold, C.M. (2004). The applicant attribution reaction theory (aart): An integrative theory of applicant attributional processing. *International Journal of Selection and Assessment*, 12 (1/2), 84-98.

Roosmand, O., Ghasem-Aghaee, N., Nematbakhsh, M.A., Baraani, & Hofstede, G.J. (2011). Computational modeling of uncertainty avoidance behavior. *International Journal of Research and Reviews in Computer Science*, 18-26.

Roth, P. L., Van Iddekinge, C. H., Huffcutt, A. I., Eidson, C. E., & Bobko, P. (2002). Correction for range restriction in structured interview ethnic group differences: The values may be larger than re- searchers thought. *Journal of Applied Psychology*, 87, 369–376.

Ryan, A.M. & Ployhart, R. (2000). Applicants' perceptions of selection procedures and decisions: A critical review and agenda for the future. *Journal of Management*, 26, 565-606.

Rynes, S. L. (1991). Recruitment, job choice, and post-hire consequences: A call for new

research directions. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (2nd ed.). Palo Alto, CA: Consulting Psychologists Press.

Rynes, S.L. & Barber, A.E. (1990). Applicant attraction strategies: An organizational perspective. *Academy of Management Review*, *15*, 286-310.

Rynes, S. L., Bretz, R. D., & Gerhart, B. (1991). The importance of recruitment in job choice: A different way of looking. *Personnel Psychology*, *44*, 487-521.

Rynes, S.L. & Boudreau, J.W. (1986). College recruiting in large organizations: practice, evaluation and research implications. *Personnel Psychology*, *39*, 729-757.

Rynes, S. & Connerley, M. (1993). Applicant reactions to alternative selection procedures. *Journal of Business and Psychology*, *7*(3), 261-277.

Rynes, S.L., Heneman, H.G III, & Schwab, D.P. (1980). Individual reactions to organizational recruiting: A review. *Personnel Psychology*, *33* (3), 529-542.

Scroggins, W.A., Benson, P.G., Cross, C., & Gilbreath, B. (2008). Reactions to selection methods: An international comparison. *International Journal of Management*, *25* (2), 203-216.

Skarlicki, D.P. & Folger, R. (1997). Retaliation in the workplace: The roles of distributive, procedural, and interactional justice. *Journal of Applied Psychology*, *82* (3), 434-443.

Smither, J. W., Reilly, R. R., Millsap, R. E., Pearlman, K., & Stoffey, R. W. (1993). Applicant reactions to selection procedures. *Personnel Psychology*, *46*(1), 49-76.

Steiner, D.D., & Gilliland, S.W. (1996). Fairness reactions to personnel selection techniques in France and the United States. *Journal of Applied Psychology*, *81* (2),

134-141.

Taylor, M.S. & Bergmann, T.J. (1987). Organizational recruitment activities and applicants' reactions at different stages of the recruitment process. *Personnel Psychology, 40*, 261-285.

Turban, D.B., Eyring, A.R., & Campion, J.E. (1993). Job attributes: Preferences compared with reasons given for accepting and rejecting job offers. *Journal of Occupational and Organizational Psychology, 66*, 71-81.

United States Department of State. (Dec. 14, 2010). Background Note: Mexico. From: <http://www.state.gov/r/pa/ei/bgn/35749.htm#relations>

Weiner, B. (1986). *An attributional theory of motivation and emotion*. New York: Springer-Verlag.

Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological Review, 92* (4), 548-573.